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**Aims and scope:** The *Western Indian Ocean Journal of Marine Science* provides an avenue for the wide dissemination of high quality research generated in the Western Indian Ocean (WIO) region, in particular on the sustainable use of coastal and marine resources. This is central to the goal of supporting and promoting sustainable coastal development in the region, as well as contributing to the global base of marine science. The journal publishes original research articles dealing with all aspects of marine science and coastal management. Topics include, but are not limited to: theoretical studies, oceanography, marine biology and ecology, fisheries, recovery and restoration processes, legal and institutional frameworks, and interactions/relationships between humans and the coastal and marine environment. In addition, *Western Indian Ocean Journal of Marine Science* features state-of-the-art review articles and short communications. The journal will, from time to time, consist of special issues on major events or important thematic issues. Submitted articles are subjected to standard peer-review prior to publication.

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# Leveraging integrated spatial planning for sustainable regulation of coastal tourism activities in Malindi town, Kenya

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## Abstract

Unprecedented demand for both land and ocean space within the coastal zone to support tourism has continued to negatively impact the coastal marine environment leading to degradation. Poorly planned and regulated tourism activities on land and sea have led to degradation of environmentally sensitive marine areas, encroachment on public beaches, erosion of the shoreline and blockage of public access points to the beaches. These impacts transcend the land and ocean continuum necessitating the need for regulation. Spatial planning is one of the key tools that provides a pre-emptive strategic framework for regulating tourism uses so as to prevent harmful development and mitigate the impact of potentially polluting activities. However, spatial planning as applied in Kenya has focused on the regulation of physical developments on land such as the construction of hotels but not on the related tourism activities that emanate from such developments. In this case, activities that tourists engage in outside of the physical hotel structure such as swimming, leisure walks, sport fishing, souvenir collection, and snorkeling are not the subject of spatial planning leading to unsustainable use within the coastal zone. This study makes a case for adopting an integrated spatial planning approach as a lever for regulating tourism activities within this expanded lens, beyond just the buildings and activities that take place within the hotel establishments. The spatial planning approach would include a holistic regulation of coastal tourism activities within both terrestrial and marine spaces in order to attain sustainable management of the marine ecosystem.

**Keywords:** Tourism, Spatial Planning, Blue Economy, Coastal Zone, Pollution, Kenya, Malindi

## Introduction

Despite coastal zones being recognized as highly productive ecosystems, they continue to face degradation and pollution mainly from anthropogenic activities (UNEP, 2006). The coastal zone refers to the land, sea and atmosphere interface (FMI, 2018), and is defined as “the geomorphologic area where the land interacts with the sea and comprises of both terrestrial and marine areas with coexisting biota and abiotic components” (NEMA, 2017). The coastal zone has natural systems that offer essential goods including gas, minerals, oils, fish and services such as space for recreation, and natural safeguarding of the beaches from storms and tidal waves (FMI, 2018). Coastal resources such as mangrove forests trap sediments from inland areas decreasing the chances of siltation of seagrass

and coral reefs and also regulate freshwater output through evapotranspiration (Muigua *et al.*, 2015). According to UNEP (2006) more than one third of the total population in the world reside in coastal areas and on small islands, which constitute about 4 percent of the planet’s total land area.

Coastal zones are therefore essential for the realization of a sustainable blue economy for the countries and populations that depend on it. Within the coastal zone, the blue economy encompasses a sustainable ocean-based economic model that is largely dependent on coastal and marine ecosystems and resources (UNDP, 2018). Thus, the concept of blue economy within the coastal zone includes all activities that explore and develop ocean resources,

use ocean space, protect the ocean environment, use ocean products as a main input and provide goods and services to support ocean activities. In specific terms, the coastal zone blue economy includes activities such as tourism, mineral exploration, aquaculture, fisheries, mariculture, port development and maritime security (UNECA, 2016a). In Africa, the ocean resource base in the 38 African coastal states includes a geographical jurisdiction of about 13 million square kilometers including territorial seas and Exclusive Economic Zones [EEZ] (UNECA, 2016a). A sustainable blue economy refers to freshwater and maritime economic activities that contribute to the overall sustainability of lakes, rivers, oceans, seas and coasts (UNECA, 2016b).

