



GOVERNMENT OF MALAWI



Ministry of Natural Resources, Environmental Affairs Department

Review of Land Use Planning and Flood Zoning Policies

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Executive Summary

This report reviews Malawi's land use planning and flood zoning policy and regulatory framework, with a focus on how climate change can be codified into land classification, zoning, development control and infrastructure decision-making. It responds to the assignment under the National Adaptation Plan Readiness Project and provides a practical basis for strengthening climate-resilient spatial planning, flood risk zoning and development approval systems.

The review used a triangulated methodology combining desk review, stakeholder consultations, field-oriented case analysis, gap assessment, scenario thinking and comparative review. The analysis considered national legislation and policies, city and district planning practice, customary land governance, disaster risk management systems, water resources regulation, environmental safeguards and construction control. Consultations with national agencies, councils and regulatory institutions were used to test how the framework operates in practice.

Malawi has a strong legal and policy foundation for land use planning, environmental management, water resources protection, disaster risk management and construction oversight. Key instruments include the Physical Planning Act, Land Act, Environment Management Act, Water Resources Act, Disaster Risk Management Act, Construction Industry Act, National Urban Policy, National Land Policy, National Adaptation Plan framework and local by-laws. However, the system remains only partially integrated. Climate risk is most often addressed through ESIA, disaster preparedness, project safeguards and institutional advice rather than through binding flood overlays, zoning maps, flood lines and enforceable development control conditions.

The case study areas show why stronger codification is urgent. Lilongwe illustrates rapid peri-urban growth, informal settlement expansion and river corridor encroachment in areas such as

Mgona and Kaliyeka. Karonga demonstrates lakeshore and riverine exposure linked to the North Rukuru, Rufira Rivers and other river systems, flat terrain, settlement pressure and agriculture along flood-prone land. Phalombe shows the combined effect of cyclone-induced rainfall, runoff from the Mulanje and Michesi highlands, Lake Chilwa floodplain dynamics, Mpopo Lagoon and vulnerable settlements under TAs Chiwalo, Jenala and Nkhumba.

The main gaps are the absence of mandatory flood hazard mapping in development approvals; lack of legally binding flood overlays in National, District and Local Physical Development Plans; weak linkage between Water Resources flood lines and council zoning; limited use of climate projections, hydrological modelling and IDF curves; fragmented data sharing between MEPA, NWRA, DoDMA, DCCMS, CIRA, councils and Traditional Authorities; weak integration of Village Flood Action Plans and Village Land Use Plans; limited district and community by-laws; and weak enforcement in informal and customary areas.

The report recommends amending planning regulations to require flood hazard overlays in statutory plans, giving legal force to flood lines including the 1-in-100-year flood standard, preparing model city and district flood zoning by-laws, defining no-build and conditional development zones, protecting drainage reserves, riparian buffers, wetlands, dambos and lakeshore areas, gazetting MEPA guidance on climate risk integration in ESIA and SEA, linking institutional datasets to planning approvals, integrating VFAPs and Village Land Use Plans into district and customary land governance, strengthening local governance structures, establishing LIMS and e-permitting systems linked to flood zoning maps, and aligning infrastructure investment with approved spatial plans and flood risk zoning.

The proposed implementation roadmap focuses on actions that can be advanced within 12 to 18 months, including establishing an Infrastructure Resilience Coordination Taskforce, finalising MEPA climate risk guidance, consolidating national flood and climate datasets,

piloting e-permitting and LIMS integration in Lilongwe, Karonga and Phalombe, preparing model flood zoning by-laws, updating technical standards for drainage and infrastructure design, training councils and local governance structures, and publishing annual resilience performance reports.

Abbreviations

Abbreviation	Full Meaning
ADC	Area Development Committee
CIRA	Construction Industry Regulatory Authority
CLC	Customary Land Committee
CLT	Customary Land Tribunal
DCCMS	Department of Climate Change and Meteorological Services
DoDMA	Department of Disaster Management Affairs
EMA	Environment Management Act
ESCAP	Economic and Social Commission for Asia and the Pacific
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GIS	Geographic Information System
IDF	Intensity-Duration-Frequency
LIMS	Land Information Management System
MEPA	Malawi Environmental Protection Authority
MHC	Malawi Housing Corporation
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NWRA	National Water Resources Authority
SEA	Strategic Environmental Assessment
SPLUMA	Spatial Planning and Land Use Management Act
TA	Traditional Authority
UNDP	United Nations Development Programme

Abbreviation	Full Meaning
UNEP-DHI	United Nations Environment Programme-DHI Centre on Water and Environment
VDC	Village Development Committee
VFAP	Village Flood Action Plan

Key Definitions

Term	Definition
Flood	A temporary overflow or inundation of land that is normally dry, caused by river overflow, intense or prolonged rainfall, lake backflow, poor drainage, or obstruction of natural flow paths.
Flood risk	The potential for adverse impacts from flooding, determined by the interaction of flood hazard, exposure, and vulnerability.
Flood hazard	The probability, magnitude, depth, duration, velocity, and spatial extent of flooding in a specific area.
Exposure	The presence of people, housing, infrastructure, services, livelihoods, and environmental assets in areas that may be affected by flooding.
Vulnerability	The susceptibility of people, assets, or systems to flood impacts due to physical, social, economic, institutional, or environmental conditions.
Floodplain	Low-lying land adjacent to rivers, lakes, wetlands, or dambos that naturally stores or conveys floodwater during flood events.
Flood line	A mapped boundary showing the expected flood extent for a defined return period, such as the 1-in-100-year flood.
Flood risk zoning	The designation of land use restrictions, conditional uses, no-build areas, and development standards within flood-prone areas based on flood risk information.

Term	Definition
Land use planning	The process of allocating, regulating, and managing land uses to guide settlement growth, infrastructure provision, environmental protection, and risk reduction.
Development control	The process by which councils assess, approve, condition, refuse, inspect, or enforce development proposals to ensure compliance with approved plans and standards.
Village Flood Action Plan	A community-level disaster risk reduction tool that identifies local flood hazards, evacuation routes, safe areas, vulnerable households, and priority mitigation measures.
Village Land Use Plan	A community-level land use planning tool that guides settlement, agriculture, natural resource management, and local infrastructure within customary land areas.
Customary land	Land held, used, or occupied under customary law and administered through traditional leadership structures on behalf of the community.
Customary Land Committee	A statutory body established to support traditional authorities in customary land administration, land records, boundary identification, and coordination with statutory systems.
Drainage corridor	A natural or engineered channel, path, reserve, or depression that conveys surface runoff and floodwater and must be protected from obstruction.
Resilience	The ability of people, infrastructure, institutions, and ecosystems to anticipate, withstand, adapt to, and recover from flood impacts while maintaining essential functions.

Term	Definition
Climate-sensitive zoning	A zoning approach that uses climate risk, hazard exposure, ecosystem sensitivity and infrastructure capacity to determine permitted, conditional or prohibited land uses.
Flood overlay	A mapped zoning layer showing flood-prone areas and the land use controls, conditions or restrictions that apply within those areas.
No-build zone	An area where permanent development is prohibited because flood, drainage, erosion or ecosystem risks are unacceptable.
Conditional development zone	An area where development may be approved only if specified flood risk reduction, drainage, access, environmental and design conditions are met.
Riparian buffer	A protected strip along a river, stream, lake, wetland or drainage line that maintains flood conveyance, erosion control, water quality, access and ecological function.
Minimum platform level	The minimum ground or finished-floor elevation required for development in a flood-prone area, usually set with reference to the applicable design flood level.
IDF curve	A rainfall intensity-duration-frequency relationship used to estimate design storms for drainage, stormwater and flood management infrastructure.
E-permitting	A digital system for receiving, screening, reviewing, approving, tracking and enforcing planning, subdivision, ESIA, building and related permits.

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1. Introduction

1.1 Background and Rationale

Climate change is increasingly reshaping Malawi's development landscape, exerting profound impacts on land use and settlement patterns. The country faces recurrent climate-related hazards floods, droughts, cyclones, and heat extremes that threaten lives, damage infrastructure, and disrupt agricultural and urban systems. These hazards undermine socio-economic progress and exacerbate vulnerabilities, particularly in rapidly urbanizing areas and informal settlements where planning controls are weak or absent. Flooding, in particular, has emerged as a critical challenge, causing widespread destruction of homes, roads, schools, and public facilities, while displacing communities and straining disaster response systems.

Malawi's planning and regulatory framework has evolved over time, anchored in instruments such as the Physical Planning Act (2016), National Land Policy (2002), Environment Management Act (2017), and Disaster Risk Management Act (2023). These frameworks provide statutory authority for land use planning, zoning, and environmental safeguards. However, the integration of climate and disaster risk considerations into these instruments remains partial and fragmented. Flood zoning is often reactive, based on historical events rather than predictive hazard mapping or climate projections. Development control mechanisms lack standardized technical guidance for climate resilience, and enforcement capacity at district and city levels is severely constrained.

1.1.1 Land Use Planning and Flood Zoning in Malawi

Malawi's land-use system is shaped by a complex mix of formal statutory planning, customary land tenure arrangements, and the rapid growth of informal settlements. Formal planning is guided by instruments such as the Physical Planning Act (2016), which establishes standards

for development control, zoning, and spatial planning at national, district, and local levels. These frameworks aim to ensure orderly development and safeguard environmental integrity. However, enforcement remains inconsistent and under-resourced, particularly in peri-urban and rural areas where informal settlements proliferate. Customary land practices, while culturally significant, often operate outside statutory planning controls, creating parallel governance systems that complicate enforcement and risk management.

1.1.2 Challenges in Flood Zoning

Flood risk zoning in Malawi is largely reactive, triggered by disaster events rather than informed by predictive hazard mapping or climate projections. Current zoning practices lack standardized technical guidance and fail to incorporate up-to-date climate data, leaving vulnerable communities exposed to escalating risks. Hazard maps, where available, are often outdated or incomplete, and integration of hydrological data into planning decisions is minimal. This results in ad hoc decision-making, with settlements continuing to expand into floodplains and riparian zones without adequate safeguards. The absence of clear protocols for risk-based land classification further undermines the effectiveness of zoning regulations.

1.1.3 Institutional and Enforcement Gaps

Although the Physical Planning Act provides a legal foundation for structured development, enforcement capacity at district and city levels is severely constrained. Local authorities face shortages of qualified planners, inspectors, and technical resources, limiting their ability to monitor compliance and implement corrective measures. Development control mechanisms are weakened by paper-based permitting systems, high permit fees that discourage formal compliance, and political or socio-economic pressures that favour informal expansion. Coordination among key institutions such as the Ministry of Lands, Department of Physical

Planning, MEPA, NWRA, and DoDMA is fragmented, resulting in duplication of efforts and gaps in implementation.

1.1.3.1 Integration of Climate Risk

Climate risk considerations are not systematically embedded in statutory planning instruments. Flood zoning rarely incorporates climate projections, rainfall intensity curves, or nature-based solutions such as riparian buffers and permeable surfaces. Environmental and Social Impact Assessments (ESIA), mandated under the Environment Management Act (2017), offer an entry point for climate integration, but lack of gazetted technical guidelines means climate-risk screening is not uniformly applied. Consequently, infrastructure and housing developments often proceed without adequate resilience measures, perpetuating vulnerability to extreme weather events.

1.1.3.2 Implications for Resilience

The fragmented and reactive nature of land-use planning and flood zoning in Malawi poses significant challenges to achieving climate-resilient development. Without proactive integration of hazard data and climate projections into zoning and permitting processes, settlements will remain exposed to recurrent disasters, undermining national development goals and the objectives of the National Adaptation Plan (NAP). Addressing these gaps requires a comprehensive approach that combines regulatory reform, institutional strengthening, technical capacity building, and engagement.

1.2 Problem Statement

Despite the presence of national and local planning systems, Malawi's physical planning practices do not adequately incorporate climate risk into land use and zoning decisions. Informal settlements continue to expand into flood-prone areas, driven by poverty, tenure insecurity, and limited enforcement of planning regulations. Hazard maps and climate

projections are either unavailable or underutilized in development approvals, resulting in infrastructure and housing that are highly vulnerable to extreme weather events. Institutional coordination among key actors—such as the Ministry of Lands, Department of Physical Planning, MEPA, NWRA, and DoDMA—is weak, leading to duplication of efforts and gaps in implementation. These systemic deficiencies compromise the country’s ability to achieve resilient urbanization and sustainable development goals.

1.3 Alignment with National Adaptation Plan (NAP) Objectives

The National Adaptation Plan (NAP) framework positions climate resilience as a cornerstone of Malawi’s long-term development strategy. Mainstreaming climate change into land use planning and flood zoning is critical to operationalizing NAP priorities, reducing vulnerability, and safeguarding investments in infrastructure and housing. By embedding climate risk into statutory planning instruments and technical standards, Malawi can transition from reactive disaster response to proactive risk reduction, ensuring that future development is robust, inclusive, and adaptive to changing climate realities.

1.4 Purpose of the Report

This report responds to the NAP Readiness mandate to codify climate change considerations into land use and zoning systems and to align building and infrastructure standards with future climate scenarios. It synthesizes findings from policy reviews, stakeholder consultations, and international best practices to propose a coherent, implementable agenda for Malawi. The report aims to:

- Assess the adequacy of current land use planning approaches and flood zoning practices.
- Identify gaps in legal, institutional, and technical frameworks.

- Recommend actionable measures to integrate climate resilience into spatial planning and construction standards.
- Provide an implementation roadmap for regulatory reform, capacity building, and community-level interventions.

By addressing these objectives, the report seeks to strengthen Malawi's adaptive capacity, reduce disaster risk, and promote sustainable urban and rural development in the face of escalating climate challenges

2. Methodology

This chapter presents the methodology used to review land use planning and flood zoning policies and practices in Malawi, with particular attention to the codification of climate change considerations in planning, zoning, development control and institutional decision-making.

2.1 Overall Approach

The study used a triangulated methodology that combined desk review, stakeholder consultation, field assessment, gap analysis, scenario planning and comparative review. This approach was adopted to ensure that the report was informed by the legal and policy framework, the institutional context, the practical realities of implementation at district and city level, and relevant regional and international practice.

The methodology was also aligned with the assignment's requirement to assess regulatory instruments and institutions governing land use planning and zoning; appraise current planning approaches and practices; examine the extent to which climate change and flood risk are incorporated into land classification and zoning; and identify entry points for strengthening climate-responsive land management in Malawi.

2.1.1 Kick-Off and Inception

The assignment commenced with a kick-off meeting between the consultant and the Environmental Affairs Department under the Ministry of Natural Resources and Climate Change. The meeting clarified the Terms of Reference, confirmed the scope and deliverables, discussed the consultant's proposed approach, and identified the documents required for the assignment.

The inception phase also confirmed the work plan, stakeholder engagement arrangements, data collection tools and reporting schedule. Adjustments to the implementation timeframe were agreed with the client to accommodate fieldwork and consultation logistics.

2.1.2 Desk Review

A structured desk review was undertaken to establish the regulatory, policy and institutional context for land use planning, land administration, flood risk management and climate change adaptation. The review covered national, city, district and community-level instruments, including legislation, policies, by-laws, development plans, land use schemes and relevant vulnerability or risk assessment documents.

Key instruments reviewed included the Constitution of Malawi (1994), the Malawi Land Policy (2002), the Land Act (2016), the Physical Planning Act (2016), the National Urban Policy (2019), the Environment Management Act (2017), the Sendai Framework for Disaster Risk Reduction (2015-2030), the National Adaptation Plan framework and other climate-related policy documents. The review also examined existing flood mitigation efforts, including the community-based flood risk management framework for Malawi.

The desk review focused on identifying the guiding principles, custodianship, applicability, coherence and enforcement status of existing instruments. It also assessed the extent to which climate risk, flood exposure, ecosystems, biodiversity and future urban development are reflected in land use planning and zoning systems.

2.1.3 Stakeholder Engagement and Consultations

Stakeholder engagement was used to obtain institutional, technical and community-level perspectives on the application of land use planning and flood zoning policies. Stakeholders were mapped into three broad groups: main implementing institutions, including the

Environmental Affairs Department, Karonga District Council, Lilongwe City Council and Phalombe District Council; professional, civil society, research and private-sector actors active in planning, climate change, disaster risk management and infrastructure; and local government leadership and communities in the study areas.

At national level, consultations included institutions such as the Department of Physical Planning, Department of Disaster Management Affairs, Department of Climate Change and Meteorological Services, Malawi Housing Corporation, Construction Industry Regulatory Authority, Environmental Affairs Department and other agencies involved in planning, public works, housing and environmental protection. At district and city level, consultations were held with council departments, District Environmental Sub-Committees, planning committees and other local structures.

The engagement process sought to inform stakeholders about the assignment, gather evidence on land use practices, flood history and local priorities, understand enforcement and capacity constraints, and build consensus on potential zoning and land management options.

- Introductory meetings with national, city and district institutions.
- Key informant interviews with officials and technical personnel.
- Consultations with District Environmental Sub-Committees and planning committees.
- Formal and informal interviews with community members in flood-prone areas.
- Public consultations and validation activities organised with the client.

2.1.4 Fieldwork and Site Assessments

Fieldwork was conducted in Lilongwe City, Karonga District and Phalombe District to assess how land use planning and flood zoning instruments are applied in practice. The sites were selected to provide city and district perspectives, including areas affected by historical flooding

and areas where settlement growth, infrastructure development and environmental risks interact.

The site assessments involved walkthroughs and observation in flood-prone areas. The consultant examined settlement patterns, drainage infrastructure, housing typologies, land use conflicts, proximity to rivers or hazard zones, and the physical evidence of past flooding. Available flood maps and climate risk overlays were cross-checked against local knowledge and field observations to verify the location and extent of historical flood impacts.

Participatory and walkthrough mapping was also used to understand river behaviour, local hazard perception, flood frequency and the relationship between current settlement patterns and mapped flood risk. This helped to ground the policy analysis in actual land use conditions and implementation challenges.

2.1.5 Data Collection Tools

The assignment used complementary qualitative and quantitative tools. Key informant questionnaires were administered to officials and technical stakeholders to capture information on mandates, policy interpretation, implementation practices, available data, institutional coordination and enforcement capacity. Community-level questionnaires were used to gather information on local planning knowledge, flood experience, land use practices, perceptions of risk and community proposals for improving planning and zoning.

The tools were designed to assess both formal policy requirements and practical application at implementation level. They also enabled the study to compare national policy intentions with city, district and community experiences.

2.1.6 Analysis and Synthesis

Data from the desk review, consultations and field assessments were analysed through legal and institutional mapping, gap analysis, scenario planning and best-practice comparison. The analysis examined the coherence of regulatory instruments, overlaps or contradictions between mandates, the presence or absence of climate-related provisions, enforcement arrangements, institutional capacity and opportunities for strengthening flood-risk-sensitive planning.

2.2 Gap Analysis

A gap analysis matrix was used to assess existing policies, laws, planning instruments and institutional arrangements against key parameters: legal and policy framework, data and mapping, institutional capacity, planning processes and tools, community engagement and inclusion, and monitoring and compliance. The analysis identified areas where climate change and flood risk are already reflected, areas where provisions are weak or fragmented, and entry points for codifying climate change in land use planning and flood zoning.

2.3 Scenario Planning

Scenario planning was used to anticipate future land use and flood risk challenges. The analysis considered urbanisation and population growth, changing rainfall patterns and flood frequency, agricultural land demand, infrastructure expansion and governance or enforcement capacity. These drivers were used to identify adaptive land use strategies and to test the robustness of potential zoning approaches under future climate and development conditions.

2.4 Comparative Review

A comparative review was conducted to benchmark Malawi's framework against regional and international practice. The review considered models and guidance from the Southern African Development Community, South Africa's Spatial Planning and Land Use Management Act, UN-Habitat guidance on climate-resilient zoning, and other relevant standards and practices.

The purpose was not to import external models wholesale, but to identify practical lessons that could be adapted to Malawi's legal, institutional and local government context.

2.5 Validation and Quality Assurance

Findings were progressively triangulated across document review, institutional consultations, field observations and community feedback. The validation process was intended to confirm the accuracy of identified issues, test the practicality of proposed recommendations, and ensure that stakeholder concerns were incorporated into the final analysis.

Workshop feedback was reviewed selectively and integrated only where it strengthened the land use planning and flood zoning analysis. Relevant points included the need to operationalise the Physical Planning Act through local enforcement, prevent continued encroachment into wetlands and riparian areas, develop detailed district flood maps before applying minimum elevation or platform requirements, clarify binding protocols among MEPA, NWRA, CIRA, DoDMA, councils and related agencies, and address the cost and accountability barriers that affect private-sector and community compliance.

The methodology therefore provided an evidence base for assessing the adequacy of existing land use planning and flood zoning systems and for proposing legal, institutional, technical and implementation measures to strengthen the codification of climate change in Malawi's land use planning framework.

3. Legal and Policy Framework for Land Use Planning and Flood

Risk Zoning in Malawi

Malawi has a broad legal and policy framework that supports land use planning, environmental protection, water resources management, disaster risk reduction, construction control, and customary land governance. The main challenge is not the absence of legislation, but the weak integration of these instruments into a single operational system for flood risk-informed land allocation, zoning, permitting, infrastructure investment, and construction control. The review shows that existing laws provide several entry points for regulating development in flood-prone areas, but these provisions are not yet consistently translated into enforceable flood overlays, statutory flood lines, council by-laws, development permit conditions, and community-level land use controls.

3.1 The Constitution of Malawi, 1994

The Constitution provides the overarching legal foundation for land governance, environmental protection, and disaster risk management. Section 28 protects property rights but allows land use regulation in the public interest. This creates a constitutional basis for restricting settlement, construction, and occupation in flood-prone areas where such restrictions protect life, property, and public welfare. Section 13(d) requires the State to manage the environment responsibly and promote sustainable development, while Section 44 supports development that balances economic growth, social equity, and environmental protection.

For flood risk governance, the Constitution gives legitimacy to public interventions that regulate land use, protect floodplains, restrict unsafe settlement, and promote equitable access to safe land. However, it does not provide operational tools such as flood zoning, hazard mapping, or development control procedures. These must be implemented through sector

legislation, particularly the Land Act, Physical Planning Act, Water Resources Act, Environment Management Act, and Disaster Risk Management Act.

3.2 Environment Management Act, 2017

The Environment Management Act establishes the legal basis for environmental protection, environmental planning, ESIA, SEA, and institutional coordination. It establishes MEPA as the principal environmental regulator and creates mechanisms such as National Environment Action Plans, District Environment Action Plans, District Environment Sub-Committees, and Local Environment and Natural Resources Committees. These instruments provide entry points for integrating flood risk, climate risk, and environmental safeguards into land use planning.

The Act is particularly relevant because it regulates wetlands, lakeshores, riverbanks, hillsides, and other environmentally sensitive zones. These areas are often the same areas exposed to flooding. The Act also provides for ESIA and environmental audits, which allow flood risk, drainage impacts, riparian protection, and cumulative environmental risks to be assessed before project approval. Section 54 recognises climate change and disaster risk, supporting the mainstreaming of flood resilience into planning and development.

The limitation is that ESIA and SEA remain largely project-based and do not automatically bind zoning, land allocation, or construction approval. The Act provides strong environmental hooks, but climate and flood risk screening still needs gazetted technical guidance and formal linkage to physical planning and permitting systems.

3.3 Land Act, 2016

The Land Act provides the statutory framework for land tenure, land administration, and control of land use. It is highly relevant because much of Malawi's flood-prone land is customary land, where land allocation often occurs before formal planning approval or flood

hazard screening. The Act recognises customary land and allows chiefs to authorise occupation and use, subject to other written laws and ministerial direction.

Section 31 is especially important for flood risk management. It empowers the Minister to regulate, manage, and control land use, including drainage, the protection of stream sources, watercourses, stream banks, soil conservation, and water resource protection. This provides a legal basis for restricting settlement, cultivation, and construction in floodplains, wetlands, and riparian areas.

The Act also provides mechanisms for addressing encroachment and unlawful occupation. These provisions can support action against occupation of river reserves, wetlands, and flood-prone public land. However, the Act does not require flood hazard mapping, climate risk screening, or mandatory use of disaster risk data in land allocation, leasing, or land conversion. Its effectiveness depends on stronger alignment with the Physical Planning Act, Water Resources Act, Disaster Risk Management Act, and customary land governance structures.