Tourism has evolved across the globe to become one of the most dynamic, diverse and expansive blue economy sectors of the 21<sup>st</sup> century (UNWTO, 2015a). The same situation is evident in Africa where coastal tourism is one of the main driving sectors of the blue economy followed by oil and gas, minerals, blue carbon, and fisheries (AU-IBAR, 2019). The global tourism sector contributes approximately 10.3 per cent to the global GDP, accounting for some 300 million jobs (WTTC, 2020a). Similarly, Africa's tourism sector contributes around 7.1 per cent to the continent's GDP, employing some 24.6 million people (WTTC, 2020b). The continent is now regarded as the world's second fastest growing tourism regions, after the Asia-Pacific (Töre, 2019). According to the Africa Blue Economy Strategy, coastal tourism is estimated to grow in value from about US\$ 80 billion in 2018 to about 140 billion in 2030, and 180 billion by 2063 (AU-IBAR, 2019).

The Western Indian Ocean (WIO) region's economic value in terms of coastal and marine tourism represents about 69 per cent (US\$14.3 billion annually) of ocean output, making it the largest economic contributor to the WIO's economy (Obura, 2017). This includes coastal tourism within the 10 countries of the WIO region; namely Somalia, Kenya, Tanzania, Mozambique, South Africa, Comoros, Seychelles, Madagascar, Mauritius and France's Reunion Island (Obura, 2017). Kenya, in its economic blue print named Vision 2030, identified tourism as one of the sectors to spur growth and development in its quest to transform into a newly industrialising, middle-income country providing a high-quality life to all its citizens by the year 2030 (GOK, 2007). This is because tourism contributes about 10% to GDP and 9% of total formal wage employment (JICA, 2018). Tourism is

Kenya's third largest foreign exchange earner after tea and horticulture. According to the Kenya National Bureau of Statistics, tourism earnings grew by 3.9 per cent from KSh 157.4 billion in 2018 to KSh 163.6 billion in 2019 (KNBS, 2020). This contribution to the country's GDP emanated from its five tourism destinations including the Coastal, Central highlands and Rift Valley Region, Western, Northern and Southern circuits (GoK, 2015). Among the five tourism destinations, coastal tourism is the most vibrant and preferred by visitors as demonstrated by the highest proportion of hotel bed-nights occupancy at 38.2 per cent (KNBS, 2020). Kenya's coastal tourism destination includes a coastline that stretches over 536 km along the Indian Ocean covering a total land area of 569,140 sq. km (GoK, 2009; FAO, 2018).

Tourism constitutes a vital developmental aspect in coastal areas, characterized by leisure and recreationally-oriented activities that occur in the land-sea interface and in offshore coastal waters (Polyzos and Tsiotas, 2012). The dominance of tourism in the coastal zone arises from natural, unblemished scenery, mountains, beaches, traditional historical picturesque towns and villages as well as historic monuments (Vehbi, 2012). However, the rising levels of tourism growth within the coastal zone degrades the fundamental ecological resources on which tourism is dependent; largely due to competing needs. The massive demand of coastal space has resulted in an increase in the number of actors such as the local population, businesses, tourists, local authorities as well as national government agencies (Kiousopoulos, 2010). This massive demand leads to space contestation which in turn leads to degradation, especially when there is no deliberate spatial planning mechanism to structure the various land and sea uses. Inadequate planning controls is one of the core factors triggering degradation and alteration of the natural environment within the coastal zones (Vehbi, 2012).

Spatial planning provides one of the key approaches that is essential in the sustainable management of the coastal zone. Spatial planning is a public and political process of examining and allocating the spatial and temporal distribution of human activities (Hoi and Hein, 2014). Spatial planning stretches past "traditional" land use planning and outlines a strategic framework to guide impending development and policy interventions whether or not these are related to formal land use control (Okeke, 2015). According to Hersperger *et al.* (2018), spatial planning is wider

in scope and includes four main typologies; project-master-, land-use- and strategic planning. Spatial planning involves the integrated and rational intervention in the distribution of both the land and sea regions for a number of functions, considering socio-economic development and environmental needs (COBSEA, 2011). Spatial planning has a major role in enhancing the local and natural environment by averting both new and contemporary development from being placed at undesirable risk from, or being harmfully impacted by, unacceptable levels of soil,

public participation in the process of spatial planning. The substantive aspects involved assessment of data on specific spatial planning tools applied in the regulation of land uses within the coastal zone. Using Malindi Town as a case study, it is argued that spatial planning has not been effectively applied due to the lack of an approved spatial plan targeting regulation of tourism activities within both the terrestrial and marine area in Malindi, and disproportionate focus on regulating land-based physical tourism accommodation facilities without concomitant attention to