3.4 Physical Planning Act, 2016

The Physical Planning Act is the central legal instrument for spatial planning, zoning, land use regulation, and development control in Malawi. It establishes planning instruments at national, district, and local levels, including the National Physical Development Plan, District Physical Development Plans, and Local Physical Development Plans. These instruments can guide settlement patterns, infrastructure siting, land use zoning, and environmental protection.

The Act provides development control powers, requiring development permission before construction or land use change. It also provides enforcement tools against unauthorised development. Improvement Area Orders, Accelerated Development Area Orders, and Vacant Land Development Orders can be used to address poorly planned settlements, guide development in high-growth areas, and manage vacant or underutilised land.

For flood risk management, the Act provides the strongest planning platform for flood zoning. It can support the identification of floodplains, drainage corridors, river buffers, wetlands, dambos and other risk-prone areas within physical development plans. Workshop feedback reinforced that the central gap is implementation: even where planning laws exist, wetlands, riparian zones and other ecologically sensitive areas continue to face development pressure where local enforcement, operational guidance and technical data are weak. The Act does not yet mandate standardised flood overlays, flood return periods, flood modelling, or mandatory application of hydrological data in all development approvals. This creates a gap between the planning mandate and operational flood risk control.

3.5 Water Resources Act, 2013

The Water Resources Act establishes the legal framework for water resources governance, catchment management, watercourse protection, dam safety, and flood management. It is directly relevant to flood risk zoning because it regulates rivers, lakes, flood conveyance paths, watercourse beds and banks, and activities that affect water flow and water quality.

The Act vests water in the State and recognises public ownership of watercourse beds and banks, including adjacent land strips. This supports riparian setbacks, lake shore protection, and development control near rivers and water bodies. It establishes the National Water Resources Authority as the core institution for hydrological data, water regulation, permitting, and compliance. It also provides for catchment management strategies, water resources master planning, pollution control, groundwater conservation, dam safety, and flood mitigation.

Sections on blockage of watercourses, dam safety, and flood control provide a clear legal basis for protecting drainage corridors, preventing obstruction of waterways, and managing flood impacts. The main limitation is that water resource controls are not systematically translated into physical planning instruments, zoning schemes, or routine development permissions.

Stronger coordination is required so that flood lines, river buffers, catchment data, and hydrological standards guide local land use decisions.

3.6 Disaster Risk Management Act, 2023

The Disaster Risk Management Act provides the clearest legal link between disaster risk governance and land use planning. It moves disaster management beyond response and creates tools for risk reduction, high-risk area designation, and restrictions on unsafe habitation.

Part VI, Sections 32 to 35, allows the Minister to declare high-risk areas, including flood-prone zones. These declarations can impose restrictions or prohibit human habitation. Section 33 links high-risk area declarations directly to the Physical Planning Act, requiring planning authorities to incorporate risk standards into National, District, and Local Physical Development Plans and development permission processes. Development that does not comply with prescribed disaster risk standards may be treated as unauthorised.

The Act also provides for relocation from unsafe land, safeguards for affected people, and restrictions on reoccupation of vacated high-risk areas. Sections 25 and 26 establish disaster risk information systems and early warning systems, including riverine flood warnings. These provisions can provide the evidence base for zoning, safe settlement planning, and infrastructure siting.

The Act is one of Malawi's strongest legal tools for flood risk-informed planning. Its effectiveness depends on timely declaration of high-risk areas, issuance of planning and building standards for such areas, coordination with Water Resources and Physical Planning, and practical enforcement at council level.

3.7 Construction Industry Act, 2025

The Construction Industry Act strengthens flood risk management at the construction stage. It applies to buildings, roads, drainage works, culverts, bridges, river control works, dams, and related infrastructure that affect flood behaviour and settlement exposure.

Section 41 requires clients to obtain necessary permits before construction and comply with environmental protection requirements. This creates a checkpoint where planning permission, floodplain zoning, drainage capacity, and environmental requirements should be verified before construction starts. Sections 44 and 45 empower the authority to inspect construction sites and issue stop orders for non-compliant works. These powers can support enforcement against construction in riverbanks, wetlands, natural drainage corridors, and flood-prone areas.

The Act also supports the prescription of construction standards, building codes, and infrastructure delivery standards. This creates a basis for flood-resilient design, elevated platforms, drainage integration, and structural safety in flood-exposed areas. However, the Act does not explicitly refer to floodplain zoning, statutory flood lines, or physical development plans. Its flood risk value depends on coordination with the Physical Planning Act, Water Resources Act, Environment Management Act, and council permitting systems.

3.8 National Urban Policy, 2019

The National Urban Policy supports integrated, inclusive, sustainable, and resilient urban development. It promotes compact urban forms, forward planning, disaster risk management, urban resilience, and climate change adaptation. It is directly relevant to flood zoning because it recognises the need to prevent unplanned expansion and strengthen resilience in urban settlements.

The policy assigns roles to the Ministry responsible for lands and planning and to local authorities in implementing urban plans and disaster preparedness. It supports the inclusion of

flood risk zoning and climate data in urban planning. However, it remains a policy instrument and does not itself create enforceable flood zoning standards, hydrological thresholds, or development control conditions. These must be implemented through legislation, regulations, and local by-laws.

3.9 National Land Policy, 2002

The National Land Policy promotes tenure security, equitable access to land, sustainable land use, and participatory land use planning. It supports land use planning across urban and rural areas, including freehold, leasehold, and customary land. It also recognises the need to protect wetlands, dambos, lakeshore areas, watersheds, and environmentally sensitive land.

The policy is important for flood risk management because it supports land use mapping, cadastral planning, regional land use planning, and protection of water-related ecosystems. However, climate risk integration remains limited. The policy does not provide detailed procedures for flood zoning, hazard mapping, or restrictions on settlement in flood-prone areas. Its principles need operationalisation through the Land Act, Customary Land Act, Physical Planning Act, and district-level land use plans.

3.10 Sendai Framework for Disaster Risk Reduction, 2015 to 2030

The Sendai Framework provides an international benchmark for integrating disaster risk reduction into land use planning, building codes, environmental management, and infrastructure development. It identifies rapid urbanisation, poor land management, and weak governance as key drivers of disaster risk.

Priority 2 calls for stronger disaster risk governance through coherent national and local frameworks. Priority 3 supports investment in resilience, including floodplain management, wetland protection, safe settlement planning, and resilient building standards. Priority 4 promotes Build Back Better in recovery and reconstruction.

For Malawi, the Sendai Framework reinforces the need to move from reactive flood response to preventive land use planning. It supports the use of hazard maps, community risk mapping, early warning systems, building standards, and inclusive planning for vulnerable communities.

3.11 Nationally Determined Contribution, 2021

Malawi's Updated Nationally Determined Contribution recognises flooding as a major climate risk affecting agriculture, infrastructure, settlements, and public services. It prioritises integrated flood management, climate-proofed infrastructure, ecosystem-based adaptation, and strengthened disaster risk management.

The NDC provides a strong policy mandate for reducing flood risk and strengthening climate resilience. However, it does not explicitly position statutory land use planning as a primary implementation mechanism for flood risk reduction. Flood risk is mainly addressed through sectoral adaptation actions rather than through enforceable zoning, development control, or land allocation procedures.

The implication is that NDC adaptation priorities should be linked more clearly to physical development plans, zoning regulations, district land use planning, Village Land Use Plans, VFAPs, and development permitting.

3.12 National Adaptation Plan Framework

The National Adaptation Plan Framework identifies flooding as a critical climate risk and promotes the integration of climate adaptation into national, sectoral, and district planning. It supports spatially informed adaptation, catchment management, ecosystem protection, climate-resilient infrastructure, and disaster risk reduction.

The NAP Framework provides an important mandate for linking climate adaptation to land use planning. It also recognises community participation and indigenous knowledge, which aligns

with the role of Traditional Authorities, Customary Land Committees, Village Land Use Plans, and Village Flood Action Plans.

The limitation is that the NAP Framework does not yet provide detailed operational guidance on how flood hazard information should become zoning controls, settlement restrictions, development permission criteria, or construction standards. Stronger implementation guidance is required to connect national adaptation goals to local land allocation and development control.

3.13 Lilongwe City Council Building By-laws

The Lilongwe City Council Building By-laws provide the local legal framework for building approval, siting, construction, drainage, and occupancy. They require approval before construction and allow the Council to refuse or condition approval where land is dangerous, unhealthy, poorly drained, unstable, or unsuitable for construction.

The by-laws support flood risk control by requiring adequate drainage and prohibiting construction that causes water nuisance or obstructs drainage. They also provide enforcement powers, including inspections, stop notices, alteration orders, demolition, and refusal of occupation.

However, the by-laws do not explicitly define floodplains, flood lines, return periods, mapped drainage reserves, or hydrological standards. Flood risk is therefore handled through discretionary interpretation rather than enforceable flood zoning criteria.

3.14 Lilongwe City Council Environment Management By-laws, 2023

The Lilongwe City Council Environment Management By-laws provide stronger local tools for environmental protection along riverbanks, stream corridors, wetlands, fragile areas, and undeveloped land. They prohibit squatting, residence, or construction within river and stream

bank green belts and other unauthorised areas. They also prohibit obstruction of streams and dumping of waste, soil, rubble, or construction debris in wetlands, riverbanks, and drainage areas.

These provisions directly support floodplain protection, drainage corridor protection, and prevention of encroachment into natural waterways. The by-laws also provide inspection and enforcement powers, including compliance orders, remedial measures, closure of polluting facilities, demolition of illegal structures, penalties, confiscation of materials, and recovery of enforcement costs.

The main gap is that the by-laws do not define quantified flood buffers, flood return periods, or mapped flood lines. As a result, they provide useful environmental controls but remain limited as a proactive flood zoning instrument.

3.15 Traditional Institutions and Customary Land Governance

Traditional institutions play a central role in land use planning and flood risk governance because many flood-prone settlements are located on customary land. Traditional Authorities, Group Village Headpersons, and Village Headpersons influence settlement siting, agricultural land allocation, riverbank use, wetland use, and local by-law enforcement.

The Customary Land Act establishes Customary Land Committees and Customary Land Tribunals to support land administration, land allocation records, boundary identification, and dispute resolution. Consultations show that CLCs and CLTs have been established in Karonga and Phalombe, creating a foundation for linking customary land governance with statutory planning. In Karonga, five Village Land Use Plans have been developed under TA Kilipula, providing local guidance on settlement areas, agriculture, sensitive zones, and drainage paths.

Village Flood Action Plans also provide community-level information on flood hazards, vulnerable households, evacuation routes, safe areas, and mitigation priorities. These tools can

support land allocation, settlement upgrading, drainage protection, and community by-law enforcement.

In Lilongwe, CLCs are not yet fully operational, and VFAPs are not systematically integrated into development control. This creates a gap between customary land allocation and flood risk-informed planning. Strengthening CLCs, CLTs, Village Land Use Plans, VFAPs, Traditional Authorities, Civil Protection Committees, ADCs, and VDCs would improve the link between community governance and statutory flood zoning.

3.16 Overall Synthesis

The review shows that Malawi has adequate legal foundations to support land use planning and flood risk zoning. The Constitution provides the public interest basis for regulating unsafe land use. The Land Act allows control of land use, drainage, and stream banks. The Physical Planning Act provides planning and development control tools. The Environment Management Act regulates sensitive ecosystems and ESIA. The Water Resources Act supports river, lake, catchment, and flood management. The Disaster Risk Management Act provides powers to declare high-risk areas and restrict habitation. The Construction Industry Act strengthens compliance at the construction stage. Local by-laws provide practical enforcement tools, especially in Lilongwe.

The main gap is implementation. These instruments are not sufficiently integrated into a binding system that requires flood risk screening before land allocation, subdivision, development permission, construction approval, and infrastructure investment. Flood hazard maps, hydrological data, 1-in-100-year flood standards, drainage corridors, VFAPs, Village Land Use Plans, and customary land information remain weakly connected to statutory planning and permitting.

The issue paper should therefore frame Malawi's reform agenda around operational integration rather than new law-making alone. Priority actions should include mandatory flood overlays in physical development plans, gazetted MEPA climate risk guidance, district and community by-laws for flood zoning, formal use of Water Resources flood lines, integration of CLCs and VFAPs into planning, e-permitting linked to LIMS, risk-based inspections, and binding coordination among Physical Planning, MEPA, NWRA, DoDMA, DCCMS, CIRA, councils, and traditional leaders.

4. Common Practices in Land Use Planning and Zoning in Malawi

Land use planning and zoning in Malawi operate through a combination of statutory planning instruments, council-led development control, sectoral environmental and disaster risk safeguards, and customary land governance. The formal system is anchored in the Physical Planning Act, supported by the National Land Policy, the Land Act, the Environment Management Act, the Water Resources Act, the Disaster Risk Management Act and local by-laws. In principle, these instruments provide a basis for preparing physical development plans, regulating development, protecting sensitive land and ensuring orderly settlement growth.

In practice, the system remains uneven. Urban areas such as Lilongwe have more visible land use planning, zoning and development control procedures, while many district, peri-urban and customary areas have limited planning coverage, weak enforcement and incomplete integration of climate and flood risk information. The Synthesis Report describes Malawi's land use system as a mix of formal urban planning, customary land practices and expanding informal settlements, with climate risk mapping not yet effectively embedded in zoning decisions. This conclusion is reinforced by consultations with Lilongwe City Council, the Department of Physical Planning, MEPA, DoDMA and DCCMS.

4.1 Flood Risk, Land Use Planning and Flood Zoning Concepts

Flood risk refers to the likelihood and consequences of flooding affecting people, land, infrastructure, ecosystems, livelihoods, and economic activities. For land use planning purposes, flood risk is best understood as the interaction between flood hazard, exposure, and vulnerability. Flood hazard refers to the physical flood event, including flood depth, velocity, duration, extent, frequency and intensity. Exposure refers to people, buildings, infrastructure,

land uses, ecosystems and services located in flood prone areas. Vulnerability refers to the susceptibility of exposed people and assets to damage, disruption, injury, displacement or loss. This definition is consistent with the UNEP-DHI flash flood risk assessment framework, which defines flood risk as a function of flood hazard magnitude, exposure and community vulnerability (UNEP-DHI, 2022).

Land use planning is the process of assessing, allocating, regulating and managing land for different uses in order to promote orderly, safe, sustainable and resilient development. In flood risk management, land use planning is a non-structural risk reduction measure that guides where development should be encouraged, restricted, conditioned or prohibited. It reduces flood losses by directing settlement and infrastructure away from high-risk areas, protecting floodplains and wetlands, reserving drainage corridors, and applying development controls in areas where some level of flood risk remains. Der Sarkissian et al. (2022) emphasise that risk-based land use planning and regulation are important disaster risk reduction measures because they control expansion of land cover classes into hazard prone areas and support safer allocation of land uses.

Flood inundation refers to the temporary covering of normally dry land by floodwater. In planning and engineering terms, flood inundation describes the spatial extent, depth, duration and movement of floodwater across land. Flood inundation mapping is important because it shows which areas are likely to be covered by water during different flood events. It supports zoning, construction standards, infrastructure siting, emergency planning, evacuation planning and community awareness. Mishra et al. (2018) assessed flood inundation under current and future climate and land use scenarios using hydrological and hydraulic modelling, including 50-year and 100-year return period rainfall events. Their findings show that future flood inundation areas and depths may increase under climate and land use change, confirming the need for flood zoning to consider both present and future risk conditions (Mishra et al., 2018).

4.1.1 Frequent Floods and the 1-in-100-year Flood Standard

For land use planning and construction control, it is useful to distinguish between frequent floods and extreme design floods. Frequent floods are events that occur more often, usually with lower return periods such as annual, 1-in-5-year, 1-in-10-year or seasonal floods. These floods may not always cause catastrophic damage, but they repeatedly disrupt households, agriculture, roads, drainage, markets, schools and local services. Frequent floods are therefore important for settlement upgrading, drainage maintenance, road design, local by-laws, and community-level preparedness.

The 1-in-100-year flood is a larger design event used for planning and construction control. It does not mean that such a flood occurs only once every 100 years. It means that there is a 1 percent probability of the flood being equalled or exceeded in any given year. The 1-in-100-year standard is widely used as a planning reference for defining flood lines, restricting permanent construction, and setting design conditions for development near rivers, floodplains, wetlands, lakeshore areas and drainage corridors. Flood standards are commonly expressed by return period, and some authorities adopt a uniform standard, such as the 1-in-100-year flood, for development control on flood prone land (ESCAP & UNDP, 1991).

For Malawi, the 1-in-100-year flood standard should be treated as a minimum planning reference for permanent buildings, critical infrastructure, public facilities and high-density settlements. Development below or within the 1-in-100-year flood line should be restricted or prohibited where risk is unacceptable. Where controlled development is allowed near flood prone areas, approval should require hydrological assessment, minimum platform or finished floor levels, flood proofing, safe access, drainage design, erosion protection and protection of natural flow paths.

Frequent flood information should also be used in planning. A site that floods every few years may not fall within the most extreme hazard category, but it may still be unsuitable for housing, schools, health facilities, markets, major roads or other sensitive uses. Such areas may be better reserved for flood-compatible uses such as open space, seasonal agriculture, sports fields, conservation, drainage reserves or ecosystem restoration.

4.1.2 Flash Floods and Riverine Floods

Flash floods are floods that develop rapidly after intense rainfall, usually over a short period. They are associated with sudden increases in flow followed by quick recession. The UNEP-DHI Somalia report describes flash floods as events generated by heavy rainfall over a few hours, typically resulting in a sudden increase in river flow followed by a quick recession. The same report notes that flash floods are difficult to predict because meteorological services may only identify the timing and location of heavy showers at short notice (UNEP-DHI, 2022).

In Malawi, flash floods are relevant in urban and peri-urban areas where intense rainfall, paved surfaces, blocked drains, poor stormwater systems and settlement in drainage paths can cause rapid flooding. Lilongwe's flood risk along the Lilongwe and Lingadzi river corridors includes flash flood characteristics where intense rainfall, drainage obstruction and informal settlement expansion combine to produce quick flood impacts in low-lying and poorly drained areas.

Riverine floods occur when rivers overtop their banks and spread across floodplains, low-lying areas, wetlands and adjacent settlements. They are usually associated with prolonged rainfall, upstream runoff, catchment saturation, river channel capacity limits and floodplain occupation. Riverine floods are particularly relevant in Karonga, where the North Rukuru and Rufira Rivers overtop their banks and affect settlements, agriculture, roads and bridges. They are also relevant in Phalombe, where runoff from the Mulanje Massif and Michesi Hills contributes to river

overflow, floodplain inundation and flooding around low-lying areas, including the Lake Chilwa floodplain and Mpopo Lagoon area.

Both flash floods and riverine floods should be considered in zoning regulations. Flash flood zoning should protect drainage routes, urban streams, culverts, stormwater channels, steep flow paths and low-lying urban depressions. Riverine flood zoning should protect floodplains, river buffers, wetlands, dambos, riparian reserves and areas below mapped flood lines.

4.1.3 Institutional Responsibilities in Malawi

In Malawi, responsibility for land use and flood risk zoning is shared across several institutions. No single institution controls the full system. This is why stronger coordination, shared data systems and enforceable zoning tools are required.

The Department of Physical Planning and the Ministry responsible for lands are responsible for national spatial planning guidance, physical development planning, land classification, zoning standards, and integration of climate risk into National, District and Local Physical Development Plans. These institutions should ensure that flood overlays, flood lines, drainage reserves, ecological buffers and climate-sensitive land use categories are codified in planning instruments.

District, municipal and city councils are responsible for local development control, planning permission, subdivision approval, building control, local by-laws, inspections and enforcement. Lilongwe City Council, Karonga District Council and Phalombe District Council are therefore responsible for translating flood risk information into practical decisions on land use, building approval, settlement upgrading, infrastructure siting and enforcement at local level.

Water resources institutions, including NWRA and relevant water resources departments, are responsible for hydrological data, river basin management, flood lines, riverbank controls, floodplain protection, wetlands, drainage systems and watercourse-related restrictions. Their data should define the technical basis for the 1-in-100-year flood line, river buffers, lake-level controls, drainage reserves and restrictions on development in flood prone areas.

DoDMA is responsible for disaster risk management, preparedness, response, recovery, early warning coordination, contingency planning, post-disaster assessment and Civil Protection Committees. DoDMA's flood risk information, vulnerability data, Village Flood Action Plans and disaster records should inform physical development plans, zoning, settlement planning, evacuation routes and restrictions on high-risk land.

DCCMS is responsible for climate and meteorological information, rainfall records, seasonal forecasts, early warning information, climate projections and extreme weather data. Its role is essential for updating IDF curves, design storm assumptions, climate risk screening and future rainfall intensity scenarios used in zoning and infrastructure design.

MEPA is responsible for environmental assessment, environmental safeguards, ESIA and ESMP review, environmental compliance, ecosystem protection, wetlands, biodiversity and environmental protection orders. MEPA should ensure that development proposals in flood prone or ecologically sensitive areas are screened for climate risk and that ESIA conditions are linked to planning approval and enforcement.

CIRA is responsible for construction industry regulation, contractor registration, construction quality, project registration, site compliance and construction standards. CIRA's role is important because flood zoning must be supported by climate resilient construction standards, including minimum platform levels, foundation design in saturated soils, drainage design, resilient materials and completion certification.

Traditional Authorities, Customary Land Committees, Customary Land Tribunals, ADCs, VDCs and Civil Protection Committees are responsible at community level for customary land allocation, local land use decisions, dispute resolution, local monitoring, early warning and community mobilisation. Their role is critical because many settlement and farming decisions occur outside formal urban planning systems. They should be provided with simplified flood maps, zoning guidance, by-law templates and training so that customary land allocation is aligned with flood risk zoning and physical development plans.

4.2 Implication for Land Use and Flood Risk Zoning in Malawi

For Malawi, flood risk zoning should combine technical flood evidence, statutory planning, customary land governance and enforceable development control. Flood hazard maps and inundation maps should identify areas exposed to frequent floods and 1-in-100-year flood events. These maps should be incorporated into physical development plans as binding flood overlays. Councils should then use the overlays to define no-build zones, conditional development zones, drainage reserves, riparian buffers, wetland protection zones, dambo protection areas, lakeshore protection areas and flood-compatible open spaces.

The 1-in-100-year flood line should guide restrictions on permanent buildings and critical infrastructure. Frequent flood areas should guide drainage design, informal settlement upgrading, land use compatibility and local by-law enforcement. Flash flood areas should be managed through drainage protection, stormwater controls, warning systems and protection of urban flow paths. Riverine flood areas should be managed through floodplain zoning, river buffer protection, wetland conservation, controlled development, and relocation or upgrading where risk is unacceptable.

This approach would allow Malawi to move from general recognition of flood risk to a practical zoning system where climate and flood risk information is used before land is allocated, subdivided, serviced, built on or occupied. As Der Sarkissian et al. (2022) note, land use zoning requires hazard information, enforceable regulation, stakeholder participation and institutional coordination, especially in developing country contexts where informal settlements, unclear tenure, limited data and limited capacity complicate implementation.

4.3 Institutions Responsible for Land Use Planning and Flood Risk Management in Malawi

4.3.1 Role of National, District and Local Physical Development Plans

The statutory planning hierarchy is intended to translate national spatial development priorities into district and local land use decisions. National Physical Development Plans provide broad direction on settlement patterns, infrastructure corridors, resource protection and development priorities. District Physical Development Plans are expected to localise these priorities by guiding settlement growth, agriculture, infrastructure, public facilities, conservation areas and economic activities within district boundaries. Local Physical Development Plans and land use schemes then provide more detailed guidance for towns, trading centres, neighbourhoods and specific development areas.

The practical value of these plans lies in their ability to guide development permissions, subdivision, change of use, infrastructure investment and land reservation. However, consultation evidence indicates that this hierarchy is not yet functioning consistently. The Department of Physical Planning noted that, despite the existence of comprehensive policy documents, implementation has remained difficult and there has been limited progress in developing physical planning documents at national and district levels after the enactment of the Physical Planning Act in 2016 (Annex Consultations: Department of Physical Planning).

This has direct implications for climate-responsive planning. Where updated plans are absent or weak, councils and sector agencies rely on case-by-case judgement, historical flood memory, general offsets from rivers or project-level environmental review rather than legally enforceable flood overlays and risk-based zoning.

4.3.2 Role of Councils in Development Control

Councils are the front-line institutions for development control. Their functions include receiving and reviewing development applications, granting planning permission, enforcing planning conditions, controlling subdivision and change of use, coordinating planning committees, and applying local by-laws. In urban areas, councils also coordinate building control, environmental referrals and disaster risk management activities.

Consultations with Lilongwe City Council confirm that the city develops, approves and implements land use planning through development control and enforcement, using the master plan and land use planning guidelines as key references. The Council also reported maintaining disaster risk management plans and referring significant projects to MEPA for ESIA in line with the Environment Management Act (Annex Consultations: Lilongwe City Council).

At the same time, councils face major implementation constraints. Lilongwe City Council reported that flood-related decisions often rely on historical information from residents rather than scientific data, and that limited public awareness of planning laws affects enforcement. The Council also identified resource constraints, weak budgeting for delegated disaster risk management functions and the growth of informal settlements as practical barriers to effective development control.

4.3.3 Customary Land Allocation and Traditional Authorities

Traditional Authorities, Group Village Heads, village heads and block leaders remain central to customary land allocation and community-level land governance. Their role is especially important in rural, peri-urban and customary land areas where formal plans are incomplete, not widely known or not consistently enforced. The Traditional Authorities and Group Village Heads as key stakeholders for customary land governance, community entry, walk-through mapping, focus group discussions and dispute resolution.

The challenge is that customary allocation can operate in parallel with, or ahead of, statutory planning controls. Consultation evidence from Lilongwe City Council indicates that chiefs are allocating land to developers in sensitive areas, including riverine zones and other critical locations, which complicates development control and increases exposure to flood risk (Annex Consultations: Lilongwe City Council). This does not reduce the legitimacy of customary institutions; rather, it shows the need to formally connect customary land allocation with physical development plans, flood hazard information, council by-laws and development control systems.

4.3.4 Application of Zoning in Urban Areas

In urban areas such as Lilongwe, zoning is applied more visibly through master plans, layout plans, land use designations, planning permissions, building lines, road reserves and development conditions. These tools support the separation of incompatible land uses, reservation of land for public infrastructure, management of density and protection of public spaces. Consultations with Lilongwe City Council show that the city uses its master plan and land use planning guidelines to guide development approvals and enforcement (Annex Consultations: Lilongwe City Council).

However, zoning in urban areas is still constrained by weak enforcement, inadequate technical data and competing land mandates. The Malawi Housing Corporation reported that plot holders

sometimes develop beyond designated building lines and encroach on river reserve areas, while MHC lacks sufficient control to enforce planning requirements such as zoning in such cases (Annex Consultations: Malawi Housing Corporation). Lilongwe City Council also reported conflicts linked to overlapping land management authorities, including the Ministry of Lands, Malawi Housing Corporation and local councils (Annex Consultations: Lilongwe City Council).

4.3.5 Weak or Absent Zoning in District and Customary Areas

In many district, peri-urban and customary areas, zoning is weak, partial or absent. This is caused by limited plan coverage, outdated or unavailable land use schemes, weak council staffing, inadequate inspection capacity, limited public awareness, resource constraints and the continued expansion of informal settlement. The researcher notes that flood risk zoning is often ad hoc and reactive, and that climate risk mapping is not yet effectively integrated into zoning.

The Department of Physical Planning reported that in unplanned areas, safe and unsafe zones are often delineated using community memory, which is useful but limited when not supported by scientific flood data (Annex Consultations: Department of Physical Planning). DoDMA confirmed that hazard maps and flood return-period information exist and can support planning, but consultations also show that these datasets are not consistently embedded in council approval systems (Annex Consultations: DoDMA; Lilongwe City Council).

4.4 How Climate Change Is Currently Considered

Climate change is currently considered mainly through three routes: ESIA and environmental management processes, disaster risk management systems, and project-level safeguards. These mechanisms are important, but they are not yet equivalent to binding climate-risk zoning. MEPA consultations indicate that flood risk and land use control are currently addressed mainly through project-based environmental regulation, particularly ESIA and ESMP review, where

flood risk, buffers and mitigation measures are assessed case by case (Annex Consultations: MEPA).

DCCMS provides early warnings, climate projections and meteorological data used in assessments, including ESIA baselines for larger projects. However, DCCMS also reported that climate risk mapping is not available for all districts and that riverine information is held by the Department of Water Resources, creating coordination challenges (Annex Consultations: DCCMS). DoDMA, operating under the Disaster Risk Management Act, encourages planning to use multi-hazard maps and flood return periods, while also using scientific and community knowledge for hazard projection (Annex Consultations: DoDMA).

The key limitation is that climate and flood risk information is not yet systematically translated into enforceable land use zones, subdivision conditions, building controls or council by-laws. MEPA specifically noted that ESIA mitigation measures are not consistently linked to development permission, subdivision approval or construction enforcement by planning authorities (Annex Consultations: MEPA).

4.4.1 Malawi Environmental Protection Authority

MEPA's institutional position is that it serves as a regulator of sustainable land use through ESIA review, environmental safeguards, biodiversity conservation, ecosystem sustainability, and climate resilience. The consultations indicate that climate risks and flood zones are currently addressed mainly through project-level environmental assessments rather than formally gazetted zoning maps. This confirms that the present system relies heavily on project screening and mitigation, rather than routine, legally enforceable flood zoning.

The MEPA consultations further support the need for a nationally gazetted flood zoning and land-use coding framework aligned with the Environment Management Act (2017). They recommend integrating climate risk and flood hazard maps into statutory land-use plans and

development control systems, standardising ecological buffer requirements for rivers and wetlands, strengthening inter-agency coordination, building local authority capacity in climate risk assessment, hydrology, GIS and compliance monitoring, and promoting nature-based solutions and ecosystem restoration.

The regulatory authority inputs also clarify that MEPA does not develop engineering design codes, but enforces environmental quality standards, ESIA and ESMP requirements, environmental protection orders, and compliance directives. They further identify gaps in greenhouse gas emission standards, carbon sink protection standards and climate-proofing standards, and call for dedicated standards for climate-proofing in the design and physical planning of built environment developments.

Table 1: MEPA Position

MEPA position	Substance
MEPA mandate in land use and flood risk	MEPA's position is that it plays a key role in sustainable land use through ESIA review, environmental safeguards, climate resilience and flood risk reduction. It also cites EMA provisions on biodiversity conservation, ecosystem sustainability, hills and mountains, and conservation measures with local authorities.
Current entry point for climate risk	Climate risks and flood zones are mainly considered through project-level environmental assessments rather than formally gazetted zoning maps. During ESIA review, proponents identify flood risks, apply buffers and propose mitigation measures, but standard national flood zoning limits are missing.

MEPA position	Substance
Flood zoning and land-use coding	MEPA's flood zoning response supports a nationally gazetted flood zoning and land-use coding framework aligned with the Environment Management Act, integration of flood hazard maps into statutory plans, and standard ecological buffer requirements for rivers and wetlands.
Development control below flood levels	For building applications below the 100-year flood level, MEPA supports restrictions on high-hazard zones, ecological buffers, floodline disclosure on building plans, higher finished floor levels, flood proofing and evacuation plans where necessary.
Environmental and social assessment position	MEPA's Environmental and Social Assessment Manager identified ESIA and ESMP requirements, environmental protection orders, compliance directives, joint inspections and technical review committees as the main current regulatory tools, but noted the need for stronger climate-proofing standards.
Standards and capacity gaps	MEPA identifies gaps in greenhouse gas emission standards, carbon sink protection standards, climate-proofing standards, climate modelling, resilient infrastructure review, GIS, compliance monitoring and greenhouse gas accounting.

4.4.2 Department of Physical Planning

The Department of Physical Planning's institutional position is that it is the main technical authority responsible for guiding spatial planning, land use planning, zoning, development control standards, and preparation of physical development plans in Malawi. Its role is central to climate resilient land use planning because it provides the technical basis for how land is classified, planned, zoned, subdivided, and controlled for development.

Consultations indicate that the Department recognises climate change and flood risk as important considerations in physical planning. However, flood risk is not yet systematically embedded in all planning instruments through mandatory flood overlays, gazetted flood lines, drainage reserves, or standard zoning codes. In practice, climate risk is often considered through general environmental protection principles, site suitability assessment, stakeholder input, and sectoral advice from institutions such as Water Resources, DoDMA, DCCMS, MEPA, and local councils. This creates room for inconsistent application across districts and urban areas.

The Department's position confirms that physical development plans provide an important entry point for integrating climate change adaptation into land zoning regulations. National, district, local, urban structure, subject, and village land use planning instruments can all be used to identify areas suitable for settlement, agriculture, infrastructure, conservation, open space, drainage protection, and restricted development. However, these instruments need clearer technical standards to define flood-prone land, river buffers, wetland protection areas, drainage corridors, lakeshore zones, and no-build areas.

The consultations also show that physical planning is affected by gaps in flood risk data, hydrological modelling, climate projections, GIS integration, and legally recognised zoning standards. In many cases, planners do not have access to approved flood hazard maps, 1-in-100-year flood lines, updated rainfall intensity data, or standardised climate risk screening

tools. This limits the ability of physical planners to classify land according to future climate risk and to apply consistent development control conditions.

The Department's position further highlights the importance of linking statutory planning with customary land governance. In many flood-prone areas, especially in Karonga and Phalombe, land allocation is strongly influenced by Traditional Authorities, Group Village Headpersons, Village Headpersons, Customary Land Committees, and Village Land Use Plans. Physical planning therefore needs to work through both formal planning instruments and customary land structures. Village Land Use Plans and Village Flood Action Plans should be integrated into district physical development plans and used to guide land allocation, settlement siting, drainage protection, and relocation from unsafe areas.

Overall, the Department of Physical Planning position confirms that climate change adaptation should be codified directly into land use planning and zoning regulations. Flood overlays, hazard-based land classification, ecological buffers, drainage reserves, minimum development standards, and climate risk screening should become mandatory elements of physical development plans and development control. This would allow physical planning to move from general land suitability assessment to a more risk-informed system that protects people, infrastructure, ecosystems, and future urban development.

Table 2: Department of Physical Planning Position

Department of Physical Planning position	Substance
Mandate in land use planning	The Department provides technical leadership for spatial planning, land use planning, zoning, land classification, layout planning, and development control standards.

Department of Physical Planning position	Substance
Role in flood risk management	The Department has a key role in ensuring that flood-prone land, drainage corridors, riverbanks, wetlands, dambos, lakeshore zones, and environmentally sensitive areas are identified and regulated through physical development plans.
Current entry point for climate risk	Climate risk is mainly considered through land suitability assessment, environmental protection principles, site planning, stakeholder consultations, and input from technical agencies such as Water Resources, DoDMA, DCCMS, MEPA, and councils.
Physical development plans	National, district, local, urban structure, subject, and village land use planning instruments provide the main entry points for integrating climate risk into land classification, zoning, infrastructure siting, and development control.
Flood zoning position	Flood zoning is recognised as necessary, but it is not yet consistently applied through mandatory flood overlays, gazetted flood lines, no-build zones, or standardised flood risk zoning codes.
Land classification gap	Existing classification is still largely based on tenure, existing use, development potential, infrastructure access, and environmental sensitivity, with limited systematic use of flood frequency, flood depth, drainage capacity, climate projections, and hydrological modelling.
Data and technical gaps	Key gaps include limited access to approved flood hazard maps, hydrological data, 1-in-100-year flood lines, updated IDF curves,

Department of Physical Planning position	Substance
	climate projections, GIS layers, and standardised climate risk screening tools.
Customary land linkage	The Department recognises the need to link physical planning with Traditional Authorities, Customary Land Committees, Customary Land Tribunals, Village Land Use Plans, ADCs, VDCs, and community planning structures.
Village Land Use Plans and VFAPs	Village Land Use Plans and Village Flood Action Plans should inform district physical development plans, customary land allocation, settlement planning, drainage protection, and local flood risk zoning.
Development control implication	Development applications should be screened against flood hazard maps, drainage reserves, ecological buffers, zoning codes, and land suitability criteria before approval.
Required reforms	The Department requires clear climate risk planning guidelines, model flood zoning regulations, GIS-based planning tools, standard flood overlay codes, and stronger coordination with Water Resources, DoDMA, DCCMS, MEPA, CIRA, councils, and customary land institutions.
Main implication	Climate change adaptation should be codified into physical planning regulations so that flood risk becomes a mandatory and enforceable part of land classification, zoning, subdivision approval, infrastructure planning, and development control.

4.4.3 Malawi Housing Corporation Position

Malawi Housing Corporation's institutional position is that it is a formal housing developer and public housing agency whose developments are generally guided by planning approvals, layout plans, building standards, and environmental requirements. Its role is important in land use planning and flood risk management because it influences the location, design, servicing, and development standards for residential areas, including housing estates and serviced plots.

Consultations indicate that Malawi Housing Corporation generally applies formal planning and environmental procedures in its housing developments. However, the key issue is that its flood risk controls are based mainly on precautionary setbacks rather than hydrological modelling or formally gazetted flood zoning maps. A key example is the application of a **10-metre offset from riverbanks** in housing developments. While this provides a basic precautionary buffer, consultations indicate that it is not based on flood modelling and does not necessarily reflect the actual extent of flooding during extreme events, including the 1-in-100-year flood level used by the Department of Water Resources.

Malawi Housing Corporation's position highlights a broader gap in Malawi's housing and land development system. Formal housing projects may comply with planning and environmental approval procedures, but there is no consistent national requirement for housing layouts to be screened against approved flood lines, flood hazard maps, drainage corridors, or climate projections. This means that housing development decisions may rely on fixed offsets, site observations, and general planning standards rather than risk-based flood zoning.

The consultations also show that institutional coordination affects housing delivery. Malawi Housing Corporation developments often require approvals from councils, planning authorities, environmental regulators, and other agencies. Delays and inconsistencies in these

approval processes can affect formal housing supply. At the same time, informal developers often bypass these systems, creating unequal compliance conditions and contributing to settlement growth in flood-prone areas. This weakens the effectiveness of formal development control and places compliant developers at a disadvantage.

Overall, the Malawi Housing Corporation position shows the need to move from generic river offsets to scientifically defined flood risk controls. Housing layouts, estate planning, and plot allocation should be guided by flood lines, drainage reserves, hydrological data, and climate risk screening. The 10-metre offset should therefore be treated as a minimum precautionary measure, not as a substitute for flood modelling or statutory flood zoning.

Table 3: Malawi Housing Corporation Position

Malawi Housing Corporation position	Substance
Mandate in land use and housing development	Malawi Housing Corporation supports formal housing development through estate planning, serviced plots, housing construction, and compliance with planning and environmental approval processes.
Role in flood risk management	Its housing development decisions influence settlement location, plot layout, drainage design, open space provision, and protection of riverine and flood-prone land.
Current entry point for flood risk	Flood risk is mainly considered through site planning, layout review, environmental screening, drainage design, and precautionary setbacks from rivers and drainage channels.
Use of river offsets	Consultations indicate that Malawi Housing Corporation applies a 10-metre offset from riverbanks as a precautionary measure in housing developments.

Malawi Housing Corporation position	Substance
Limitation of the 10-metre offset	The 10-metre offset is not informed by flood modelling and may not reflect the actual floodplain extent, especially where floodwaters extend beyond the riverbank during extreme events.
Relationship with the 1-in-100-year flood standard	The Department of Water Resources uses the 1-in-100-year flood standard to define flood lines, but this standard is not consistently applied in housing layout planning or council development control.
Formal housing compliance	Formal housing developments generally follow planning and environmental procedures, but flood risk is not consistently embedded as a binding layout, zoning, or permit requirement.
Approval and coordination challenges	Housing projects require coordination with councils, planning authorities, environmental regulators, water institutions, and other agencies, but approvals may be delayed or inconsistent due to fragmented institutional review.
Informal development concern	Informal developers often bypass planning and building controls, creating uneven compliance and increasing settlement growth in flood-prone areas.
Data and technical gaps	Key gaps include limited use of approved flood maps, hydrological modelling, drainage corridor mapping, climate projections, and flood return periods in housing site selection and layout design.
Required reforms	Housing developments should be screened against flood lines, flood overlays, drainage reserves, riparian buffers, and climate risk data before layout approval, subdivision, construction, or occupation.

Malawi Housing Corporation position	Substance
Main implication	Malawi Housing Corporation's 10-metre setback should be strengthened by adopting hazard-based flood zoning, especially the 1-in-100-year flood line, to guide safer housing development and prevent settlement in high-risk areas.

4.4.4 Department of Disaster Management Affairs

The Department of Disaster Management Affairs position is that it is the national institution responsible for coordinating disaster risk management, preparedness, response, recovery, and risk reduction in Malawi. Its mandate is central to land use and flood risk governance because flood disasters are closely linked to settlement location, infrastructure siting, drainage conditions, land degradation, and exposure of communities in flood prone areas.

Consultations indicate that DoDMA recognises flooding as one of the major recurrent hazards affecting Malawi, including Lilongwe, Karonga, and Phalombe. The Department's role is not limited to emergency response. It also supports disaster risk assessment, contingency planning, early warning dissemination, preparedness, evacuation planning, post disaster assessment, and coordination of Civil Protection Committees at district, area, and village levels. These functions provide important entry points for integrating flood risk information into land use planning and zoning.

DoDMA's position highlights that flood risk information generated through disaster risk assessments, historical flood records, community vulnerability assessments, contingency plans, and Village Flood Action Plans should inform physical planning and land allocation. However, consultations indicate that this information is not yet systematically translated into statutory

land use plans, zoning maps, development control conditions, or customary land allocation decisions. As a result, flood risk knowledge often remains within disaster management systems and is applied mainly during preparedness and response, rather than before development occurs.

The Department's work through District Civil Protection Committees, Area Civil Protection Committees, and Village Civil Protection Committees provides a strong local structure for linking community flood knowledge with formal planning. These committees understand local flood routes, evacuation areas, vulnerable households, unsafe crossing points, drainage problems, and recurrently affected settlements. However, their outputs are not always formally recognised by councils, physical planners, Traditional Authorities, or development control systems. This weakens the use of local knowledge in preventing new development in high risk areas.

DoDMA's position also supports the need to integrate Village Flood Action Plans into Village Land Use Plans, District Physical Development Plans, urban structure plans, and local by-laws. VFAPs identify flood hazards, safe areas, evacuation routes, vulnerable groups, and local mitigation priorities. These plans should therefore be used not only for emergency preparedness, but also for guiding settlement siting, relocation planning, drainage protection, community by-laws, and land use restrictions in flood prone areas.

Overall, the DoDMA position confirms that disaster risk management should be embedded upstream in land use planning and development control. Flood risk data, community risk maps, contingency plans, VFAPs, post disaster assessments, and Civil Protection Committee inputs should become mandatory reference points in physical development plans, zoning regulations, infrastructure planning, and land allocation decisions. This would shift flood management from a reactive emergency response model to a preventive land use governance model.

Table 4: DoDMA Position

DoDMA position	Substance
Mandate in disaster risk management	DoDMA coordinates disaster risk management, preparedness, response, recovery, risk reduction, contingency planning, early warning, and post disaster assessment.
Role in land use and flood risk	DoDMA provides flood risk information, disaster records, vulnerability data, preparedness guidance, evacuation planning, and coordination structures that should inform land use planning and zoning.
Current entry point for flood risk	Flood risk is mainly addressed through disaster risk assessments, contingency plans, early warning systems, Civil Protection Committees, post disaster assessments, and Village Flood Action Plans.
Institutional structure	DoDMA works through national coordination systems and local Civil Protection Committees, including District Civil Protection Committees, Area Civil Protection Committees, and Village Civil Protection Committees.
Community-level role	Civil Protection Committees identify local flood hazards, vulnerable households, evacuation routes, safe areas, recurrent flood locations, and priority mitigation measures.
Link with Village Flood Action Plans	VFAPs provide practical community-level flood risk information that should guide land allocation, settlement planning, local by-laws, evacuation planning, and flood mitigation.

DoDMA position	Substance
Current limitation	Disaster risk information is not yet consistently embedded in physical development plans, zoning maps, development permits, infrastructure investment decisions, or customary land allocation.
Flood zoning position	DoDMA's inputs support the need for flood hazard maps, risk zones, evacuation routes, safe settlement areas, and no-build zones to be recognised in statutory land use plans and local by-laws.
Post disaster learning	Post flood assessments should be used to update flood maps, settlement risk profiles, Village Land Use Plans, VFAPs, infrastructure standards, and development control procedures.
Data and technical gaps	Key gaps include limited integration of disaster risk data with GIS, LIMS, council permitting systems, physical planning datasets, hydrological data, and climate projections.
Coordination gaps	Stronger coordination is required between DoDMA, councils, Physical Planning, Water Resources, DCCMS, MEPA, CIRA, Traditional Authorities, CLCs, ADCs, VDCs, and Civil Protection Committees.
Required reforms	DoDMA data and VFAP outputs should be formally incorporated into District Physical Development Plans, local plans, zoning schemes, urban structure plans, Village Land Use Plans, and development control systems.
Main implication	Disaster risk management should move upstream into planning and permitting so that flood risk is addressed before land is allocated, infrastructure is built, or settlements expand into high risk areas.

4.4.5 National Water Resources Authority

The Water Resources position is that flood risk management is directly linked to the protection and regulation of rivers, lakes, wetlands, catchments, drainage systems, and floodplains. The institution responsible for water resources provides the hydrological and technical basis for identifying flood-prone land, regulating development near watercourses, protecting flood conveyance areas, and supporting land use decisions that reduce exposure to flooding.

Consultations indicate that Water Resources recognises flood risk as a major planning concern in Lilongwe, Karonga, and Phalombe. In Lilongwe, flood risk is associated with the Lilongwe and Lingadzi river corridors, where settlement expansion, encroachment, poor drainage, and obstruction of natural flow paths increase exposure. In Karonga, flood risk is linked to the Lake Malawi, North Rukuru and Rufira Rivers, flat terrain, and lakeshore dynamics. In Phalombe, flooding is influenced by runoff from the Mulanje Massif and Michesi Hills, low-lying plains, river overflow, the Lake Chilwa floodplain, and the Mpopo Lagoon area.

The Water Resources position emphasises that flood-prone land should be identified using hydrological data, flood frequency analysis, flood lines, river behaviour, drainage patterns, catchment conditions, and local flood history. Consultations indicate that the **1-in-100-year flood standard** is an important reference point for defining flood lines and areas where development should be restricted or prohibited. However, this standard is not yet consistently embedded in physical development plans, zoning maps, local by-laws, customary land allocation, or development approval systems.

For lakeshore areas, the Water Resources position also highlights the importance of controlling development below sensitive lake-level contours. In the case of Lake Malawi, consultations referred to restrictions on development below the 477 metre contour line. This provides an

important land use control for Karonga and other lakeshore districts, but it requires stronger integration into district plans, lakeshore zoning, development permits, tourism planning, agriculture planning, and customary land allocation. In practise the 477 m is not working as seen in the figure below:

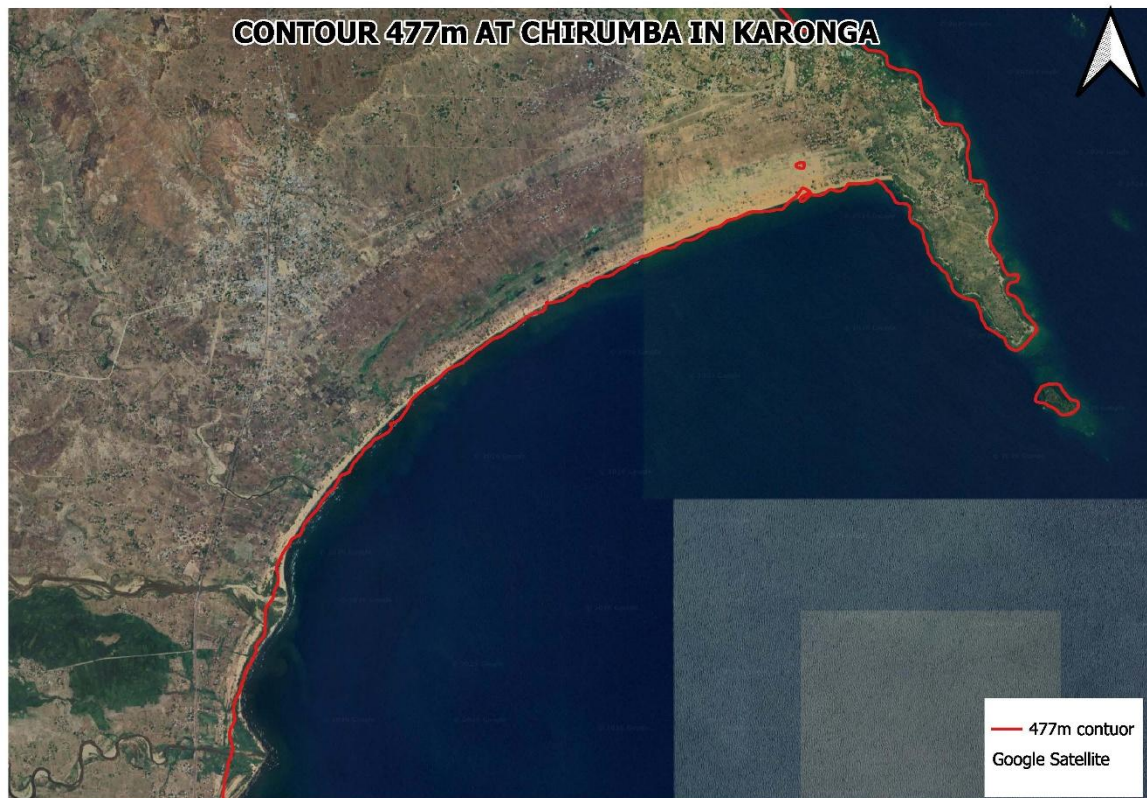


Figure 1 The 477 m contour at Chirumba Beach, Karonga

The consultations further indicate that Water Resources does not only provide technical flood information. It also has a regulatory role in protecting watercourses from obstruction, degradation, pollution, encroachment, and activities that alter natural drainage or flood conveyance. This means that land use planning should treat rivers, streams, wetlands, dambos, lakeshore areas, and drainage corridors as functional flood management infrastructure. These areas should be mapped, protected, and coded in zoning regulations before land is allocated or development is approved.