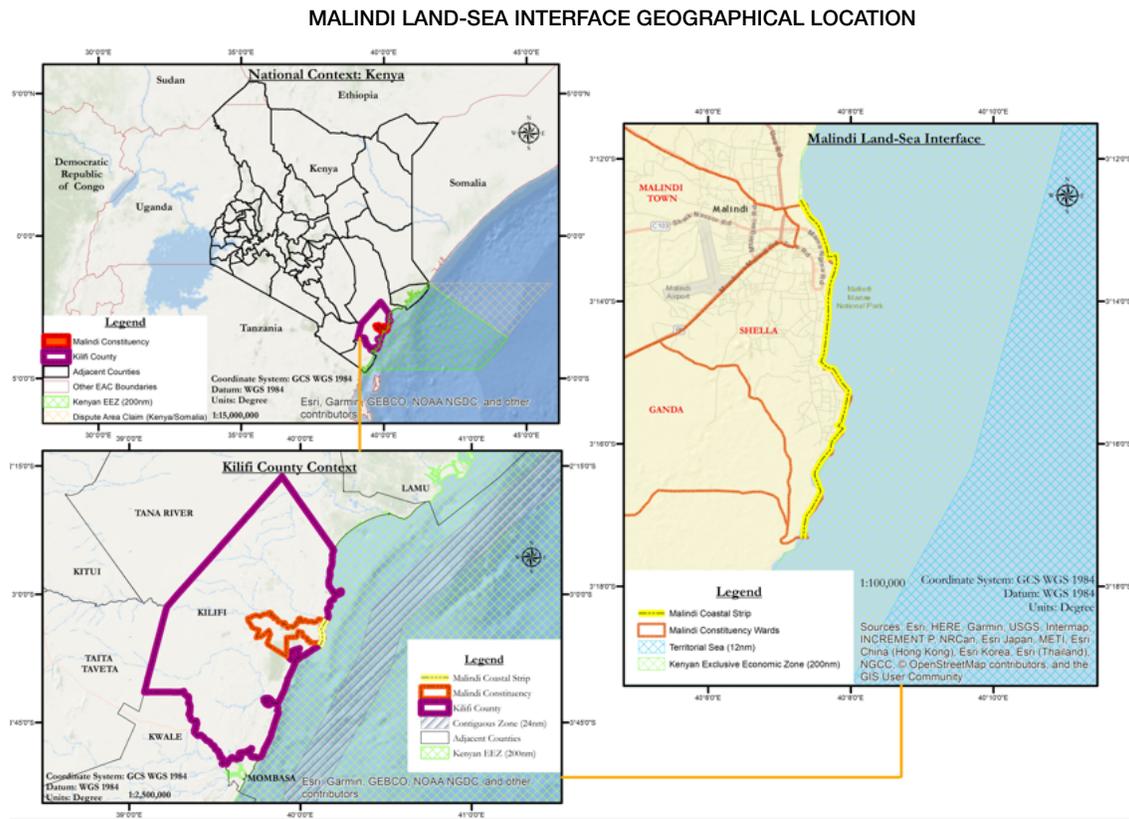


Figure 1. Map of the study area showing Kenya, Kilifi County and Malindi.

air, water or noise pollution (Westminster City Council, 2014). Spatial planning contributes to the harmonization of sectorial plans and strategies that respond to uses within a similar geographical area. It also goes beyond providing guidelines on physical developments on land to integrate these developments into the wider natural environment.

In this paper, both procedural and substantive aspects of spatial planning are assessed as applied in the regulation of tourism activities within the coastal zone in Kenya. The procedural aspects assessed include the institutional framework for planning and

auxiliary tourism activities such as snorkeling, souvenir collection, leisure walks and swimming, and poor institutional coordination. It is argued that there is need for a review of the current planning approach to incorporate a more integrated framework to ensure sustainable management of the coastal zone.