A key gap identified is that hydrological data and flood risk information are not routinely translated into enforceable land use controls. Flood lines, drainage corridors, river buffers, and lakeshore restrictions are often treated as technical advice rather than binding planning requirements. This weakens preventive action, especially where land is under customary administration or where informal settlement expands faster than formal planning and inspection systems.

Overall, the Water Resources position confirms that climate resilient land use planning requires stronger integration of hydrological evidence into zoning, development control, and infrastructure planning. Flood lines, 1-in-100-year flood levels, river buffers, wetland protection zones, lake-level contours, and drainage reserves should become mandatory inputs into physical development plans, Village Land Use Plans, urban structure plans, local by-laws, and development permits. This would help shift flood risk management from reactive response to preventive land use regulation.

Table 5: National Water Resources Authority Position

Water Resources position	Substance
Mandate in flood risk and land use	Water Resources provides hydrological data, flood information, river and catchment management guidance, and regulatory oversight for watercourses, lakes, wetlands, drainage systems, and floodplains.
Role in land use planning	Its technical inputs should guide flood lines, river buffers, drainage reserves, lakeshore controls, wetland protection, and restrictions on development in flood-prone areas.

Water Resources position	Substance
Current entry point for flood risk	Flood risk is addressed through hydrological data, flood frequency analysis, catchment information, river behaviour, watercourse protection, and technical advice to councils and planning authorities.
1-in-100-year flood standard	Consultations indicate that the 1-in-100-year flood standard is used as an important reference for defining flood lines and areas where development should be restricted or prohibited.
Lake Malawi contour control	For lakeshore areas, restrictions on development below the 477 metre contour line provide an important control for managing lake-related flood and inundation risks.
Lilongwe flood context	Flood risk is linked to the Lilongwe and Lingadzi river corridors, riverbank encroachment, informal settlement growth, poor drainage, and obstruction of natural flow paths.
Karonga flood context	Flooding is associated with the North Rukuru and Rufira Rivers, flat terrain, slow drainage, floodplain occupation, and lakeshore dynamics.
Phalombe flood context	Flooding is influenced by runoff from the Mulanje Massif and Michesi Hills, low-lying plains, river overflow, the Lake Chilwa floodplain, and the Mpopo Lagoon area.
Watercourse protection position	Rivers, streams, wetlands, dambos, floodplains, lakeshore areas, and drainage corridors should be treated as functional flood management infrastructure and protected from obstruction, encroachment, pollution, and unsuitable development.

Water Resources position	Substance
Current limitation	Hydrological data, flood lines, drainage corridors, and lake-level restrictions are not consistently translated into binding zoning maps, local by-laws, development permits, or customary land allocation decisions.
Data and technical gaps	Key gaps include limited approved flood hazard maps, incomplete flood line mapping, weak integration of hydrological data into GIS and LIMS, limited local flood modelling, and inadequate routine sharing of data with councils and customary land institutions.
Required reforms	Water Resources data should be formally integrated into physical development plans, local plans, Village Land Use Plans, urban structure plans, zoning schemes, by-laws, and development control systems.
Main implication	Flood-prone land should be regulated through hazard-based zoning informed by hydrological evidence, including the 1-in-100-year flood line, drainage reserves, river buffers, wetland protection zones, and lakeshore contour controls.

4.4.6 Construction Industry Regulatory Authority

The Construction Industry Regulatory Authority position is that climate resilient land use planning must be supported by enforceable construction standards, contractor regulation, building quality control, and inspection systems. CIRA's role is important because land use zoning alone cannot reduce flood risk if buildings, roads, drainage structures, bridges, culverts, and public infrastructure are poorly designed or constructed in hazard prone areas.

Consultations indicate that CIRA recognises the need to strengthen the construction sector's role in climate resilience. The Authority's mandate relates to regulation of contractors, construction quality, professional practice, compliance with construction standards, and improvement of construction industry performance. In the context of flood risk and land use planning, this means ensuring that developments approved in climate sensitive areas meet appropriate design, siting, materials, drainage, and structural safety requirements.

CIRA's position highlights that Malawi has gaps in practical climate proofing standards for the built environment. While planning and environmental laws provide broad requirements for safe and sustainable development, there is still limited codification of climate resilient construction standards for flood prone areas. Key gaps include limited guidance on minimum platform levels, foundation design in saturated soils, flood resistant materials, drainage performance, culvert sizing, road crossings, bridge resilience, slope stability, and construction quality in areas exposed to flooding, erosion, and stormwater damage.

The consultations also indicate that construction quality control needs to be better linked to planning approval and flood zoning. At present, a development may receive planning or environmental approval without a fully integrated system for checking whether the design and construction methods are adequate for future climate risks. This creates a gap between land use approval and actual construction performance. CIRA's role should therefore be strengthened so that contractor registration, project registration, site inspections, and completion certification are linked to compliance with approved climate resilient building and infrastructure standards.

CIRA's position further supports the need for stronger capacity building across the construction sector. Engineers, contractors, artisans, inspectors, planners, building control officers, and local authority staff require practical training on climate resilient construction, flood risk screening,

drainage protection, resilient materials, safe site preparation, and compliance monitoring. This is particularly important in districts such as Karonga and Phalombe, where flood risk affects roads, bridges, houses, schools, markets, and community infrastructure, and in Lilongwe, where informal and peri-urban development places pressure on drainage systems and river corridors.

The Authority's position also points to the need for stronger testing and certification systems. Construction materials and soil conditions influence building resilience in flood prone areas. Weak materials, poor workmanship, unstable foundations, and inadequate drainage increase the risk of structural failure during floods. Malawi therefore needs stronger coordination between CIRA, the Malawi Bureau of Standards, councils, universities, laboratories, and professional bodies to support testing, certification, and enforcement of resilient construction standards.

Overall, the CIRA position confirms that codifying climate change in land zoning regulations must be accompanied by climate resilient construction controls. Flood zoning should define where development is permitted or restricted, while CIRA-linked standards should define how approved development must be designed and built. This includes minimum platform levels, safe foundations, resilient materials, drainage requirements, inspections, contractor accountability, and completion certification. Without this construction control link, flood zoning would remain incomplete.

Table 6: Construction Industry Regulatory Authority Position

CIRA position	Substance
Mandate in construction regulation	CIRA regulates the construction industry through contractor registration, construction quality oversight, professional standards,

CIRA position	Substance
	project compliance, and improvement of construction industry performance.
Role in land use and flood risk	CIRA's role is to ensure that approved developments are constructed in accordance with safe, climate resilient, and technically sound standards, especially in flood prone or climate sensitive areas.
Current entry point for climate resilience	Climate resilience enters through construction standards, contractor competence, site supervision, building quality, infrastructure design, inspection, and compliance with approved plans and permits.
Link with zoning and planning	Flood zoning should guide where development is allowed, restricted, or prohibited. CIRA-linked construction standards should guide how permitted development is designed, built, inspected, and certified.
Climate proofing standards gap	There is a need for clearer standards on minimum platform levels, foundation design in saturated soils, flood resistant materials, drainage performance, culvert sizing, bridge resilience, road crossings, and slope stability.
Construction quality concern	Poor workmanship, weak materials, inadequate drainage, and unsuitable foundations can increase damage during floods even where planning approval has been granted.
Project approval gap	Planning approval, environmental approval, and construction approval are not always fully integrated with climate risk screening and construction quality enforcement.
Contractor regulation	Contractor registration and project registration should be linked to compliance with climate resilient design standards, flood zoning conditions, and local authority permit requirements.

CIRA position	Substance
Inspection and certification	Site inspections and completion certification should verify compliance with approved flood risk conditions, drainage designs, platform levels, structural safety, and materials standards.
Capacity needs	Engineers, contractors, artisans, inspectors, planners, building control officers, and local authority staff need training on climate resilient construction, flood risk screening, resilient materials, and compliance monitoring.
Materials and testing gap	Stronger testing and certification are needed for construction materials, soil suitability, foundation conditions, and flood resilient building components.
Institutional coordination	CIRA should coordinate with councils, Physical Planning, MEPA, Water Resources, DoDMA, DCCMS, Malawi Bureau of Standards, professional bodies, universities, and laboratories.
Required reforms	Construction Industry Act regulations should link contractor licensing, project registration, inspections, and completion certification to climate resilient building codes and flood zoning requirements.
Main implication	Codifying climate change in land zoning regulations should be supported by enforceable construction standards so that developments are not only located safely, but also designed and built to withstand climate and flood risks.

4.4.7 Department of Climate Change and Meteorological Services

The Department of Climate Change and Meteorological Services position is that land use planning and zoning should be informed by climate science, meteorological data, climate projections, early warning information, and observed changes in rainfall and extreme weather patterns. DCCMS is central to climate resilient land use planning because it provides the climate information needed to assess current and future exposure to floods, storms, dry spells, heatwaves, strong winds, and other climate-related hazards.

Consultations indicate that DCCMS recognises climate change as a major driver of increasing flood risk in Malawi. Flood events are no longer only a disaster management concern. They are linked to changing rainfall patterns, increased rainfall intensity, tropical cyclone impacts, catchment degradation, poor drainage, and settlement expansion into flood prone areas. For Lilongwe, Karonga, and Phalombe, climate information is therefore necessary for determining where development should be permitted, restricted, conditioned, or prohibited.

DCCMS's position highlights that climate information should be integrated into physical development plans, zoning schemes, local plans, infrastructure planning, and development control. At present, climate information is mainly used for weather forecasting, seasonal forecasts, early warning, disaster preparedness, climate change policy, and sectoral planning. However, it is not yet consistently converted into land use zoning standards, flood overlays, building approval requirements, drainage design parameters, or infrastructure siting rules.

The consultations further indicate that climate risk information should be used alongside hydrological data from Water Resources, disaster risk information from DoDMA, environmental safeguards from MEPA, and local planning data from councils. DCCMS provides the climate baseline and future climate scenarios, while other institutions translate this information into flood lines, drainage standards, settlement planning, infrastructure design, and

emergency preparedness. Stronger data sharing and joint technical interpretation are therefore required.

A key gap identified is the limited routine use of updated climate data in planning and engineering standards. Rainfall intensity duration frequency curves, design storm assumptions, temperature trends, wind data, and future climate projections are not systematically embedded in land use planning or construction standards. This affects the design of drainage systems, culverts, bridges, roads, housing platforms, stormwater systems, and public infrastructure. Without climate-informed design assumptions, infrastructure may be under-designed for future rainfall intensity and flood behaviour.

DCCMS's position also supports the need for early warning systems to be linked with land use planning. Early warning information helps communities prepare for floods, but long-term risk reduction requires the same climate information to influence where settlements, roads, schools, markets, health facilities, and critical infrastructure are located. In this regard, climate services should support both short-term preparedness and long-term land use regulation.

Overall, the DCCMS position confirms that codifying climate change in land zoning regulations requires a stronger link between climate science and development control. Climate projections, rainfall trends, extreme weather data, seasonal forecasts, and hazard information should be formally incorporated into physical development plans, district plans, urban structure plans, Village Land Use Plans, VFAPs, flood zoning by-laws, infrastructure design standards, and permitting systems.

Table 7: Department of Climate Change and Meteorological Services Position

DCCMS position	Substance
Mandate in climate information	DCCMS provides meteorological data, climate information, weather forecasts, seasonal forecasts, climate projections, early warning

DCCMS position	Substance
	information, and technical advice on climate variability and climate change.
Role in land use and flood risk	DCCMS climate data should inform flood risk assessment, land suitability analysis, zoning, infrastructure planning, drainage design, disaster preparedness, and development control.
Current entry point for climate risk	Climate information is mainly used through weather forecasting, early warning, seasonal forecasts, climate change planning, disaster preparedness, and sectoral decision-making.
Link with physical planning	Climate projections and rainfall trends should be integrated into National, District, and Local Physical Development Plans, urban structure plans, zoning schemes, and Village Land Use Plans.
Link with flood zoning	Climate information should support flood overlays, no-build zones, drainage reserves, river buffer planning, wetland protection, lakeshore controls, and conditional development standards.
Data and technical contribution	DCCMS provides climate baselines, rainfall records, extreme weather information, temperature trends, seasonal outlooks, and climate projections needed for risk-informed planning.
Current limitation	Climate data is not yet routinely translated into enforceable land zoning regulations, building permit conditions, infrastructure design standards, or local by-laws.
Planning and engineering standards gap	Updated climate information is not consistently reflected in IDF curves, design storm assumptions, drainage sizing, culvert design, bridge design, platform levels, wind loading, and climate-proofing standards.

DCCMS position	Substance
Early warning role	DCCMS supports early warning and preparedness, but this information should also guide long-term settlement planning, infrastructure siting, and restrictions on development in high-risk areas.
Institutional coordination	Stronger coordination is required between DCCMS, Water Resources, DoDMA, MEPA, Physical Planning, CIRA, councils, Traditional Authorities, CLCs, ADCs, VDCs, and Civil Protection Committees.
Community-level relevance	Climate information should be translated into formats that support VFAPs, Village Land Use Plans, community by-laws, evacuation planning, and local awareness.
Required reforms	Climate projections, rainfall trends, seasonal forecasts, extreme weather records, and climate risk screening tools should be incorporated into planning regulations, zoning codes, development control, LIMS, and e-permitting systems.
Main implication	Climate change should be codified in land zoning regulations by requiring all planning and development decisions to use approved climate data, climate projections, and climate-informed risk screening before land is allocated or development is approved.

4.4.8 Lilongwe City Council Position

Lilongwe City Council's institutional position is that land use planning and development control within the city are managed through the Planning and Development Directorate, supported by the Town Planning Division, Housing and Estates Management Division, Building Inspectorate Division, and Economic Planning Division. The Town Planning Division is responsible for preparing the city master plan, detailed layout plans, subject plans, GIS

management, development application processing, and enforcement of planning standards. The Building Inspectorate Division enforces building standards and supervises construction, while the Housing and Estates Management Division supports planning and upgrading in Traditional Housing Areas and low-income settlements. These divisions provide the main local government entry points for managing land use, zoning, building control, and flood risk in Lilongwe City.

Consultations indicate that climate risk and flood risk are recognised by Lilongwe City Council, especially in relation to settlement expansion along the Lilongwe and Lingadzi river corridors, poor drainage, encroachment into riverbanks, and informal development in flood-prone areas such as Mgoni and Kaliyeka. However, flood risk is not yet systematically integrated into enforceable zoning maps, building approval conditions, or routine development control procedures. Existing development control relies mainly on planning applications, building inspections, local by-laws, and case-by-case assessment of site suitability, rather than formally gazetted flood overlays, mapped drainage reserves, or flood lines.

The Lilongwe City Council consultations confirm that the city has relevant institutional structures for land use control, but these structures operate with limited flood risk tools. River buffers, floodplains, wetlands, and natural drainage corridors are not uniformly mapped and coded into the city's zoning and permitting systems. As a result, the Council's ability to prevent unsafe development remains constrained, particularly in informal settlements and peri-urban areas where construction often occurs before formal approval. This confirms the need to strengthen city-level zoning instruments, GIS-based development control, building inspection, and local by-laws so that flood risk becomes a standard requirement in development permissions.

Lilongwe City Council's position further supports the need for flood risk information to be translated into practical local planning instruments. This includes flood zoning maps, drainage corridor protection, no-build zones, river and stream buffers, minimum platform levels, and clear conditions for development in flood-prone locations. The Council also needs stronger links between planning approval, building inspection, environmental safeguards, and infrastructure planning so that flood risk is addressed before construction starts, rather than after unsafe settlements have already developed.

Overall, the Lilongwe City Council position shows that local authorities are central to operationalising climate-resilient land use planning. National policies and laws provide the broad mandate, but city-level planning divisions, building inspectors, housing officers, and economic planners are the institutions that translate these requirements into development approvals, inspections, and enforcement. The key gap is the absence of binding flood zoning tools and integrated data systems that allow the Council to apply flood risk consistently across land allocation, zoning, building permits, infrastructure planning, and informal settlement upgrading.

Table 8: Lilongwe City Council Position

Lilongwe City Council position	Substance
Mandate in land use and development control	Lilongwe City Council regulates land use through planning approval, layout planning, zoning guidance, building inspection, housing estate management, GIS management, and enforcement of local by-laws.
Institutional structure	Development control is handled through the Planning and Development Directorate, including the Town Planning Division,

Lilongwe City Council position	Substance
	Housing and Estates Management Division, Building Inspectorate Division, and Economic Planning Division.
Town Planning Division role	The division prepares master plans, detailed layout plans, subject plans, manages GIS, processes development applications, supports planning committees, and enforces planning standards.
Housing and Estates Management Division role	The division manages Traditional Housing Areas, council housing estates, squatter and slum upgrading plans, plot allocation procedures, and housing-related socio-economic studies.
Building Inspectorate Division role	The division supervises construction, enforces building standards, advises on building occupation and safety, and provides the enforcement link between planning approval and physical construction.
Current entry point for flood risk	Flood risk is mainly considered through development application review, site suitability assessment, drainage considerations, building inspection, and local by-law enforcement.
Flood zoning position	Flood risk is recognised, especially along the Lilongwe and Lingadzi river corridors, but it is not yet fully translated into gazetted flood overlays, mapped flood lines, drainage reserves, or enforceable zoning controls.
Development control in flood-prone areas	The Council can review applications, impose conditions, inspect buildings, and act against unsafe development, but enforcement is limited by informal construction, weak inspection capacity, and absence of clear flood zoning references.

Lilongwe City Council position	Substance
Informal settlement concern	Informal and peri-urban settlements such as Mgona and Kaliyeka show how development can expand into riverbanks, floodplains, and drainage corridors before formal planning approval or flood risk screening.
Data and technical gaps	The Council faces gaps in flood mapping, GIS integration, hydrological data access, digital permitting, drainage mapping, inspection systems, and routine use of climate risk information.
Required reforms	Lilongwe City Council requires flood zoning maps, drainage reserve protection, river buffer standards, no-build zones, minimum platform levels, e-permitting, LIMS integration, and stronger coordination with Water Resources, DoDMA, DCCMS, MEPA, and CIRA.
Main implication	Flood risk should become a mandatory part of city zoning, development permission, building approval, inspection, infrastructure planning, and informal settlement upgrading, rather than remaining a discretionary or post-event consideration.

4.4.9 Phalombe District Council Position

Phalombe District Council's institutional position is that it is the primary local authority responsible for coordinating land use planning, development control, disaster risk management, and local development planning within the district. The Council operates through the District Commissioner, District Executive Committee, Physical Planning function, District Environmental Sub-Committee, Disaster Risk Management structures, Public Works, Agriculture, Water, and community-level institutions. These structures provide the local entry

point for integrating flood risk into land allocation, village land use planning, infrastructure siting, and development control.

Consultations indicate that Phalombe recognises flood risk as a major development constraint, particularly in low-lying areas affected by cyclone-induced flooding, river overflow, and runoff from the Mulanje Massif and Michesi Hills. Flooding is concentrated in areas around the Lake Chilwa floodplain and Mpopo Lagoon, with Traditional Authorities Chiwalo, Jenala, and Nkhumba identified as among the most affected. These areas experience recurrent crop losses, displacement, damage to roads and bridges, and disruption of community infrastructure.

The Council's current planning position is that formal land use planning is still developing. Phalombe has started with the preparation of the urban structure plan for Miseu Folo, with data collection recently completed. The district is also planning to strengthen customary land governance through the establishment of Customary Land Committees and Customary Land Tribunals. These processes provide important entry points for integrating flood risk zoning, drainage protection, river buffers, and safe settlement guidance into both statutory and customary land use planning.

The consultations also show that Phalombe's flood risk management is strongly linked to agriculture and customary land use. Communities rely on floodplain and low-lying areas for cultivation, while water and disaster risk institutions view the same areas as flood conveyance and high-risk zones. This creates a land use conflict between livelihood needs and safety. The Council therefore requires clearer zoning guidance to distinguish between areas suitable for seasonal agriculture, areas requiring floodplain protection, and areas unsuitable for permanent settlement or critical infrastructure.

Overall, the Phalombe District Council position confirms that flood risk management must be integrated early into district planning, village land use planning, urban structure planning,

infrastructure design, and customary land allocation. The district requires flood hazard maps, drainage corridor mapping, district by-laws, technical guidance, and stronger coordination between the Council, Traditional Authorities, Civil Protection Committees, Water Resources, DoDMA, MEPA, and Physical Planning.

Table 9: Phalombe District Council Position

Phalombe District Council position	Substance
Mandate in land use and flood risk	The Council coordinates local development planning, land use planning, development control, disaster risk management, environmental management, and infrastructure delivery at district level.
Main flood risk context	Flooding is driven by cyclone-induced rainfall, flat terrain, river overflow, and runoff from the Mulanje Massif and Michesi Hills.
Most affected areas	Flood impacts are concentrated around the Lake Chilwa floodplain, Mpopo Lagoon, and low-lying plains under TAs Chiwalo, Jenala, and Nkhumba.
Current planning status	The urban structure plan for Miseu Folo is under preparation, with data collection recently completed.
Customary land governance	The district is planning to strengthen CLCs and CLTs to improve land allocation, boundary documentation, dispute resolution, and coordination with statutory planning.

Phalombe District Council position	Substance
Current entry point for flood risk	Flood risk is mainly addressed through disaster response structures, district planning discussions, public works interventions, agriculture extension, community knowledge, and emerging planning processes.
Main land use conflict	Floodplain areas are used for farming and settlement, while technical institutions view them as flood conveyance zones requiring protection.
Data and technical gaps	Key gaps include limited approved flood maps, weak integration of hydrological data into planning, lack of mapped drainage reserves, and limited use of flood return periods in development control.
Required reforms	Phalombe needs flood overlays, district by-laws, VFAP integration, Village Land Use Plans, drainage reserve protection, and clear controls for settlement and agriculture in flood-prone areas.
Main implication	Flood risk should be embedded early in the Miseu Folo urban structure plan and wider district planning to prevent unsafe settlement growth and reduce future flood losses.

4.4.10 Karonga District Council Position

Karonga District Council's institutional position is that it is responsible for coordinating local land use planning, development control, environmental management, disaster risk reduction, and infrastructure planning within a district highly exposed to riverine and lakeshore flooding. The Council works through district technical departments, the District Executive Committee, District Environmental Sub-Committee, Civil Protection Committees, Traditional Authorities, Customary Land Committees, Customary Land Tribunals, and Village Development structures.

Consultations indicate that Karonga experiences recurrent flooding due to intense rainfall, flat terrain, river overflow, and lakeshore dynamics. The North Rukuru and Rufira Rivers are among the key rivers associated with flooding. When these rivers overtop their banks, floodwater spreads across low-lying floodplains, affecting settlements, crop fields, roads, bridges, and community infrastructure. The district's flat terrain slows drainage and prolongs inundation, increasing impacts on livelihoods and recovery.

Karonga's planning position shows stronger progress in customary land governance and village-level land use planning compared with other project areas. Consultations confirm that Customary Land Committees and Customary Land Tribunals have been established in the district. Under Traditional Authority Kilipula, five Village Land Use Plans have also been developed at village level. These plans provide an important foundation for guiding settlement areas, agricultural land, sensitive zones, drainage paths, and flood risk considerations within customary land.

The Council also faces major land use conflicts along river and lakeshore areas. Agriculture, settlement expansion, tourism development, and water resource protection compete for the same flood-prone land. This creates pressure to allocate or occupy land in areas that may be unsuitable for permanent development. The district therefore needs stronger zoning tools that

distinguish between protected flood conveyance zones, conditional-use areas, irrigated agriculture zones, and safe settlement areas.

Overall, the Karonga District Council position confirms that flood risk zoning must be linked to customary land governance, village land use planning, lakeshore regulation, river buffer protection, and infrastructure planning. The existence of CLCs, CLTs, and Village Land Use Plans provides an important opportunity to pilot hazard-informed land allocation and integrate community-level planning with district physical development plans and flood zoning by-laws.

Table 10: Karonga District Council Position

Karonga District Council position	Substance
Mandate in land use and flood risk	The Council coordinates district development planning, land use planning, environmental management, disaster risk reduction, infrastructure planning, and development control.
Main flood risk context	Flooding is driven by intense rainfall, river overflow, flat terrain, poor drainage, and lakeshore flood dynamics.
Key rivers and flood sources	The North Rukuru and Rufira Rivers are major sources of riverine flooding, affecting settlements, farmland, roads, and bridges.
Customary land governance status	CLCs and CLTs have been established, providing a structure for improving customary land administration and linking it with statutory planning.
Village Land Use Plans	Five Village Land Use Plans have been developed under TA Kilipula, providing an entry point for hazard-informed land allocation.

Karonga District Council position	Substance
Current entry point for flood risk	Flood risk is addressed through district planning, Civil Protection Committees, community knowledge, Village Land Use Plans, Water Resources inputs, and disaster management structures.
Main land use conflict	Settlement, agriculture, tourism, and water resource protection compete for lakeshore and river floodplain land.
Data and technical gaps	Key gaps include limited approved flood hazard maps at council level, weak integration of flood lines into development control, and limited routine use of hydrological data in land allocation.
Required reforms	Karonga needs flood overlays, lakeshore and river buffer controls, integration of Village Land Use Plans into district plans, and by-laws that regulate development in flood-prone areas.
Main implication	Karonga provides a practical pilot area for integrating CLCs, CLTs, Village Land Use Plans, flood hazard maps, and district planning into enforceable flood risk zoning.

4.4.11 Adherence to Regulatory Instruments

Adherence to existing regulatory instruments is mixed. The Physical Planning Act provides the main statutory basis for plan preparation, zoning, development control and enforcement, but consultations and the draft report show that implementation capacity at council level is limited and that plan coverage is incomplete. The Environment Management Act is more visible in practice through ESIA referrals and MEPA review. The MEPA materials confirm that EMA Section 54 gives MEPA a mandate over development activities that may affect the climate and environment, while MEPA also relies on ESIA guidelines, environmental quality standards,

ESMP requirements, protection orders and compliance directives. However, consultation evidence shows that ESIA outcomes are not always enforceably linked to planning and construction approvals.

The Water Resources Act is relevant to riverbanks, watercourses, wetlands, floodplains and hydrological data. However, consultations indicate that planning institutions still face challenges in converting hydrological information into uniform flood lines, offsets and zoning rules. The Department of Physical Planning noted differences between planning offsets and survey approaches, while DCCMS reported that riverine information is held by Water Resources, complicating access and coordination (Annex Consultations: Department of Physical Planning; DCCMS).

The Disaster Risk Management Act strengthens the basis for risk reduction, hazard information and relocation from high-risk areas. DoDMA reported availability of flood data and multi-hazard maps, including return periods, but also identified the need for stronger technical capacity in flood modelling (Annex Consultations: DoDMA). Local by-laws remain important practical instruments for councils, but their use is uneven, especially in district, customary and informal settlement contexts.

4.5 Overall Assessment

Overall, Malawi has a strong legal and institutional foundation for land use planning and zoning, but implementation remains uneven and only partially climate-responsive. Urban areas such as Lilongwe demonstrate clearer use of master planning, land use guidelines and development control. However, even there, enforcement is weakened by limited flood data, overlapping mandates, resource constraints, informal settlement growth and encroachment into sensitive areas. The MEPA positions add an important environmental-regulatory dimension:

climate risk is being considered, but primarily through ESIA, ESMPs and environmental compliance rather than through binding flood zoning and land-use coding.

In district, peri-urban and customary areas, zoning is much weaker and often depends on informal knowledge, customary allocation practices and project-level safeguards. Climate change is therefore considered, but largely through environmental assessment, disaster management and individual project review rather than as a routine, enforceable part of physical development plans, zoning schemes, subdivision approvals and local by-laws. The consultation evidence points to a clear reform direction: integrate flood hazard maps, climate projections, hydrological data and community knowledge into National, District and Local Physical Development Plans, and make those inputs binding through development control and council by-laws.

Table 11: Consultation Cross-Reference for Common Practice Findings

Finding	Consultation evidence
City planning and development control	Lilongwe City Council reported that it develops, approves and implements land use planning through development control and enforcement, using the master plan and land use planning guidelines.
Weak enforcement and encroachment	MHC reported development beyond building lines and encroachment into river reserves; Lilongwe City Council linked enforcement difficulties to limited awareness, resource constraints and informal allocations in sensitive areas.
Physical planning hierarchy and data gaps	The Department of Physical Planning confirmed its policy role, but noted limited progress in preparing physical planning

Finding	Consultation evidence
	documents at national and district levels after the 2016 Act and limited capacity to manage flood data.
Disaster and climate data	DoDMA identified the multi-hazard atlas and flood return-period data as inputs for planning; DCCMS confirmed its role in early warnings and climate projections, while noting incomplete district climate-risk mapping.
ESIA as current climate entry point	MEPA indicated that flood risk is mainly addressed through project-level ESIA and ESMP review rather than gazetted flood zoning maps, and that ESIA outcomes are not consistently linked to planning permission, subdivision approval or construction enforcement.
MEPA legal and ecosystem position	MEPA identifies EMA provisions on development control, biodiversity conservation, hills and mountains, and ecosystem sustainability as important legal bases for climate-resilient land use and flood-risk reduction.
MEPA flood zoning standards	MEPA supports a nationally gazetted flood zoning and land-use coding framework, integration of flood hazard maps into statutory land-use plans, and standardised ecological buffers for rivers and wetlands.
MEPA standards and capacity gaps	MEPA identifies gaps in climate-proofing standards, greenhouse gas emissions standards, carbon sink protection

Finding	Consultation evidence
	standards, climate modelling, GIS, resilient infrastructure review, and compliance monitoring capacity.
Construction control and standards	CIRA noted its participation in council planning committees and project compliance functions, but also identified gaps in district coverage, construction oversight and binding building standards for flood-prone areas.

5. Existing Land Classification Regimes and Climate Change Entry

Points

Land classification in Malawi is governed through a combination of land tenure law, physical planning legislation, environmental regulation, water resources management, and disaster risk management instruments. The Land Act provides the broad legal classification of land, while the Physical Planning Act provides the spatial planning and zoning framework used to guide land development, land use compatibility, settlement growth, and development control.

In practice, land classification is still driven mainly by ownership, existing use, settlement pattern, administrative boundaries, and development potential. Climate and flood risk considerations are increasingly recognised, but they are not yet systematically embedded in land classification, zoning, and development approval processes.

5.1 Land Classification Under the Land Act

The Land Act classifies land into three broad categories: public land, private land, and customary land.

Public land refers to land held or used by government and public institutions for public purposes. This includes land for roads, schools, hospitals, public utilities, government offices, protected areas, river reserves, and other strategic public uses.

Private land includes land held by individuals, companies, institutions, or other legal entities under recognised tenure arrangements. It is generally subject to planning approval, environmental requirements, and development control where subdivision, change of use, construction, or major investment is proposed.

Customary land remains the dominant land category in many rural and peri-urban areas. It is administered through customary systems and local governance structures, including Traditional Authorities. Customary land is central to settlement, agriculture, grazing, community facilities, and local livelihoods. However, where customary allocation is not adequately linked to statutory planning, settlement can expand into environmentally sensitive or flood-prone areas.

5.2 Land Classification Under the Physical Planning Act

The Physical Planning Act provides the basis for physical planning, zoning, development control, and the preparation of National, District, and Local Physical Development Plans. These plans are intended to guide how land should be used, protected, serviced, and developed.

Under physical planning practice, land may be classified into zones such as residential, commercial, industrial, institutional, agricultural, open space, recreational, transport, utility, conservation, and environmentally sensitive areas. These classifications guide permitted uses, density, plot subdivision, building lines, infrastructure provision, and development conditions.

In urban areas, land classification is usually more visible through master plans, layout plans, zoning schemes, and development permission procedures. In district, customary, and peri-urban areas, classification is often less formalised, especially where physical development plans are outdated, incomplete, or not fully enforced.

5.3 Urban Land Use Zones

Urban land use classification commonly includes residential, commercial, industrial, institutional, open space, transport, utility, agricultural, and environmental management zones. These zones are used to separate incompatible uses, reserve land for public infrastructure, manage urban growth, and provide a basis for development control.

Residential zones guide housing development and density. Commercial zones accommodate trade, offices, markets, and business activity. Industrial zones are intended for manufacturing, warehousing, workshops, and related activities. Institutional zones provide land for schools, health facilities, government services, religious facilities, and public administration. Open space and recreational zones support parks, sports fields, green buffers, and public amenities.

Environmentally sensitive zones include areas that require protection or restricted development due to ecological, hydrological, or disaster risk considerations. These include wetlands, riverbanks, steep slopes, floodplains, lakeshore areas, drainage corridors, and other sensitive ecosystems.

5.4 Customary and Informal Settlement Areas

Customary and informal settlement areas present particular challenges for land classification. In many rural and peri-urban areas, land allocation may occur through customary systems before formal planning, surveying, servicing, or hazard screening has taken place. This can create settlements that are socially recognised but not fully integrated into statutory planning and development control systems.

Informal settlements in urban and peri-urban areas may also develop outside approved plans or in areas not suitable for permanent development. These areas often lack adequate drainage, road access, sanitation, waste management, and flood protection. Where they are located near rivers, wetlands, dambos, drainage channels, or low-lying land, exposure to flooding and environmental degradation increases.

A key entry point is to integrate customary land governance and informal settlement upgrading into statutory planning. Village land use plans, local by-laws, participatory mapping, community risk profiling, and council development control systems should be linked so that land allocation and settlement expansion are guided by climate and flood risk information.

5.5 Environmentally Sensitive and Flood-Prone Areas

Floodplains, wetlands, riverbanks, lakeshore areas, drainage corridors, dambos, steep slopes, hillsides, and other ecologically sensitive areas should form a clear and enforceable category within the land classification system. These areas perform important functions, including water retention, flood attenuation, groundwater recharge, soil conservation, biodiversity protection, and natural drainage.

At present, these areas are recognised across different legal and policy instruments, but they are not always consistently mapped, gazetted, classified, or enforced through zoning schemes and development control. As a result, development may occur in areas that should be protected, restricted, or subject to special conditions.

Climate-resilient land classification should treat these areas as risk-sensitive and ecosystem-service zones. Some should be designated as no-build zones, while others may allow only low-impact or conditional uses such as recreation, conservation, seasonal agriculture, flood-compatible open space, or ecosystem restoration.

5.6 Current Parameters Used in Land Classification

The main parameters currently used in land classification include land ownership, existing land use, settlement pattern, infrastructure availability, accessibility, environmental sensitivity, administrative boundaries, and development potential.

In urban areas, classification may also consider road hierarchy, plot size, density, service availability, compatibility with neighbouring uses, and proximity to public facilities. In rural and customary areas, classification is often influenced by agricultural use, settlement needs, traditional allocation systems, access to water, local livelihoods, grazing areas, and community facilities.

While these parameters are important, they are not sufficient for climate-resilient planning. Land classification should also consider flood exposure, drainage behaviour, rainfall intensity, hydrological connectivity, soil suitability, ecosystem sensitivity, future urban growth, and projected climate risks.

5.7 Weaknesses in the Current Classification System

The main weakness is the limited integration of scientific climate and flood risk information into land classification and zoning. Flood hazard data, hydrological modelling, flood return periods, climate projections, drainage capacity, and rainfall scenarios are not consistently used to determine land suitability or development restrictions.

In many cases, flood risk is addressed through historical experience, general river offsets, local knowledge, or project-level ESIA requirements. These approaches are useful but insufficient where land use decisions require consistent, legally enforceable standards.

Another weakness is the fragmented relationship between physical planning, environmental assessment, water resources management, disaster risk management, and customary land governance. Each system generates relevant information, but this information is not always converted into binding land classes, zoning overlays, development conditions, or local by-laws.

5.8 Climate Change Entry Points

Climate change adaptation can be integrated into land classification through several practical entry points.

- First, National, District, and Local Physical Development Plans should incorporate flood hazard overlays, climate risk maps, drainage corridor maps, wetland inventories, ecosystem sensitivity maps, and projected urban growth scenarios. These should guide land suitability, zoning, subdivision, and infrastructure siting.

- Second, planning authorities should introduce climate-sensitive land classes. These may include no-build floodplain zones, controlled development zones, riparian buffer zones, wetland conservation zones, lakeshore protection zones, drainage reserves, dambo protection areas, ecosystem restoration zones, and climate-resilient open spaces.
- Third, technical standards should be standardised across planning authorities. These should include flood return periods, minimum buffers from rivers and wetlands, minimum finished floor levels, drainage requirements, slope stability criteria, soil suitability, ecological sensitivity, and conditions for development in flood-prone or environmentally sensitive areas.
- Fourth, ESIA and development control should be more directly linked. Environmental assessment findings should inform planning permission, subdivision approval, building approval, infrastructure siting, and compliance monitoring. Climate risk mitigation measures should become enforceable planning conditions rather than advisory project safeguards.
- Fifth, customary land allocation should be linked to risk-informed planning. Traditional Authorities, customary land committees, councils, and community structures should be supported with simple zoning maps, flood risk information, local by-laws, and participatory planning tools to guide safer land allocation.

5.9 Conclusion

Malawi's existing land classification system provides an important foundation for land administration and spatial planning, but it remains insufficiently climate-responsive. Public, private, and customary land categories define tenure and administration, while physical planning zones guide land use and development control. However, floodplains, wetlands, riverbanks, lakeshore areas, drainage corridors, and dambos are not yet consistently translated into enforceable climate-sensitive land classes.

The key reform priority is to shift land classification from a mainly ownership- and use-based system toward a risk-informed and ecosystem-sensitive system. This requires integrating climate projections, flood hazard data, hydrological modelling, flood return periods, and ecosystem services into physical development plans, zoning schemes, development control, ESIA processes, and customary land allocation.

6. Integrated Approach to Land Use Planning, Classification and Zoning

Malawi has an established legal and institutional framework for land use planning, environmental management, water resources protection, disaster risk management, construction regulation, and customary land governance. However, these systems do not yet operate as a fully integrated land use and zoning framework. The current approach is best characterised as partially connected but institutionally fragmented, with climate change and flood risk considerations addressed through separate sectoral mandates rather than a single coordinated planning and zoning system.

6.1 Degree of Integration in the Current System

The planning system provides for National, District, and Local Physical Development Plans, which are intended to guide spatial development, zoning, infrastructure provision, settlement growth, and development control. These instruments create an important foundation for integrated planning.

In practice, integration remains limited. Physical planning, water resources management, disaster risk management, environmental regulation, construction control, and customary land governance often operate through separate procedures, datasets, approval processes, and institutional mandates. This leads to gaps between plan preparation, land allocation, environmental assessment, flood risk management, building approval, and enforcement.

The result is a system where climate and flood risk may be recognised at policy level, but not consistently translated into land classification, zoning controls, development conditions, infrastructure planning, and customary land allocation.

6.2 Linkages Between Key Sectors

6.2.1 Physical Planning

Physical planning provides the main spatial framework for land use planning, zoning, development control, and settlement management. It is responsible for guiding where development should occur, what land uses are compatible, and what conditions should apply to development.

However, physical planning instruments do not yet consistently incorporate flood hazard overlays, climate projections, hydrological data, or ecosystem sensitivity maps. This limits their ability to function as the central platform for climate-resilient land use decisions.

6.2.2 Water Resources Management

Water resources institutions play a critical role in river basin management, floodplain protection, riverbank control, hydrological data generation, wetland management, and regulation of water-related development restrictions. These functions are directly relevant to flood zoning, climate adaptation, and the protection of natural drainage systems.

The main weakness is that water resources information is not routinely translated into enforceable zoning maps, land use classes, planning conditions, or development control standards. River corridors, floodplains, wetlands, lakeshore areas, dambos, and drainage reserves need stronger integration into physical development plans, local plans, village land use plans, and local by-laws.

There is also a need to review and update some existing control parameters, including the Lake Malawi no-build threshold currently linked to the 477 metre contour. While this provides an important precautionary control, it should be reassessed against current and projected climate risks, lake level variability, flood frequency, shoreline dynamics, erosion risk, and local

development pressures. A more practical zoning approach would distinguish between strict no-build areas, conditional development zones, and areas where development may proceed only after rigorous hydrological assessment, climate risk screening, elevated platform design, drainage planning, and resilient infrastructure standards.

6.2.3 Disaster Risk Management

Disaster risk management institutions provide hazard information, early warning systems, vulnerability assessments, emergency preparedness, and risk reduction guidance. These functions are essential for identifying areas exposed to flooding and other climate-related hazards.

However, disaster risk information is often used more for preparedness and response than for routine land allocation, zoning, and development approval. Hazard maps and risk assessments should become mandatory inputs into physical planning, infrastructure siting, subdivision approval, and development control.

6.2.4 Environmental Regulation

Environmental regulation, particularly through ESIA and ESMP processes, provides an important entry point for assessing climate risk, flood exposure, ecosystem impacts, and mitigation measures at project level. This has become one of the main mechanisms through which climate and environmental risks are considered in development.

The limitation is that ESIA remains largely project-specific. It does not substitute for statutory zoning, flood overlays, local plans, or development control standards. Environmental assessment findings should be directly linked to planning permission, building approval, subdivision approval, and compliance monitoring.

6.2.5 Construction Control

Construction control is important for ensuring that buildings and infrastructure are designed and constructed safely. It can support climate resilience through building standards, flood-resistant design, drainage requirements, platform levels, materials standards, and site inspection.

At present, construction control is not sufficiently linked to flood zoning and land classification. Building approval should be informed by flood hazard maps, ecological buffers, drainage capacity, ground conditions, and climate-resilient design standards. Development in flood-prone areas should be subject to clear conditions or prohibited where risks are unacceptable.

6.2.6 Customary Land Governance

Customary land governance remains central in rural and peri-urban areas, where Traditional Authorities and customary land institutions influence land allocation, settlement growth, dispute resolution, and access to land for housing, agriculture, infrastructure, and community facilities. These institutions are therefore important entry points for integrating climate risk and flood risk considerations into local land use decisions.

However, customary land allocation is not always aligned with statutory planning and zoning systems. Where land is allocated without reference to physical development plans, flood hazard maps, drainage corridors, river buffers, wetlands, dambos, or environmental restrictions, settlements and farming activities may expand into high-risk or ecologically sensitive areas. This increases exposure to floods and weakens the protection of natural flood management systems.

A stronger linkage is therefore required between customary land allocation, Village Land Use Plans, Village Flood Action Plans, council by-laws, physical development plans, and climate risk information. Traditional Authorities, Customary Land Committees, Customary Land

Tribunals, ADCs, VDCs, and Civil Protection Committees should be formally connected to district planning and development control processes. This would ensure that customary land decisions are guided by flood risk information, environmental safeguards, drainage protection requirements, and approved zoning controls.

6.3 How Climate Change Is Currently Addressed

Climate change is currently addressed mainly through policy commitments, environmental assessment, disaster risk management, early warning systems, and project-level safeguards. Climate risk is considered during ESIA processes, disaster preparedness activities, flood response planning, and selected infrastructure or development projects. These entry points are important, but they do not yet provide a consistent regulatory basis for guiding land allocation, zoning, and development control.

Climate change is not yet systematically embedded in routine zoning, land classification, physical development planning, building approval, or local enforcement. Climate projections, flood return periods, hydrological modelling, rainfall intensity trends, drainage capacity, and ecosystem-based adaptation measures are not consistently used to determine land suitability, define development restrictions, or set conditions for approval.

As a result, climate change is often treated as an environmental assessment or disaster management issue rather than as a core spatial planning and development control issue. This limits the ability of planning authorities, councils, and customary land institutions to prevent development in flood-prone, ecologically sensitive, or climate-exposed areas before risks materialise. Climate risk should therefore be codified into zoning regulations, land classification systems, physical development plans, local by-laws, and building approval procedures.

6.4 Protection of Critical Ecosystems and Biodiversity

Critical ecosystems and biodiversity are protected through environmental legislation, protected area systems, environmental assessment, water resources controls, and planning provisions for open space and environmentally sensitive areas. Wetlands, riverbanks, lakeshore areas, dambos, hillsides, forests, floodplains, and drainage corridors all perform important ecological and climate adaptation functions.

These ecosystems support flood attenuation, groundwater recharge, biodiversity conservation, soil stability, natural drainage, water quality protection, erosion control, and local livelihood systems. They also reduce the intensity of climate-related impacts by storing floodwater, slowing surface runoff, protecting riverbanks, and maintaining natural drainage pathways. Despite this importance, protection remains uneven. Sensitive ecosystems are not always clearly mapped, gazetted, classified, or enforced through zoning schemes, local plans, village land use plans, and development control systems.

A stronger integrated planning system should treat critical ecosystems as essential climate resilience infrastructure, not as residual or undeveloped land. This requires the formal designation of ecological buffers, wetland protection zones, riparian reserves, drainage corridors, floodplain management zones, lakeshore protection areas, and conservation areas within physical development plans and zoning instruments. These zones should be supported by clear land use restrictions, permitted activities, development conditions, enforcement mechanisms, and coordination between environmental, water resources, physical planning, local government, and customary land institutions.

6.5 Planning for Future Urban Development

Future urban development in Malawi is guided through national, district, and local physical development plans, city master plans, urban structure plans, layout plans, infrastructure plans,

and development control procedures. These instruments are intended to guide urban expansion, infrastructure investment, service delivery, housing development, economic activity, public facilities, and protection of land reserved for environmental and public purposes.

However, rapid urbanisation, peri-urban growth, informal settlement expansion, and increasing pressure for land often move faster than formal planning and enforcement systems. In many areas, development occurs before land has been properly planned, serviced, screened for flood risk, or classified for suitable use. This results in settlement expansion into floodplains, wetlands, river corridors, drainage reserves, and other hazard-prone areas, increasing future exposure to climate-related risks.

Future urban development should therefore be guided by climate resilient spatial planning. This requires directing growth away from floodplains, wetlands, dambos, riverbanks, lakeshore risk zones, and natural drainage corridors. It also requires promoting compact, serviced, and well-planned development in safer areas, reserving land for green infrastructure and stormwater management, protecting ecological buffers, and aligning public infrastructure investment with approved plans, flood hazard information, and climate risk data.

A stronger approach should ensure that urban expansion is preceded by land suitability assessment, flood risk screening, infrastructure capacity analysis, and enforceable zoning controls. Climate risk should be embedded in city master plans, district physical development plans, local plans, urban structure plans, layout approvals, building permits, and inspection systems so that future urban growth supports resilience rather than creating new areas of flood exposure.

6.6 Gaps in Coordination, Data Sharing, Enforcement, and Technical Standards

6.6.1 Coordination Gaps

Institutional coordination remains weak across physical planning, water resources, environmental regulation, disaster risk management, climate services, construction control, local government, and customary land governance. These institutions have related mandates, but joint decision-making mechanisms are not always formalised, consistently applied, or supported by shared technical procedures.