**Materials and methods**

The study area was restricted to Malindi which is one of the towns located within the coastal zone of Kenya. Other towns on the coast include Mombasa, Kilifi, Watamu and Lamu. Malindi is located in Kilifi County, which is one of the 47 counties comprising

the territory of Kenya. The Indian Ocean is a major feature in Malindi with a coastline of about 155 km running from Mida to Ungwana. Malindi lies between latitude 2°20' and 4° South and longitude 39° and 4° East (Kitsao, 2010). It has an outstanding history dating back to the 14<sup>th</sup> century which attracts significant tourism. Some of these historical attractions include the Vasco Da Gama Pillar and the Portuguese Chapel. Malindi also has a rich repository of creeks, coral reefs, silvery white sand beaches that are lined up with palm trees, and marine parks and mangrove forests which have social, economic and environmental significance.

Using a mixed research design, data was collected on tourist facilities within the coastal zone in Malindi, the spatial planning tools used to regulate these touristic activities, the process of spatial planning, and the roles of various institutions involved in the regulation process. Data collection involved integration of quantitative and qualitative methodologies in the research process (Terrell, 2012). This mixed approach was useful for the purposes of ensuring that all research questions were answered and for triangulation of findings (Omukoto *et al.*, 2018). Data was collected through document analysis, questionnaire administration, key informant interviews and participant observation. Document analysis involved developing a thorough understanding and scholarly critiques of specific written materials (Mugenda, 2013). These included published reports, journal articles, case law, policies and legislations.

A semi-structured questionnaire was used to collect quantitative data from tourism activity managers/owners in hospitality facilities such as beach hotels and holiday apartments. The questionnaire covered areas such status of application of spatial planning, challenges and suggestions for improvement. This study administered 46 questionnaires to hospitality facilities. A structured interview guide was used to collect qualitative data from 5 key informants. The interviews were conducted face to face. The key informants interviewed were the Kilifi County Physical Planning Officer, the Kilifi County Fisheries Officer, the Kilifi County Land Surveyor, the Warden in Charge of Malindi Marine Park, and the National Environment Management Authority, Kilifi County. These interviews were conducted within the months of June and July 2019. Qualitative data was also collected using 3 focus group discussions with fishermen, Beach Management Units, and boat operators.

## Results and Discussion

### Types of Tourism Activities within the Coastal Zone in Malindi

Tourism is defined as the set of permissible activities visitors get involved in by reason of their movements, including the attractions and the means that originated them, the facilities created to satisfy their needs and the economic, social, cultural, psychological, political, geographic and environmental phenomena as well as relationships resulting from all of the above (Cunha, 2014). Tourism is therefore an interrelated system of demand (international tourist markets, domestic tourist markets and residents' use of tourist attractions, facilities and services) and supply factors (attractions and activities, accommodation, other tourist facilities and services, transportation and other infrastructure) (UNWTO, 1994). Coastal tourism takes place within a unique resource combination at the interface of land and sea which has amenities such as water, beaches, scenic beauty, rich terrestrial and marine biodiversity, diversified cultural and historic heritage (UNEP, 2009). This form of tourism involves both consumptive activities such as fishing, shell and coral collection and non-consumptive activities such as swimming, diving, boating, surfing, wind-surfing, jet skiing, bird watching, and snorkeling (UNEP, 2009).

As a result of the accumulated effects on tourism, the coastal zone experiences biodiversity reduction, resource depletion and human health problems. Kenya's coastal tourism continues to experience a proliferation of tourism activities estimated to be a key user of the coastal zone at 45% (GoK, 2009; FAO, 2018). These activities which include accommodation, tourist attractions such as national parks, reserves and coastal beaches, food and beverage facilities, snorkelling, swimming, recreational fishing, leisure walks, collection of corals and tour services have an impact on the sustainable use of the coastal zone. Oyieke (2001) observed that Kenya's coastal zone has an array of tourism activities which generate challenges that include habitat degradation and unsustainable utilization of natural resources.

Accommodation facilities, which include serviced apartments, beach hotels, restaurants, health and spa resorts, private residences and member's clubs, are the major tourism use of the coastal zone within Malindi. Assessment of the classification of these accommodation facilities demonstrated that 68 percent of them were above the 3-star level. Hotel classification, which involves ranking by use of nomenclature such as

stars or diamonds, is used as an indicator of the level of service and standards found within an individual establishment (UNWTO, 2015b). For example, one star denotes basic facilities while five star denotes luxurious facilities and services (UNWTO, 2015b). While hotel classification is mainly used as an indicator by potential guests on what to expect, they also implicitly demonstrate the level of pollution emanating from such establishments. In a study of the impacts of solid waste pollution from beach hotels on the Kenyan South Coast, Muthini *et al.* (2003) note that there is a correlation between the amount of waste generated by the beach hotels and their level of classification and bed occupancy rates.