In practice, flood risk information is generated and held by different institutions. Water resources institutions provide hydrological data and flood line information, DCCMS provides climate and meteorological data, DoDMA provides disaster risk and vulnerability information, MEPA applies environmental safeguards, physical planning authorities guide land classification and zoning, councils enforce development control, while customary land institutions influence local land allocation. However, these inputs are not always brought together before land is allocated, plans are approved, infrastructure is designed, or development permits are issued.

The absence of binding coordination procedures creates duplication, delays, inconsistent decisions, and weak enforcement. Flood risk may be recognised by one institution but not reflected in zoning maps, building approvals, local by-laws, infrastructure budgets, or customary land allocation decisions. This is particularly problematic in flood-prone and fast-growing areas where settlement expansion occurs before technical review and formal approval.

A stronger coordination system is required to link institutional mandates into a single risk-informed planning and development control process. This should include formal data-sharing protocols, joint technical reviews, shared GIS platforms, coordinated inspections, standard referral procedures, and clear decision points for high-risk developments. Coordination should also extend to Traditional Authorities, Customary Land Committees, Civil Protection

Committees, ADCs, and VDCs so that community-level land allocation and local flood knowledge are integrated into statutory planning and enforcement.

Workshop feedback also emphasised that coordination protocols should be practical rather than aspirational. They should define how shared documents are submitted and reviewed, which institution leads each type of referral, how MEPA, NWRA, CIRA, DoDMA, the Roads Authority and councils undertake joint technical review, and how compliance inspections are coordinated through councils and District Environmental Sub-Committees where applicable.

6.6.2 Data Sharing Gaps

Relevant climate, flood, hydrological, land use, ecosystem, infrastructure, and settlement data exist across different institutions, but they are not always standardised, accessible, updated, or integrated into planning approval systems. Data is often held in separate institutional systems, with different formats, scales, update cycles, and levels of technical validation. This limits its practical use in zoning, land classification, development control, infrastructure planning, and customary land allocation.

Councils often lack the technical data required to make risk-informed planning decisions. In many cases, approved flood hazard maps, flood lines, drainage corridor maps, wetland boundaries, lakeshore risk zones, updated rainfall data, climate projections, and infrastructure vulnerability data are not readily available at local level. As a result, development applications may be assessed using general site observations, outdated plans, or discretionary judgement rather than consistent climate and flood risk evidence.

A stronger data-sharing system is required to support climate resilient land use planning. This should include standardised geospatial datasets, agreed data custodianship, regular updates, shared GIS platforms, and clear protocols for how data from Water Resources, DCCMS, DoDMA, MEPA, Physical Planning, councils, infrastructure agencies, and customary land

institutions should be used in planning approvals. Flood hazard maps, hydrological data, climate projections, ecological buffers, land records, Village Land Use Plans, and VFAPs should be integrated into LIMS, e-permitting systems, zoning maps, and local development control procedures.

6.6.3 Enforcement Gaps

Enforcement remains one of the weakest parts of the land use planning and flood risk management system. Although Malawi has laws, policies, planning instruments, and local authority mandates that provide a basis for controlling development, implementation is uneven and often reactive. Enforcement is constrained by limited technical staff, inadequate inspection capacity, weak or outdated local by-laws, resource limitations, political and social pressures, informal development, and limited public awareness.

In many councils, planning officers, building inspectors, environmental officers, and enforcement staff are too few to monitor expanding urban, peri-urban, and customary land areas effectively. As a result, development can proceed without approval, buildings may be constructed in flood-prone areas, drainage corridors may be blocked, and riverbanks, wetlands, dambos, and floodplains may be encroached upon before authorities are able to intervene.

Weak local by-laws also limit enforcement. Where flood lines, drainage reserves, ecological buffers, no-build zones, and development conditions are not clearly codified, councils have limited legal and technical basis for refusing applications, issuing stop notices, requiring demolition, or imposing corrective measures. This is particularly difficult in informal settlements and customary land areas where development may be socially or politically sensitive.

Public awareness is also limited. Many households and local developers do not fully understand the risks associated with building in floodplains, wetlands, riverbanks, lakeshore areas, and

drainage corridors. In some cases, immediate land and livelihood needs outweigh long-term flood risk concerns. This weakens voluntary compliance and increases resistance to enforcement action.

A stronger enforcement system requires clear flood zoning by-laws, gazetted flood maps, adequate staffing, routine inspections, digital permitting, coordinated enforcement between councils and national agencies, and stronger involvement of Traditional Authorities, CLCs, ADCs, VDCs, and Civil Protection Committees. Enforcement should also be supported by public awareness, affordable compliance pathways, and practical alternatives for households already located in high-risk areas.

6.6.4 Technical Standards Gaps

There is no consistently applied national technical standard for flood zoning, ecological buffers, river setbacks, wetland protection, drainage reserves, flood return periods, minimum floor levels, climate proofing, or development conditions in hazard prone areas. This creates inconsistent decision making across councils, sectors, and regulatory institutions.

In practice, different institutions may apply different parameters when assessing land suitability, development applications, infrastructure designs, or environmental safeguards. For example, river buffers may be treated as fixed setbacks, while flood risk may require modelling based on flood depth, flood frequency, terrain, drainage capacity, river behaviour, and projected climate conditions. Where these standards are not harmonised, councils and technical agencies may reach different conclusions on whether land is suitable for settlement, agriculture, public infrastructure, or restricted use.

The absence of standardised technical guidance also affects building and infrastructure design. Minimum platform levels, foundation requirements in saturated soils, culvert and bridge sizing, stormwater drainage design, flood proofing measures, erosion control, wetland buffers, and

resilient materials are not consistently linked to zoning or development approval conditions. This weakens the ability of planning authorities and building inspectors to ensure that approved developments are safe under current and future climate conditions.

A stronger system requires nationally approved technical standards for flood zoning and climate resilient development control. These should define flood return periods, no-build zones, conditional development zones, river and wetland buffers, lakeshore controls, drainage reserve widths, minimum floor and platform levels, infrastructure design thresholds, and requirements for hydrological assessment in high-risk areas. The standards should be applied consistently through physical development plans, local by-laws, ESIA and SEA processes, building permits, infrastructure approvals, and construction inspections.

The workshop feedback further cautioned that minimum floor, platform or elevation requirements should not be set as arbitrary national figures. They should be derived from approved district flood maps, hydrological modelling, flood depth and velocity information, catchment behaviour and climate projections. Without this evidence base, elevation requirements may be difficult for councils to enforce and vulnerable to challenge by developers and communities.

6.7 Conclusion

Malawi's land use planning, classification, and zoning system has important legal and institutional foundations, but it remains fragmented in practice. Climate change, flood risk, ecosystem protection, infrastructure planning, construction control, disaster risk management, water resources regulation, and customary land allocation are not yet fully integrated into one coherent spatial planning and development control system.

The review shows that climate risk is recognised in national policies, environmental assessment processes, disaster risk management systems, and sectoral mandates. However, it is not yet

consistently translated into enforceable land classification parameters, zoning regulations, flood overlays, development approval conditions, building control standards, or local by-laws. As a result, land may still be allocated, planned, serviced, and developed in areas exposed to flooding, poor drainage, wetland degradation, riverbank encroachment, and other climate-related hazards.

The key entry point is to make physical development plans the central coordinating instrument for climate resilient land use governance. This requires integrating water resources data, disaster risk information, climate projections, environmental safeguards, construction standards, ecosystem protection, infrastructure planning, and customary land governance into legally enforceable zoning, development control, local by-laws, and investment decisions.

A stronger system should ensure that flood hazard maps, hydrological data, 1-in-100-year flood lines, drainage corridors, ecological buffers, wetlands, lakeshore controls, Village Land Use Plans, and Village Flood Action Plans are formally incorporated into national, district, local, urban structure, and village planning instruments. This would shift Malawi from a reactive approach to flood and climate risk management toward a preventive land use governance system that protects people, infrastructure, ecosystems, and future development.

7. Case Study Areas: Lilongwe, Karonga and Phalombe

This section grounds the analysis in three case study areas that illustrate different dimensions of land use planning, flood exposure, zoning practice, and climate-related risk in Malawi. The three areas show how urban growth, river systems, lakeshore dynamics, customary land allocation, agricultural pressure, and weak development control combine to increase flood vulnerability.

7.1 Lilongwe: Peri-Urban Growth and River Corridor Encroachment

Lilongwe represents the urban and peri-urban dimension of the land use planning and flood zoning challenge. The city is experiencing rapid expansion, particularly in peri-urban and informal settlement areas where development often proceeds faster than formal planning, servicing, and enforcement systems.

Flooding in areas such as Mgoni and Kaliyeka highlights the vulnerability of settlements located near river corridors, drainage channels, and low-lying areas. These areas are affected by inadequate drainage, informal construction, limited enforcement of planning standards, and encroachment into river reserves and natural drainage paths.

River corridor encroachment is a major concern in Lilongwe. Development close to rivers reduces natural flood conveyance, blocks drainage routes, increases exposure of households and infrastructure, and weakens the ecological function of riparian zones. The situation demonstrates the need for enforceable river buffers, drainage reserves, flood hazard overlays, and stricter development control in high-risk urban and peri-urban areas.

Lilongwe City has experienced recurrent flash flooding, particularly along the Lilongwe and Lingadzi river corridors, driven by intense rainfall, constrained river channels, and poor urban drainage. One of the most significant recent events occurred in 2019, when flash floods affected

approximately 1,500 households in Kaliyeka and Mgoni areas of Lilongwe City. These neighbourhoods are largely unplanned settlements, with widespread occupation of land without formal development permission or adherence to planning standards. Settlement encroachment into riverbanks and natural drainage paths, combined with inadequate drainage infrastructure and weak enforcement of development control, significantly increased flood exposure and damage. The Lilongwe case illustrates how urban flooding in Malawi is not only a function of extreme rainfall but also of land use decisions, informal settlement growth, and failure to protect riparian zones and drainage corridors within rapidly expanding cities.



Figure 2 Google image showing rapid development of Mgoni in Lilongwe between 2010 and 2025

The satellite images depict rapid and unplanned settlement expansion in Mgoni, Lilongwe City, from 2010 to 2025, with a notable acceleration observed after 2017. Throughout this period, residential development has progressively encroached upon the riverbank and natural floodplain, replacing open land and vegetated buffers with dense housing. This pattern indicates that population growth is occurring outside formal planning and development control systems, with minimal consideration for riparian protection or drainage corridors.

The post-2017 expansion is particularly significant, as it coincides with an increased occupation of land immediately adjacent to the river channel. This encroachment has diminished flood conveyance capacity, obstructed natural drainage paths, and heightened the vulnerability of households to flash flooding. The spatial trend illustrated in the imagery demonstrates that the flooding risk in Mgoni is not only driven by rainfall intensity but is also

closely linked to land use change, informal settlement growth, and the failure to enforce river buffer zones. These observations highlight the urgent need for risk-informed land use planning, the enforcement of riparian setbacks, and the upgrading or reconfiguration of settlements in flood-prone areas to mitigate current and future flood vulnerability in Lilongwe.

7.2 Karonga: Lakeshore Flood Risk and Riverine Exposure

Karonga illustrates the interaction between riverine flooding, lakeshore risk, flat terrain, settlement expansion, and agricultural land pressure. The district is influenced by the North Rukuru and Rufira Rivers, as well as its proximity to Lake Malawi. These features create exposure to river flooding, backwater effects, lakeshore inundation, and drainage constraints.

The flat terrain in parts of Karonga increases the difficulty of flood drainage and makes settlements, agricultural fields, roads, and public infrastructure more vulnerable during periods of heavy rainfall and high water levels. Settlement and agricultural pressures also increase the likelihood of occupation and cultivation in flood-prone areas, including riverbanks, floodplains, and low-lying lakeshore zones.

Karonga therefore highlights the need to integrate river basin data, lakeshore flood risk, hydrological modelling, agricultural land use planning, and settlement control into district physical development planning. Flood-sensitive zoning should distinguish between areas suitable for permanent settlement, seasonal agriculture, controlled development, conservation, and no-build floodplain protection.

Karonga District regularly experiences intense rainfall during the month of March, which, combined with its predominantly flat, low-lying terrain, increases susceptibility to riverine flooding. Major watercourses, particularly the North Rukuru and Rufira Rivers, frequently overtop their banks during peak rainfall periods. When flooding occurs, river water spreads widely across floodplains, inundating agricultural fields, settlements, and access roads. These

events result in crop losses, damage to household structures, and disruption of critical infrastructure, including roads and small bridges that serve rural communities. The flat topography slows drainage and prolongs inundation, compounding the impacts on livelihoods and delaying recovery. Recurrent flooding along these river systems highlights the need for flood-informed land use planning, protection of river buffers, and improved management of floodplains to reduce agricultural and infrastructure vulnerability in Karonga.

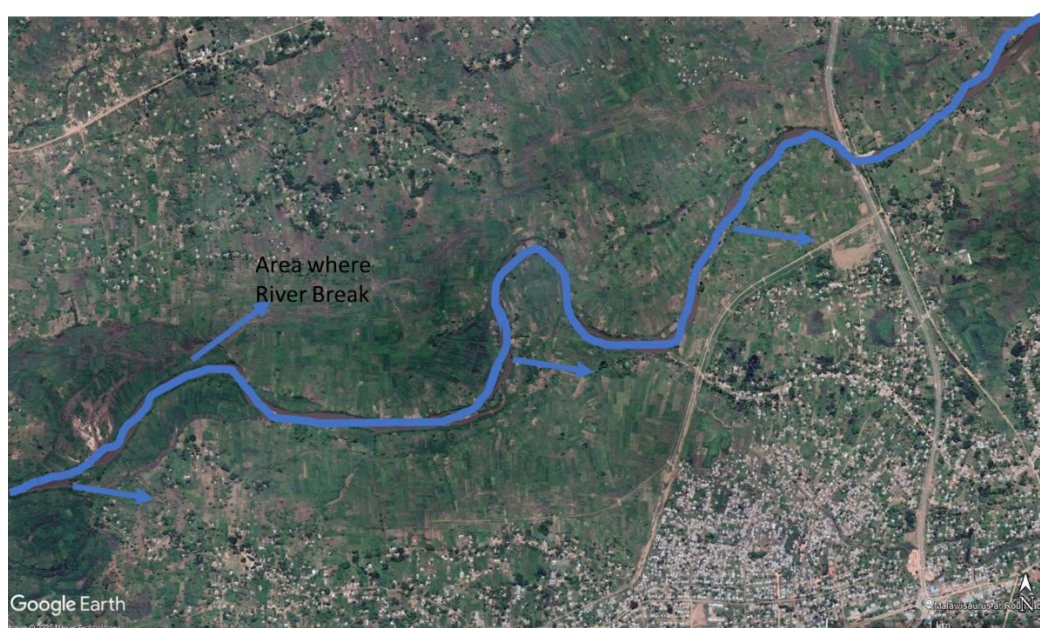


Figure 3 North Rukuru River in areas where the river breaks its banks

7.3 Phalombe: Cyclone-Induced Flooding and Floodplain Vulnerability

Phalombe represents a rural and district-level flood risk context shaped by cyclone-induced rainfall, upland runoff, floodplain exposure, and pressure on customary and agricultural land. The district is influenced by runoff from the Mulanje and Michesi highlands, which can rapidly increase downstream flood risk during intense rainfall events.

The Lake Chilwa floodplain and Mpopo Lagoon are important hydrological and ecological features that influence settlement, agriculture, drainage, and flood exposure. Areas under Traditional Authorities such as TA Chiwalo, TA Jenala, and TA Nkhumba are relevant to

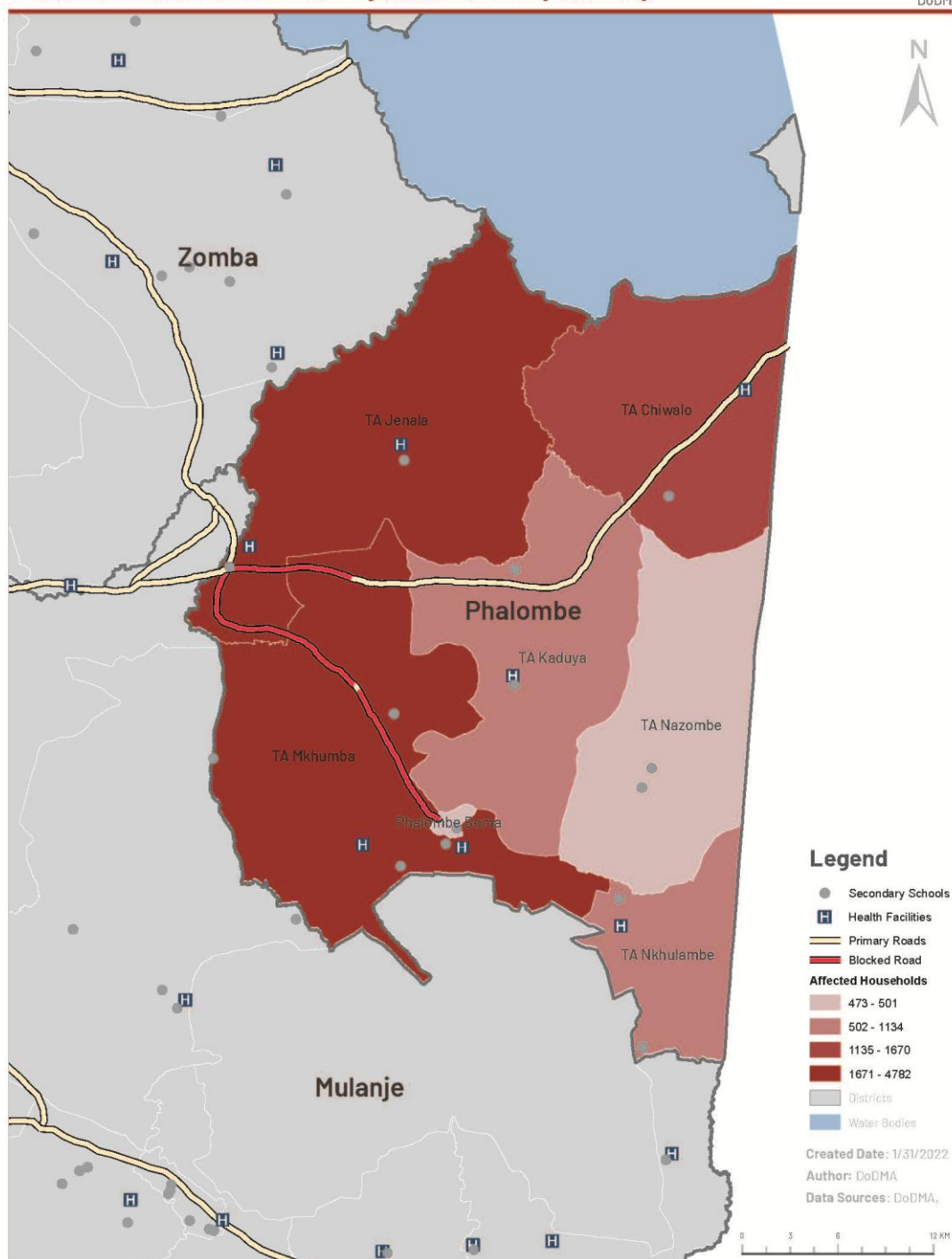
understanding how customary land allocation, settlement location, agricultural use, and local risk knowledge interact with formal planning systems.

Phalombe demonstrates the importance of linking customary land governance with district physical planning, flood risk mapping, ecosystem protection, and community-level disaster risk management. Cyclone-induced flooding also shows the need to incorporate climate projections, extreme rainfall scenarios, upland runoff dynamics, drainage corridors, and floodplain protection into land classification and zoning.

Phalombe District is one of the areas most severely affected by flooding in Malawi, primarily due to cyclone-induced rainfall events that generate intense runoff and widespread inundation. Recent cyclones have led to extensive flooding across the district, resulting in the large-scale displacement of households, destruction of crops, and damage to roads, bridges, and community infrastructure. These events rank among the most severe flood disasters in the country's recent history and have had lasting effects on livelihoods and food security in Phalombe.

The impacts of flooding are concentrated in specific river plains and low-lying wetland systems, particularly around the Lake Chilwa floodplain and the Mpopo Lagoon area. These areas function as natural flood retention zones but are increasingly being occupied for settlement and agriculture. The most affected Traditional Authorities are TA Chiwalo, TA Jenala, and TA Nkhumba, all of which are situated in flat terrain that is highly susceptible to river overflow and prolonged inundation. Floodwaters primarily originate from intense runoff draining from the Mulanje Massif and the Michesi Hills, which feed rivers and seasonal streams flowing into the Phalombe Plain and Lake Chilwa basin.

Malawi: Phalombe District Cyclone Ana Impact Map



Disclaimer : This map captures information available at the moment based on partners' reporting.
 The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the creators.

Figure 4 Map showing heavily impacted areas in Phalombe during Cyclone Ana flooding

The combination of flat topography, expanding settlement and cultivation within floodplains, and high volumes of upstream runoff significantly increases flood depth, duration, and spatial

extent in these areas. Consequently, communities within these Traditional Authorities frequently experience crop losses, damage to dwellings, and disruptions to access routes during major rainfall events. These conditions underscore the critical need for flood-informed land use planning, the protection of river and lake floodplains, and closer engagement with Traditional Authorities to manage settlement and land use in the high-risk areas of Phalombe District.

7.4 Implications for the Analysis

The three case study areas show that Malawi's land use planning and flood zoning challenges are not uniform. Lilongwe reflects rapid urbanisation, informal settlement growth, and river corridor encroachment. Karonga reflects riverine and lakeshore flood exposure combined with settlement and agricultural pressure on flat terrain. Phalombe reflects cyclone-induced flooding, floodplain vulnerability, lagoon systems, highland runoff, and customary land governance.

Together, these cases demonstrate the need for a more integrated and risk-informed planning system. Physical development plans, flood hazard maps, climate projections, hydrological data, ecosystem protection measures, development control, and customary land allocation should be brought together into enforceable zoning and land management tools.

8. Comparative Review: South Africa and Swartland Municipality

South Africa provides a useful comparative model for demonstrating how national principles on disaster risk reduction, spatial planning, water resources management, municipal governance, traditional leadership, and land use control can be translated into enforceable local planning instruments. The relevance for Malawi is that South Africa does not treat flood risk management only as an emergency response function. Instead, it links disaster risk, spatial planning, water management, municipal planning, land use schemes, development applications, and local by-laws.

Swartland Municipality illustrates how these national legal principles can be operationalised at municipal level through spatial development frameworks, land use planning by-laws, zoning scheme regulations, development management procedures, and land use application systems.

8.1 Disaster Management Act, 2002

The Disaster Management Act, 2002 establishes an integrated and coordinated disaster management system focused on preventing or reducing disaster risk, mitigating the severity of disasters, preparedness, response, and recovery. Its relevance to land use planning is that disaster risk reduction is not limited to post-disaster relief. It provides a legal basis for identifying risk areas, integrating hazard information into planning, and ensuring that development decisions reduce exposure to disaster-prone areas.

For Malawi, the lesson is that flood risk zoning should be linked to disaster risk information before land is allocated, serviced, subdivided, or built upon. Hazard maps, vulnerability assessments, early warning systems, and risk reduction plans should inform land classification and development control.

8.2 Spatial Planning and Land Use Management Act, 2013

The Spatial Planning and Land Use Management Act (SPLUMA), 2013 provides South Africa's national framework for spatial planning and land use management. It links spatial development planning with land use management, promotes consistency in decision-making, establishes principles for land development, and provides for Municipal Planning Tribunals and development application procedures.

SPLUMA is important because it connects national planning principles to municipal implementation. It requires spatial planning to guide land development decisions and gives municipalities a clear legal basis for approving, refusing, or conditioning development applications. This creates a bridge between broad policy goals and enforceable land use decisions.

The lesson for Malawi is that climate change and flood risk should not remain at policy level. They should be embedded in physical development plans, zoning regulations, subdivision controls, development permissions, and planning committee decisions.

8.3 National Water Act, 1998

The National Water Act, 1998 provides the legal framework for the management, protection, use, development, conservation, and control of water resources. In relation to flood zoning, its importance lies in the recognition that river systems, floodplains, wetlands, watercourses, catchments, and drainage systems must be managed as part of land use decision-making.

For land use planning, water legislation provides the technical and regulatory basis for identifying flood-prone land, protecting riparian zones, controlling activities near watercourses, and ensuring that development does not undermine natural drainage or water resource integrity.

The lesson for Malawi is that water resources data should be formally linked to physical planning and zoning. Flood lines, river buffers, wetland boundaries, drainage corridors, and hydrological modelling should be incorporated into local plans and development control decisions.

8.4 Municipal Systems Act, 2000

The Municipal Systems Act, 2000 provides the framework for developmental local government, municipal planning, performance management, community participation, service delivery, and institutional coordination. It is important because it positions municipalities as frontline development institutions responsible for integrating planning, service delivery, local governance, and community needs.

In the South African system, municipal planning is therefore not limited to land use maps. It is connected to infrastructure provision, public participation, performance management, budgeting, and local development priorities.

The lesson for Malawi is that councils should be strengthened as the practical enforcement point for climate-resilient land use planning. District and city councils need planning authority, technical tools, budget support, local by-laws, and community participation mechanisms to translate flood zoning into implementation.

8.5 Traditional and Khoi-San Leadership Act, 2019

The Traditional and Khoi-San Leadership Act, 2019 is relevant because it recognises the role of traditional leadership and customary governance structures within South Africa's broader governance system. For land use planning, the key lesson is not that traditional authorities replace statutory planning, but that customary governance must be recognised and linked to formal planning systems.

This is particularly relevant to Malawi, where Traditional Authorities play a major role in customary land allocation. The South African example shows the importance of creating institutional channels through which customary leadership can participate in spatial planning, land use governance, community consultation, and local development decisions.

The lesson for Malawi is that customary land allocation should be linked to district physical development plans, village land use planning, flood hazard maps, local by-laws, and council development control systems.

8.6 Swartland Municipality Land Use Planning By-Law, 2020

The Swartland Municipality Land Use Planning By-Law, 2020 demonstrates how national planning law can be translated into local procedures. The by-law regulates municipal land use planning and includes provisions on spatial planning, municipal spatial development frameworks, local spatial development frameworks, development management schemes, use zones, zoning maps, rezoning, subdivision, departures, consent uses, application procedures, public notice, intergovernmental participation, decision-making criteria, conditions of approval, inspections, tribunals, and appeals.

This is significant because it gives the municipality clear procedures for managing land development. It converts broad planning principles into legally enforceable local rules and decision-making processes.

For Malawi, the lesson is that councils require model land use planning by-laws that can regulate zoning, subdivision, flood overlays, environmental buffers, drainage reserves, development applications, public consultation, inter-agency review, conditions of approval, inspections, and enforcement.

8.7 Swartland Zoning Scheme Regulations, 2014

The Swartland Zoning Scheme Regulations, 2014 provide the detailed land use categories and development parameters used to control land development at municipal level. Zoning scheme regulations typically define use zones, permitted uses, consent uses, development restrictions, building lines, density controls, coverage, height, parking, open space, and special development conditions.

The importance of the zoning scheme is that it turns spatial policy into parcel-level development rights and restrictions. It allows a municipality to say what may be built, where it may be built, under what conditions, and what uses are prohibited or conditional.

For Malawi, this is a critical lesson. Flood zoning should not remain a general recommendation in policy documents. It should be translated into enforceable zoning categories, overlays, no-build zones, conditional development zones, river buffers, wetland protection zones, drainage reserves, and development standards.

8.8 Main Lesson for Malawi

South Africa demonstrates how national climate, disaster, water, planning, and land use principles can be translated into enforceable municipal zoning schemes, flood overlays, local by-laws, and infrastructure investment controls. The system is not only policy-based; it is operationalised through municipal spatial development frameworks, zoning schemes, planning tribunals, development application procedures, public participation, conditions of approval, and enforcement mechanisms.

For Malawi, the key lesson is to move from fragmented sectoral controls toward an integrated land use governance system. Climate risk, flood hazard data, water resources information, environmental safeguards, construction standards, disaster risk management, and customary

land governance should be brought together through physical development plans and local by-laws.

This would allow councils to make flood risk legally relevant at the point where land is classified, allocated, subdivided, serviced, developed, and inspected.

Sources checked include South African Government pages for the Disaster Management Act, SPLUMA, National Water Act, and Municipal Systems Act, plus Swartland Municipality's planning by-law and spatial plans pages.

9. Entry Points for Codifying Climate Change in Land Zoning Regulations

Malawi has a strong legal and institutional foundation for land use planning, environmental management, disaster risk management, water resources protection, and development control. However, climate change and flood risk are not yet fully codified into land zoning regulations. The main weakness is not the absence of institutions, but the lack of binding technical requirements, enforceable zoning tools, shared data systems, and coordinated implementation mechanisms.

Existing laws and institutions provide important entry points, but they do not yet operate as one integrated system for climate resilient land use governance. Flood risk information, climate projections, hydrological data, ecosystem protection requirements, construction standards, and customary land allocation processes are not consistently translated into physical development plans, zoning maps, local by-laws, building approval conditions, or infrastructure investment decisions.

As a result, climate change is often addressed through policy commitments, environmental assessment, disaster response, and project-level safeguards, rather than through routine zoning and development control. This creates gaps in how land is classified, how development applications are assessed, how flood-prone areas are protected, and how councils enforce planning decisions.

The priority should therefore be to codify climate change and flood risk into land zoning regulations by introducing mandatory flood overlays, legally recognised flood lines, ecological buffers, drainage reserves, no-build zones, conditional development zones, minimum platform levels, and climate-informed development standards. These should be supported by shared

geospatial data systems, digital permitting, clear institutional referral procedures, and stronger links between statutory planning, customary land governance, and local enforcement.

9.1 No Mandatory Flood Hazard Mapping in Development Approvals

Development approvals are not consistently required to use flood hazard maps as a mandatory screening tool. As a result, planning permissions, subdivision approvals, building approvals, and infrastructure siting decisions may proceed without clear evidence of flood exposure, flood depth, flood frequency, or drainage constraints.

Where flood risk is considered, it is often assessed through historical experience, local knowledge, general river offsets, site observations, or project-level ESIA requirements. These approaches are useful, but they do not provide a consistent national basis for determining whether land is suitable for development, should be restricted, or should be subject to specific design conditions.

The absence of mandatory flood hazard screening also creates inconsistency between councils and sectors. Similar developments may be treated differently depending on the availability of data, technical capacity, institutional interpretation, or the stage at which flood risk is identified. This weakens preventive planning and allows some developments to proceed in flood-prone areas before adequate risk assessment is undertaken.

Flood hazard maps should therefore be made a mandatory input in land allocation, zoning, subdivision approval, building approval, infrastructure planning, and environmental assessment. Development applications should be screened against approved flood maps, flood lines, drainage corridors, wetlands, river buffers, lakeshore risk zones, and other climate-sensitive areas before approval is granted.

9.2 No Binding Flood Overlays in Physical Development Plans

National, District, and Local Physical Development Plans do not yet consistently include binding flood overlays. Without these overlays, flood risk information remains largely advisory and is not automatically enforceable through zoning, subdivision approval, building permits, infrastructure siting, or local by-laws.

A flood overlay would allow planning authorities to classify land according to flood risk level and apply appropriate development controls. These controls could include no-build zones, controlled development zones, ecological buffers, drainage reserves, minimum platform levels, flood proofing requirements, restrictions on critical infrastructure, and conditions for roads, bridges, drainage systems, housing, markets, schools, and health facilities.

The absence of binding flood overlays creates uncertainty for councils, developers, communities, and customary land institutions. It also limits the ability of planning authorities to refuse unsafe development or require additional design measures in flood-prone areas. Flood overlays should therefore be incorporated into physical development plans as legally enforceable zoning layers, supported by approved flood hazard maps, hydrological data, climate projections, and clear development control standards.

9.3 Weak Link Between Water Resources Flood Lines and Council Zoning

Water resources institutions generate and hold information that is directly relevant to rivers, floodplains, wetlands, drainage systems, lakeshore areas, and flood lines. However, this information is not consistently translated into council zoning schemes, local plans, development control decisions, or local by-laws. As a result, hydrological evidence often remains technical advice rather than an enforceable basis for regulating land use.

This creates a gap between water resources knowledge and practical land use regulation. Councils may approve, tolerate, or fail to control development in areas that should be restricted

based on flood lines, river corridors, wetlands, dambos, lakeshore risk zones, or drainage reserves. This weakens preventive flood risk management and allows settlement, infrastructure, and economic activities to expand into areas that perform important flood conveyance, water storage, ecological, and drainage functions.

A stronger system should require water resources data to be formally incorporated into physical development plans, zoning maps, local plans, Village Land Use Plans, and development control procedures. Flood lines, including the 1-in-100-year flood level, river buffers, wetland boundaries, lakeshore controls, and drainage reserves should be treated as mandatory planning constraints. Councils should not approve subdivision, building, infrastructure, or land allocation decisions in high-risk areas unless the proposal complies with approved hydrological standards, flood zoning controls, and site-specific climate risk requirements.

9.4 Weak Use of Climate Projections and IDF Curves

Climate projections and Intensity-Duration-Frequency curves are not yet routinely used in land use zoning and development control. This limits the ability of planning authorities to account for future rainfall intensity, changing flood frequency, stormwater loads, drainage capacity, and infrastructure design requirements.

Without climate projections and updated IDF curves, zoning and drainage decisions may be based on historical rainfall conditions that no longer reflect current or future climate risks. This creates a risk that land may be classified as suitable for development even where future rainfall intensity, runoff volumes, or flood frequency will increase exposure. It also means that drainage systems, culverts, bridges, road crossings, stormwater infrastructure, housing platforms, and public facilities may be under-designed for future conditions.

This gap is particularly important in areas experiencing rapid urban expansion, peri-urban settlement growth, and infrastructure development near rivers, wetlands, floodplains, dambos,

and drainage corridors. Planning authorities therefore need access to updated IDF curves, climate projections, design storm guidance, and flood modelling outputs. These should be incorporated into zoning regulations, physical development plans, infrastructure design standards, building approval procedures, and development control conditions so that future development is assessed against both present and projected climate risks.

9.5 Weak Data Sharing Between Key Institutions

Data sharing remains weak between MEPA, NWRA, DoDMA, DCCMS, CIRA, councils, and Traditional Authorities. Each institution holds information that is relevant to climate resilient land use planning, but these datasets are not always standardised, accessible, updated, or integrated into a common planning approval and development control system.

MEPA holds environmental assessment, ESMP, compliance, and environmental safeguards information. NWRA and water resources institutions hold hydrological data, river-related information, flood line data, watercourse protection information, and lakeshore control parameters. DoDMA holds disaster risk, hazard, vulnerability, contingency planning, and post-disaster assessment information. DCCMS provides climate data, weather information, rainfall trends, seasonal forecasts, early warning information, and climate projections. CIRA holds information on contractor registration, construction compliance, project quality, and construction standards. Councils hold development approvals, local plans, zoning information, building permits, inspections, and enforcement records. Traditional Authorities hold local knowledge on customary land allocation, settlement patterns, land disputes, community facilities, and areas historically affected by floods.

The absence of a shared data platform weakens coordinated decision making and leads to fragmented approvals, inconsistent enforcement, delayed referrals, duplication of effort, and missed opportunities for preventive planning. A development proposal may be reviewed by one

institution without full access to flood hazard maps, hydrological data, climate projections, environmental restrictions, construction compliance records, or customary land information held by another institution.

A stronger system should establish a shared geospatial and permitting platform that links climate, flood, hydrological, environmental, land use, construction, infrastructure, and customary land data. This platform should support LIMS, e-permitting, zoning maps, flood overlays, development application review, inspections, and compliance monitoring. Clear data custodianship, update schedules, access protocols, and referral procedures are required so that all planning and development decisions are based on the same approved risk information.

9.6 Weak Integration of VFAPs and Village Land Use Plans

Village-level planning tools, including Village Forest Area Plans, Village Land Use Plans, Village Flood Action Plans, and other community-level land management instruments, are not yet consistently integrated into district planning and formal zoning systems. These tools contain important local information on land use, forest resources, watersheds, flood-prone areas, settlement patterns, agricultural zones, drainage paths, evacuation routes, and locally agreed management rules.

This weakens the connection between community-level resource management and statutory land use planning. It also limits the ability of local knowledge, customary land governance, forest protection, watershed management, disaster risk reduction, and community-based adaptation to influence formal development control. Where these tools remain outside district physical development plans, local plans, and zoning instruments, community priorities and local risk information may not be reflected in land allocation, infrastructure siting, environmental protection, or permit decisions.

A stronger system should formally link village-level planning tools to district planning and development control. Village Forest Area Plans should inform forest protection, catchment management, erosion control, and ecosystem restoration. Village Land Use Plans should guide customary land allocation, settlement siting, agricultural land management, and protection of sensitive areas. Village Flood Action Plans should inform flood zoning, safe areas, evacuation routes, drainage protection, and restrictions on settlement in high-risk areas. These tools should be recognised in district physical development plans, local by-laws, zoning maps, LIMS, e-permitting systems, and customary land allocation procedures.

9.7 Limited By-laws at District and Community Level

District and community-level by-laws are limited or inconsistently applied. This creates a gap between national legislation and local enforcement. National laws provide broad authority for planning, environmental management, water resources protection, disaster risk reduction, and development control, but councils and communities often lack locally tailored rules for managing floodplain protection, wetland use, river buffers, drainage corridors, informal settlement growth, and customary land allocation.

This weakens implementation at the local level, where most land use decisions and enforcement challenges occur. Without clear local by-laws, councils and community institutions have limited authority to prevent settlement in flood-prone areas, control drainage obstruction, regulate cultivation or construction along riverbanks, protect wetlands and dambos, or enforce climate risk conditions attached to development approvals. It also creates inconsistency between districts, as similar risks may be managed differently depending on local capacity, interpretation, and political support.

Model by-laws are therefore needed to help districts and communities translate national requirements into practical and enforceable local rules. These by-laws should define no-build

zones, conditional development areas, ecological buffers, drainage reserves, flood-compatible land uses, local grievance mechanisms, penalties, inspection powers, stop notices, corrective measures, and enforcement responsibilities.

The model by-laws should also clarify the roles of councils, Traditional Authorities, Customary Land Committees, Customary Land Tribunals, ADCs, VDCs, Civil Protection Committees, and local enforcement officers. This would strengthen the link between statutory planning, customary land governance, climate risk information, and community-level enforcement. By-laws should be aligned with physical development plans, Village Land Use Plans, Village Flood Action Plans, Village Forest Area Plans, flood hazard maps, and local zoning instruments so that national climate resilience objectives are implemented at district, settlement, and village level.

9.8 Limited Enforcement in Informal and Customary Areas

Enforcement remains particularly weak in informal settlements and customary land areas. In these contexts, development may occur before planning approval, without formal subdivision, without environmental screening, and without adequate drainage or flood risk assessment. This makes it difficult for councils and technical agencies to prevent unsafe settlement patterns before they are already established.

Customary land allocation may also proceed without reference to flood hazard maps, physical development plans, council zoning, drainage corridors, or environmental restrictions. As a result, settlements and livelihood activities may expand into riverbanks, wetlands, dambos, floodplains, drainage corridors, and low-lying areas. This increases exposure to flooding and undermines the natural systems that regulate runoff, store floodwater, and protect downstream communities.

Enforcement is further constrained by limited technical staff, weak inspection capacity, political and social pressure, poverty, land scarcity, limited public awareness, and lack of affordable serviced land. In many cases, households occupy high-risk areas because safer land is unavailable, unaffordable, or not adequately serviced. This makes enforcement a governance and social protection challenge, not only a regulatory issue.

A stronger enforcement approach should combine clear flood zoning by-laws, routine inspections, community-level monitoring, and stronger coordination with Traditional Authorities, Customary Land Committees, ADCs, VDCs, and Civil Protection Committees. Enforcement should also be supported by affordable serviced land, settlement upgrading, public awareness, drainage improvement, relocation planning where necessary, and practical compliance pathways for low-income households already living in flood-prone areas.

9.9 Conclusion

The key gap is that climate change and flood risk are not yet embedded as mandatory and enforceable components of land zoning and development control. Flood hazard mapping, flood overlays, water resources data, climate projections, Intensity-Duration-Frequency curves, community-level planning tools, and local by-laws remain weakly connected to routine land use decisions. As a result, land may be allocated, subdivided, approved, serviced, or developed without adequate consideration of present and future climate risks.

Codifying climate change in land zoning regulations will require a shift from advisory guidance to binding planning controls. This should include mandatory flood hazard screening for all development approvals, legally enforceable flood overlays in physical development plans, formal use of water resources and climate data in zoning decisions, updated technical standards for drainage and infrastructure design, and clear development conditions for hazard-prone areas.

It will also require stronger institutional coordination and data sharing between MEPA, NWRA, DoDMA, DCCMS, CIRA, councils, physical planning authorities, and Traditional Authorities. Village-level tools such as Village Land Use Plans, Village Flood Action Plans, Village Forest Area Plans, and customary land records should be integrated into district planning, local by-laws, LIMS, e-permitting, and development control systems.

Improved enforcement is also essential, especially in informal settlements and customary land areas where development often occurs before formal approval. Councils and communities need practical by-laws that define no-build zones, conditional development areas, ecological buffers, drainage reserves, flood-compatible land uses, penalties, grievance mechanisms, and enforcement responsibilities. This would allow climate change and flood risk to become routine considerations in land allocation, zoning, building approval, infrastructure investment, and local enforcement.

10. Recommendations for Codifying Climate Change in Land Zoning Regulations

This section provides recommendations for codifying climate change in land zoning regulations. The recommended measures aim to shift Malawi's current approach from reactive and project-by-project risk management toward a legally enforceable and spatially integrated system in which climate and flood risk information guides land classification, zoning, development control, infrastructure investment, and customary land allocation.

10.1 Amend Planning Regulations to Require Flood Hazard Overlays

Planning regulations should be amended to require flood hazard overlays as mandatory components of National, District, and Local Physical Development Plans. These overlays should identify flood-prone land, river corridors, wetlands, dambos, drainage routes, lakeshore risk areas, steep slopes, erosion-prone areas, and other climate-sensitive zones that require protection, restriction, or special development conditions.

Flood overlays should be based on approved flood hazard maps, hydrological data, climate projections, historical flood records, post-disaster assessments, and community risk information. They should classify land according to risk level and define appropriate planning responses, including no-build zones, conditional development zones, ecological buffers, drainage reserves, minimum platform levels, flood proofing requirements, and restrictions on critical infrastructure.

Once incorporated into physical development plans, flood overlays should become legally enforceable planning layers. They should guide zoning, land classification, subdivision approval, infrastructure siting, settlement planning, building approval, local by-laws,

customary land allocation, and development control. This would ensure that flood risk is considered before land is allocated, serviced, approved, or developed.

10.2 Give Legal Force to Flood Lines

Flood lines should be given legal force in zoning and development control. This should include adopting the 1-in-100-year flood standard as a minimum planning reference for identifying areas where permanent buildings, critical infrastructure, high-density settlement, and other high-risk development should be restricted or prohibited.

Flood lines should not remain technical references only. They should be incorporated into zoning schemes, physical development plans, local plans, development permission conditions, building plan approvals, subdivision controls, infrastructure siting decisions, and enforcement notices. This would allow planning authorities and councils to use flood lines as a binding basis for refusing unsafe development, imposing conditions, or requiring redesign.

Where development is permitted near flood-prone areas, approval conditions should include minimum platform levels, flood proofing requirements, drainage controls, safe evacuation access, protection of natural flow paths, and restrictions on activities that obstruct flood conveyance. These conditions should be supported by hydrological assessment, climate risk screening, and site-specific drainage design before approval is granted.

In line with workshop feedback, platform levels and finished floor levels should be gazetted only after the responsible institutions have prepared or endorsed sufficiently detailed district or city flood maps. Interim controls may rely on precautionary no-build buffers and referral to water resources and disaster risk authorities, but permanent technical thresholds should be evidence-based and locally specific.

10.3 Develop Model District and City Flood Zoning By-laws

Model flood zoning by-laws should be developed for adoption by district, municipal, and city councils. These by-laws should translate national legal and policy requirements into practical local rules that councils can apply through zoning, development control, building approval, inspections, and enforcement.

The model by-laws should define flood risk zones, prohibited uses, conditional uses, approval procedures, documentation requirements, institutional responsibilities, inspection powers, penalties, appeal procedures, and community participation mechanisms. They should also clarify how council planning decisions should use technical data from water resources, disaster management, meteorological, environmental, physical planning, construction regulation, and land administration institutions.

The by-laws should provide clear rules for no-build zones, controlled development areas, ecological buffers, drainage reserves, wetland protection areas, riparian corridors, lakeshore risk zones, and flood-compatible land uses. They should also specify when hydrological assessments, climate risk screening, flood proofing measures, minimum platform levels, drainage designs, and evacuation access plans are required before development approval.

The model by-laws should further clarify the roles of Traditional Authorities, Customary Land Committees, Customary Land Tribunals, ADCs, VDCs, and Civil Protection Committees in local enforcement and community-level monitoring. This would help align customary land allocation, village-level planning, and council development control with approved flood zoning and climate risk information.

10.4 Require Climate-Sensitive Zoning Instruments

Councils should be required to include climate-sensitive land use categories in zoning instruments. These categories should include no-build zones, conditional development zones,

drainage reserves, riparian buffers, wetland protection zones, lakeshore protection zones, dambo protection areas, flood-compatible open spaces, and ecosystem restoration zones. These categories would allow councils to regulate land according to climate exposure, ecological function, drainage importance, and suitability for development.

No-build zones should apply to areas of unacceptable flood risk, critical drainage corridors, unstable riverbanks, sensitive wetlands, dambos, and other areas where development would increase risk to people, infrastructure, or ecosystems. Permanent buildings, critical infrastructure, high-density settlement, and activities that obstruct flood conveyance should be prohibited in these areas.

Conditional development zones should allow development only where specific risk reduction measures are met. These may include hydrological assessment, climate risk screening, elevated platforms, flood proofing, drainage design, erosion control, safe access, and protection of natural flow paths. Development in these zones should be approved only where it does not increase flood risk on-site or downstream.

Drainage reserves, riparian buffers, wetlands, dambos, and lakeshore protection areas should be protected from encroachment, dumping, obstruction, land filling, pollution, and permanent construction. These areas should be treated as functional climate resilience infrastructure because they convey stormwater, store floodwater, recharge groundwater, reduce erosion, and protect biodiversity.

Zoning instruments should also prescribe minimum platform levels or finished floor levels in areas where controlled development is allowed. These requirements should be linked to flood levels, drainage capacity, soil conditions, flood frequency, and projected climate risk. This would ensure that development permitted in moderate-risk areas is designed to reduce exposure

and maintain the natural functions of floodplains, wetlands, river corridors, and drainage systems.

10.5 Gazette MEPA Guidance on Climate Risk Integration in ESIA and SEA

MEPA guidance on climate risk integration in Environmental and Social Impact Assessment and Strategic Environmental Assessment should be gazetted. This would make climate risk screening more consistent, enforceable, and aligned with land use planning decisions.

The guidance should require assessment of flood exposure, climate projections, drainage impacts, ecosystem sensitivity, greenhouse gas implications, adaptation measures, and cumulative risk. It should also define how ESIA and SEA findings should be linked to planning permission, subdivision approval, building approval, infrastructure siting, and compliance monitoring.

This would help ensure that ESIA does not remain a standalone project safeguard, but becomes part of a wider land use governance and zoning system.

10.6 Link Institutional Data to Planning Approvals

Data from Water Resources, DoDMA, DCCMS, and MEPA should be formally linked to planning approval processes. Councils should not be expected to make flood-sensitive planning decisions without access to official flood, climate, hydrological, environmental, and disaster risk data.

A standard data-sharing protocol should be established to ensure that planning authorities receive updated flood hazard maps, river and catchment data, flood lines, climate projections, rainfall intensity information, early warning data, disaster risk profiles, ESIA conditions, and environmental compliance records. These datasets should be made available in formats that

can be used directly in zoning, land classification, development control, infrastructure planning, and enforcement.

The data-sharing protocol should define institutional responsibilities, data custodianship, update schedules, validation procedures, access rights, and referral requirements for high-risk applications. It should also clarify how councils should use this information when reviewing development applications, approving subdivisions, preparing local plans, siting infrastructure, issuing building permits, and enforcing zoning conditions.

The protocol should also specify the operational format of joint review and co-certification for high-risk developments. This includes common application checklists, shared electronic document records, referral timelines, inspection responsibilities, escalation procedures and the treatment of conditions issued by MEPA, NWRA, DoDMA, CIRA, councils and other competent authorities.

Over time, these datasets should be integrated into LIMS, e-permitting systems, GIS platforms, zoning maps, and inspection systems. This would ensure that planning decisions are based on approved risk information and that flood, climate, hydrological, environmental, and disaster risk data are applied consistently before land is allocated, serviced, approved, or developed.

10.7 Integrate Village Land Use Plans and VFAPs

Village Land Use Plans and Village Flood Action Plans (VFAPs) should be integrated into district physical planning, customary land allocation and development control systems. These instruments provide locally verified information on settlement patterns, agricultural land, drainage routes, flood-prone areas, safe areas, evacuation routes, vulnerable households, community facilities and priority mitigation measures.

Their integration would strengthen the link between statutory planning and customary land governance. District Physical Development Plans and Local Physical Development Plans

should recognise relevant village-level plans and translate their land use proposals into formal zoning, development control, conservation, and infrastructure planning decisions.

Customary land allocation should also be guided by flood risk maps, environmental sensitivity, drainage corridors, river buffers, wetland and dambo protection requirements, watershed management needs, and locally agreed land use rules. This would help ensure that settlement expansion, agricultural use, community infrastructure, and resource management decisions are consistent with both local priorities and wider climate resilience objectives.

VFAPs should inform flood preparedness, safe evacuation, early warning dissemination, relocation planning and local mitigation priorities. Village Land Use Plans should guide settlement siting, agricultural zoning, community facilities, access routes, drainage protection and restrictions on development in high-risk areas. Together, these tools should be recognised in district plans, local by-laws, LIMS, e-permitting systems and Customary Land Committee procedures so that community-level planning becomes part of the formal land use governance system.

10.8 Strengthen Local Governance Structures

The role of Traditional Authorities, Customary Land Committees, Customary Land Tribunals, Civil Protection Committees, Area Development Committees, and Village Development Committees should be strengthened in flood risk-informed land use governance. These institutions are critical because many land allocation, settlement, agricultural, and community infrastructure decisions occur at local level, particularly in customary and peri-urban areas.

These structures should be provided with simplified flood risk maps, zoning guidance, by-law templates, awareness materials, and practical training on climate resilient land allocation. This would enable local institutions to understand flood risk, apply land use controls, and support

community compliance with approved physical development plans, village land use plans, and local by-laws.

Their role should include identifying risk-prone land, discouraging settlement in floodplains, wetlands, dambos, drainage corridors, unstable riverbanks, and other high-risk areas. They should also support the protection of drainage routes, riparian buffers, forest areas, catchments, and ecological restoration zones.

In addition, these local structures should assist councils with community consultations, early warning dissemination, monitoring of encroachment, reporting of unsafe development, dispute resolution, and compliance follow-up. Strengthening their role would help connect statutory planning with customary land governance and ensure that flood risk information is applied before land is allocated or settlements expand into hazardous areas.

10.9 Establish LIMS and E-Permitting Systems Linked to Flood Zoning

Land Information Management Systems and e-permitting systems should be strengthened and linked to the Ministry of Lands' existing LIMS programme. This provides a practical entry point for integrating flood zoning maps, land records, planning approvals, land parcels, ownership and use rights, and development control processes into one coordinated digital land administration system. Strengthening the existing LIMS platform would improve transparency, coordination, accountability, and enforcement in land administration and climate resilient development control.

An integrated LIMS and e-permitting system should allow councils and relevant institutions to screen proposed developments against floodplains, wetlands, drainage reserves, riparian buffers, lakeshore protection zones, dambos, ecological buffers, and other restricted or conditional development zones before approval is granted. This would ensure that planning

decisions are informed by official flood risk, hydrological, environmental, climate, and land administration data.

The system should also record planning permissions, subdivision approvals, ESIA and ESMP conditions, building approvals, inspections, enforcement notices, land parcels, land ownership, customary land rights, leasehold interests, and land use rights. This would create a traceable record of decisions and make it easier for councils, MEPA, Water Resources, DoDMA, DCCMS, CIRA, Traditional Authorities, Customary Land Committees, and other institutions to coordinate reviews and monitor compliance.

Linking flood zoning and climate risk data to the Ministry of Lands' LIMS programme would also support risk-informed land allocation and development control. Proposed land transactions, subdivisions, layout approvals, and building applications could be automatically flagged where they fall within flood-prone areas, drainage corridors, wetlands, lakeshore protection zones, or other climate-sensitive areas. This would reduce the risk of land being allocated, transferred, subdivided, or approved for development without adequate climate and flood risk screening.

Strengthening LIMS and e-permitting would reduce fragmented decision making, limit discretionary approvals, improve referral of high-risk applications, and create a stronger evidence base for enforcement. It would also support public transparency by making approved zoning, restricted areas, drainage reserves, flood overlays, and development conditions easier to access and apply. Over time, the system should become a central platform for linking statutory planning, customary land administration, environmental safeguards, water resources data, disaster risk information, and local development control.

10.10 Align Infrastructure Investment with Approved Spatial Plans

Infrastructure investment should be aligned with approved spatial plans and flood risk zoning. Roads, bridges, drainage systems, water supply infrastructure, schools, health facilities, markets, housing schemes, and other public investments should not be located in areas that conflict with approved physical development plans, flood overlays, drainage reserves, ecological buffers, or other climate-sensitive land use controls.

Public infrastructure can unintentionally encourage settlement in unsafe areas when it is provided without reference to flood risk. Roads, water supply, electricity, schools, health facilities, and markets can make flood-prone areas more attractive for occupation, even where the land is unsuitable for permanent settlement or critical infrastructure. This can increase exposure and make future enforcement, relocation, or upgrading more difficult.

Aligning infrastructure investment with spatial plans would help direct growth toward safer, serviced, and climate resilient locations. All major public investments should therefore be screened against flood hazard maps, hydrological data, climate projections, drainage corridors, wetland and river buffer requirements, and approved zoning conditions before design and construction. This would ensure that infrastructure supports planned growth, protects natural drainage systems, and avoids creating new centres of flood risk.

10.11 Conclusion

Codifying climate change in land zoning regulations requires more than policy recognition. It requires enforceable planning rules, binding flood overlays, legally recognised flood lines, model by-laws, coordinated data systems, climate-sensitive zoning categories, stronger local governance, and digital land administration and permitting systems.

The recommended measures would help Malawi move from fragmented and reactive flood risk management toward a proactive land use planning system. In such a system, climate risk would

be considered before land is allocated, subdivided, serviced, developed, occupied, or supported with public infrastructure. This would strengthen prevention, improve accountability, protect critical ecosystems, and guide future growth toward safer and climate resilient locations.

11. Implementation Roadmap

This roadmap identifies priority actions that can be advanced within 12 to 18 months to move from policy recommendations to operational climate-resilient land use planning, flood zoning and development control.

11.1 Establish an Infrastructure Resilience Coordination Taskforce

Within the first 12 to 18 months, Government should establish an Infrastructure Resilience Coordination Taskforce to coordinate climate-resilient land use planning, flood zoning, infrastructure standards and development control. The taskforce should bring together physical planning, water resources, disaster risk management, climate services, environmental regulation, construction regulation, local councils and customary land governance institutions.

The taskforce should define priority actions, assign institutional responsibilities, agree data-sharing protocols, guide pilot implementation and monitor delivery of the recommended reforms.

The taskforce should also prepare binding operational protocols for joint review, shared document management, risk-based inspection and co-certification of high-risk land use, infrastructure and building applications. This responds to workshop concerns that overlapping mandates can delay approvals without necessarily improving resilience outcomes.

11.2 Finalise MEPA Climate Risk Guidance

MEPA should finalise and gazette practical guidance on climate risk integration in ESIA and SEA. The guidance should specify when flood hazard screening, drainage assessment, climate projections, ecosystem sensitivity analysis, cumulative impact assessment and adaptation measures are required.

The guidance should also define how ESIA and SEA findings should be translated into planning permission, subdivision approval, building permit conditions, infrastructure siting decisions and compliance monitoring.

11.3 Consolidate National Flood and Climate Datasets

NWRA, DoDMA, DCCMS, MEPA, CIRA, the Department of Physical Planning and councils should consolidate available flood hazard maps, flood lines, hydrological records, rainfall intensity information, climate projections, disaster loss records, environmental sensitivity data and land records into a shared planning dataset.

The dataset should be quality controlled, periodically updated and made available in GIS-ready formats for use in physical development plans, zoning maps, development approval screening and infrastructure design.

11.4 Pilot E-Permitting and LIMS Integration

Pilot integration of LIMS, e-permitting and flood zoning maps should be undertaken in Lilongwe, Karonga and Phalombe. The pilots should allow planning and building applications to be screened against flood overlays, wetlands, drainage corridors, river buffers, lakeshore protection zones, dambos and other climate-sensitive land categories before approval.

The pilots should generate lessons for national scaling, including institutional workflows, data requirements, referral procedures, system ownership, compliance tracking and public access to approved zoning information.

11.5 Prepare Model Flood Zoning By-Laws

Model city and district flood zoning by-laws should be prepared for adaptation by councils. The model by-laws should define no-build zones, conditional development zones, drainage

reserves, riparian buffers, wetland and dambo protection zones, lakeshore protection areas, minimum platform levels, flood-compatible uses, enforcement powers and penalties.

The by-laws should also clarify the roles of councils, Traditional Authorities, CLCs, CLTs, Civil Protection Committees, ADCs and VDCs in flood risk-informed land use governance.

11.6 Update Technical Standards

Technical standards should be reviewed and updated for drainage design, IDF curves, culverts, bridges, road crossings, foundation design, erosion protection, finished floor levels, platform elevation, stormwater management and climate-resilient infrastructure siting.

The updated standards should be linked to official flood hazard information and should be applied consistently in planning permissions, infrastructure investment decisions, building approvals and construction inspections.

Priority should be given to developing district flood maps and related design references before prescribing binding elevation thresholds. Where flood-compatible construction is allowed in conditional development zones, standards should also address local material availability, transport costs and practical construction capacity so that requirements are enforceable in both urban and rural areas.

11.7 Train National, Council and Community-Level Actors

A structured training programme should be rolled out for councils, planners, engineers, building inspectors, environmental officers, disaster risk officers, Traditional Authorities, CLCs, CLTs, Civil Protection Committees, ADCs, VDCs and artisans.

Training should also include councillors, Members of Parliament, private developers, contractors and community structures where their decisions influence settlement, construction

and enforcement. Workshop feedback indicated that political pressure, limited awareness and weak community monitoring can undermine otherwise sound standards.

Training should cover climate risk screening, flood hazard interpretation, GIS use, hydrology basics, development control, by-law enforcement, ESIA/SEA linkage, community consultation, drainage protection and climate-resilient construction practice.

11.8 Publish Annual Resilience Performance Reports

Government should publish annual resilience performance reports to track progress in codifying climate change into land use planning and flood zoning. The reports should document flood zoning coverage, approval decisions screened against flood maps, enforcement actions, training completed, datasets updated, by-laws adopted and infrastructure investments aligned with approved spatial plans.

Annual reporting would improve transparency, maintain institutional accountability and provide evidence for refining regulations, standards and implementation priorities.

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13. Appendices

Stakeholders consultations

Name	Institution/Position	Discussion
Mrs Ellah Madinga	Malawi Housing Cooperation	• The Malawi Housing Corporation (MHC) was established by an Act of Parliament to develop and allocate plots. MHC also manages the estates it has developed. • The Malawi government provides land plots to the MHC that are deemed safe for development. In the land development process, we typically consider flood risks by offsetting from the centre of the river, with offsets generally ranging from 7.5 to 15 metres from the river's centre. • Currently, there is no scientific data used to determine these offsets, as they are primarily based on the characteristics of the river being assessed. • We do not have established standards for developing our plots that incorporate climate change considerations; we only reserve 20 to 30% of land for recreational purposes when establishing a settlement. • At present, our areas of development have not been significantly affected by flooding, though wind has impacted some of our sites. • A significant challenge we face when allocating plots to individuals is that they often develop beyond the designated building lines, sometimes encroaching on river reserve areas. We lack control over these developments, particularly in enforcing planning regulations such as zoning. • We see opportunities within climate change policy projects, as some areas require assessment regarding their vulnerability to climate change. • The primary challenge related to climate change is the lack of accessible data, as such information is not readily shared with us. The MHC has lost some properties to encroachers, particularly in the Senti area of Lilongwe. • The MHC requires support, particularly in training personnel to effectively utilise data, such as flood data. Without this training, we will remain unable to leverage such data, continuing our operations as usual due to a lack

Name	Institution/Position	Discussion
		of expertise in understanding flood information. • Our mandate does not include direct engagement with vulnerable communities, yet their circumstances impact our operations, and we often resort to legal action to address issues that arise. • The MHC is collaborating with the private sector to invest in the built environment. • We need to begin harmonising our operations to incorporate climate change considerations. It is essential to establish a mandatory percentage of land designated for climate change initiatives, and the government should allocate funds to develop areas earmarked for climate-related projects, such as parks and recreational spaces. • We need to align all legislation and policies with national adaptation plans and other climate change instruments.
Valentine Mitunda	Construction Industry Regulatory Authority – Compliance Officer	• CIRA sites are represented on the planning committees of all councils across the country to contribute to land use planning, rather than flood risk management. • CIRA approves all construction projects in terms of project management compliance, which includes reviewing contractors, consultants, and ensuring that buildings have the necessary approvals from other authorities. • CIRA registers every project in Malawi to ensure compliance, collect revenue, and verify that construction materials are environmentally friendly, alongside overseeing contractors and consultants. • CIRA still has gaps in the district councils but actively participates in all city councils. • CIRA is undergoing reforms to ensure that it can engage with all stakeholders and projects in Malawi through a new mandate established by recent legal instruments. • The authority has been operating with a single director; however, it is now increasing the number of directors and managers to enhance its reach. • No project will commence without CIRA's involvement, although currently this is not the case, as many projects are ongoing without CIRA's oversight, often without signage.

Name	Institution/Position	Discussion
		• There have been instances in Mzuzu where a structure deemed dangerous to the public was ordered to be demolished. • We have been implementing sustainable materials with a focus on fired bricks, but we now need to include timber, which is contributing to environmental degradation through deforestation. • We hold an annual joint consultation meeting that includes ministries, the Malawi Housing Corporation, consultants, contractors, and educational institutions. • We need to include the Environmental Affairs Department (EAD) and the Malawi Environmental Protection Agency (MEPA) in future meetings. • Currently, we have a toll-free contact number for reporting corruption, but not for addressing other grievances. • At present, the country does not have established building standards, but we do have a draft building code. • We need to ban construction in flood risk areas, and if construction is permitted, we must specify the types of construction materials and structures suitable for flood plains.
Fred Nankuyu	Lilongwe City Council	• The council is responsible for land use planning in the city of Lilongwe. We develop, approve, and implement land use planning through development control and enforcement. • The powers are delegated authority through the Ministry of Lands, and the city is also responsible for flood risk management through DODMA. • We utilise the master plan and land use planning as our guidelines in the development of the city. • Additionally, we maintain disaster risk management plans. • Coordination occurs through planning committees at both the council and ward levels. Unfortunately, the latter has yet to be constituted due to recent elections; there is a need to engage with these communities to select new committees. • We also adhere to the Environmental Management Act to comply with environmental issues, and significant projects are referred to MEPA for Environmental and Social Impact Assessment (ESIA).

Name	Institution/Position	Discussion
		• There is a conflict in land management in Malawi, as we have three land authorities: the Ministry of Lands, Malawi Housing, and local councils, which creates issues and conflicts. • We also face challenges regarding flood data, as we rely on historical information from residents rather than scientific data. • The most significant challenge concerning land use in Malawi is that many individuals are unaware of the laws, which affects the council's ability to enforce regulations. • We require a planning system that includes comprehensive consultations with all stakeholders. • Disaster Risk Management (DRM) is a delegated role without a corresponding budget, making it difficult for councils to allocate necessary funds. • Informal settlements also impact our planning, as chiefs are allocating land to developers in sensitive areas, such as riverine zones and other critical locations. • We primarily depend on development partners to finance our activities, given the limited resources available from the government. Currently, we are collaborating with Concern Worldwide, which is financing awareness initiatives in the city regarding DRM. • We need training on the comprehensive use of scientific data, such as flood models and inundation studies, to better understand flood dynamics. • Moreover, we require accurate flood maps to comprehend flood dynamics, as we are currently making decisions based on estimations rather than scientific evidence related to flooding.
Ephod kachigwada Daniel Magombo CHIBANI Davie Davie Chibani	DODMA	• DODMA operations are governed by the DRM Act of 2023. • On land use, we encourage planning to be in line with the disaster risk Mult hazard atlas available at http://malawi.is-portal.org/#/map-viewer. • We also relocate those who are living in areas with high flood risk hazards. • Our officers at the district level participate in planning, but not at the national level. • DODMA has flood data that planning can utilise at all levels.

Name	Institution/Position	Discussion
		• We use both scientific and community knowledge to project hazard areas. • We also conduct participatory vulnerability and hazard assessments. • Our hazard maps are for three return periods: 1:5, 1:100, and 1:500. • We need more technical capacity, especially modelling know-how, in order to understand flood dynamics. • We need training in modelling so that we can use the data we have to test assumptions rather than waiting for consultants to do it for us. • DODMA uses existing grievance mechanisms for social programmes in Malawi. • DODMA has awareness campaigns through radio where we educate people on the dangers of committing crimes under the DRM Act. • DODMA recommends that planning should only be done in consultation with Mult hazard maps for floods.
Jairos Lungu	Department of Physical Planning	• The department serves as the policy holder for land use planning in Malawi. Our role involves collaborating and harmonising with other departments and institutions to align policies across the country. • The department works closely with the Department of Disaster Management Affairs (DODMA) on disaster-related issues. • Our primary policy framework is the National Land Policy of 2002, alongside other policies currently under development concerning housing and physical planning. • We also collaborate with water resource authorities to utilise their data in guiding land use planning development. • We employ offsets to determine flood lines, except in the case of the lake, where we use a contour line. • We face challenges with surveys, as our offsets begin at the banks while their surveys utilise the centreline, leading to miscommunication. • In unplanned areas, we often rely on community memory to delineate safe and unsafe zones, which is inherently limited. • The planning committee that is currently active operates at the local government level; there has been little activity at the national level for some time.

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		• The physical planning team participates in the annual CIRA meetings and also attends the urban forum. • During disasters, the department engages in the shelter cluster. • Currently, the department is not yet aligned with the National Adaptation Programme (NAP) or disaster risk management protocols. • The most significant challenge we face is that, while we have comprehensive policy documents, implementation remains problematic. For instance, since the enactment of the act in 2016, there has been little progress in developing physical planning documents at both national and district levels to reflect the new policies advocated in the act. • The department lacks the capacity to manage flood data effectively; we require training and additional human resources. • Policy should prioritise the coordination and integration of flood risk considerations into zoning practices.
Mrs Keenness Mangànda	DCCMS	• The DCCMS is mandated to disseminate early warnings and provide climate projections. The department supplies data for assessments, identifies potential risk areas, and determines return periods for flooding. • For larger projects, we provide data utilised during Environmental Impact Assessments (EIA) to establish baseline precipitation and general weather information. • The mapping is conducted by the Department of Water Resources, while our department supplies the data that feeds into this mapping process. • Currently, climate risk mapping is only available for Mulanje, Phalombe, Chikwawa, Nsanje, and Zomba. We have yet to extend this mapping to the rest of the country. https://www.metmalawi.gov.mw/products/risk-climate-maps/ • The mandate to collect riverine information lies with the Department of Water Resources, which complicates our access to this essential information. Although the DCCMS is responsible for producing early warnings, the actual data resides with Water Resources, creating significant challenges. • Many infrastructure projects do not incorporate meteorological data that could assist in

Name	Institution/Position	Discussion
		planning and identifying suitable months for development. Consequently, this oversight leads to construction in vulnerable areas. • There is a pressing need for strict policies regarding flood lines to prevent construction in at-risk locations. • The department will require resources to finalise climate risk mapping across all districts in Malawi. • Additionally, there is a need for increased awareness in all districts.
Godfrey Kalenga And Davies Chogawana	MEPA	• The key takeaway from MEPA consultations is that flood risk and land use control in Malawi are currently addressed mainly through project-based environmental regulation rather than through spatial planning and zoning systems. MEPA's primary contribution lies in reviewing and approving ESIA's and ESMPs, where flood risk, buffers, and mitigation measures are assessed on a case-by-case basis. In the absence of gazetted flood hazard maps and binding flood zoning regulations, ESIA processes have become the de facto mechanism for managing flood risk, despite not being designed to substitute for statutory land use planning. • The interviews highlight that climate and flood risk considerations are not consistently translated into enforceable land use decisions. While MEPA requires developers to identify flood hazards and propose mitigation measures, these requirements are not uniformly linked to development permission, subdivision approval, or construction control by planning authorities. As a result, climate and flood risk analysis often remains advisory rather than binding, particularly in informal and customary land areas. • A further key finding is the fragmentation of institutional coordination and data use. MEPA coordinates with water, disaster management, and planning institutions through technical reviews and committees, but data sharing and joint decision-making remain ad hoc. National flood and climate datasets exist, but they are not standardised, centrally enforced, or routinely embedded in planning approvals at district and city levels. • The consultations also underscore capacity and resource constraints as a major limiting factor.

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		MEPA and councils face shortages of technical staff, limited flood modelling and GIS capacity, and inadequate resources for monitoring and enforcement. Political pressure, land scarcity, poverty, and informal settlement growth further weaken compliance, especially in flood-prone areas. • Overall, MEPA's contribution demonstrates that environmental regulation alone cannot manage flood risk effectively without complementary land use planning tools. The interviews reinforce the need to gazette climate-risk guidance, standardise flood hazard assessment, and formally link ESIA outcomes to zoning, permitting, and enforcement systems. This would shift flood risk management from reactive, project-level mitigation toward proactive, spatially informed land use governance. • Gaps identified by MEPA in land use planning and flood risk management ○ Flood risk is addressed mainly through project-level ESIA review rather than through statutory land use planning, zoning, and development control. ○ Absence of gazetted national flood hazard maps and legally binding flood zoning limits consistent decision-making across councils. ○ Climate and flood risk analysis in ESIA and SEA is not standardised and relies on project-specific assumptions submitted by proponents. ○ ESIA mitigation measures are not consistently linked to development permission, subdivision approval, or construction enforcement by planning authorities. ○ Weak institutional coordination among MEPA, planning authorities, water resources, disaster management, and local governments, with data sharing remaining ad hoc. ○ Limited technical capacity at national and local levels, including shortages of trained staff, GIS and flood modelling expertise, and monitoring resources. ○ Inadequate and fragmented flood, climate, and land use data, with no

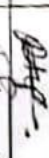
Name	Institution/Position	Discussion
		single authoritative dataset routinely applied in planning and permitting. ○ Informal settlements and customary land allocation often fall outside formal planning and regulatory frameworks, increasing flood exposure. ○ Insufficient and unpredictable financing for land use planning, flood risk management, and enforcement activities. • MEPA recommendations emerging from the consultations ○ Gazette standardised climate and flood risk guidance for ESIA and SEA, including mandatory screening checklists and minimum modelling requirements. ○ Develop and formally adopt national flood hazard maps and require their use in land use planning, zoning, and development permissions. ○ Strengthen legal linkage between ESIA approvals and planning and construction permits to ensure climate and flood mitigation measures are enforceable. ○ Institutionalise inter-agency coordination mechanisms for joint review, data sharing, and decision-making on flood-prone developments. ○ Build technical capacity in climate risk assessment, flood modelling, and GIS at MEPA and council levels through targeted training and resourcing. ○ Improve access to and standardisation of flood, hydrological, and climate data across institutions. ○ Integrate flood risk considerations into statutory physical development plans and local by-laws. ○ Increase and stabilise financing for land use planning, flood risk management, and compliance monitoring to support sustained implementation.

List of participants

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ENVIRONMENTAL AFFAIRS DEPARTMENT
ATTENDANCE REGISTER: VALIDATION WORKSHOP ON GUIDELINES FOR LAND USE
PLANNING, FLOOD ZONING AND STANDARDS FOR BUILT ENVIRONMENT MEETING
HELD ON 23RD JULY 2026.

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