In addition to their primary function of accommodation and related to their classification levels, tourism accommodation facilities in Malindi also offered extra services. Approximately 60 percent of the facilities offer swimming pool services which emerged as the main type of amenity among categories of extra services. Other types of extra services offered by the tourism establishments included spas offered by 20 percent of facilities, laundry services together with a convenience shop each offered by 8 percent, restaurants and tennis courts offered by 2 percent while the rest did not have any additional amenities. Depending on the nature of these additional services, they add to the polluter effect of the general establishment. According to Rajak (2019), this is due to concentration of human and machine activities to support these additional services such as additional air conditioning, automobile emissions from generators and increased solid and liquid waste from restaurants, spas, laundries and swimming pools.

Snorkelling offers tourists an opportunity to sample the natural resources underneath the ocean surface but also contributes to its pollution and degradation. It provides a distinct way for tourists to observe coral reefs, mudflats, mangroves, sea-grass beds and the diverse species of fish found in the waters of the Indian Ocean at Malindi. It is a tourist activity undertaken mainly in Malindi Marine Park offered by the local tourist operators under supervision of the KWS warden. Divers and snorkelers cause degradation of reefs through damage from fin kicks, pushing or holding coral, dragging gear, and kneeling/standing on coral (Roche *et al.*, 2016).

Recreational fishing constitutes another tourist activity. It involves “fishing of aquatic animals that does not

constitute the individual’s primary resource to meet nutritional needs and are not generally sold or otherwise traded on export, domestic or black markets” (FAO, 2016). The Malindi Fisheries Resource Officer reported that recreational fishing is mainly undertaken by foreign tourists who hire boats for their fishing expeditions. Apart from the direct impact on fish resources, this tourism activity contributes to degradation of the land-sea interface through damage to coral reefs due to anchoring of boats, pollution through littering in the ocean and loss of scenic beauty due to indiscriminate anchoring and abandoned boats. According to Reef Resilience Network (2020), boat anchors within areas of heavy recreational boating can cause considerable damage to coral reefs through coral breakage and fragmentation.

Swimming and leisure walks are core tourism activities that also contribute to pollution of the land-sea interface. As one of the oldest coastal tourist areas in Kenya, the Malindi land-sea interface offers swimming as a coastal recreational activity carried out on Malindi beach, in Malindi Marine Park and tourism hospitality facilities such as serviced apartments and beach hotels. Malindi beach has golden-brown sand where may tourists enjoy leisure walks. Swimming and leisure walks contribute to the degradation of coral reefs through trampling especially in areas with high human use. Similar findings were reported in a study in the United States that argued that damage of coral reefs is found at shoreline access points where people stand or walk to enter or exit the ocean water (Waddell, 2005).

Vending of curios made from corals is also an important tourism-related economic activity within coastal regions but also leads to degradation of the coral reefs. Curio vending in Malindi is mainly an afro-craft outdoor tourist activity located along the land-sea front characterized by existing curio stalls and vending shops where tourists buy an assortment of souvenir items. The collection of corals for curios and souvenir purposes may lead to conservation challenges as reported by the United Nations Environment Programme study on marine and coastal area problems in Bangladesh (UNEP, undated).

As tourism increases, there is an increase in coastal user conflicts, and greater stress is placed upon the environment on which it depends (Omboga, 2000). The increased development of accommodation facilities within the fragile coastal and marine ecosystem has led to the destruction of coral reefs, lagoons, and

sandy beaches (GoK, 2009; 2012). More often than not these tourism activities use the ocean for wastewater disposal thus the potential exists for pollution due to poor waste management (GoK, 2012; Munga *et al.*, 2006). The Museum and the Marine Park attract visitors who stay in the accommodation facilities but contribute to the degradation of the coastal zone by overcrowding, trampling, over exploitation of marine resources and indiscriminately dumping solid waste such as water bottles along the beach as they enjoy their leisure walks. Tourism accommodation facilities have also encroached into the 60-meter setback line endangering the fragile beach and marine ecosystem. Boats used for recreational fishing and tours also need adequate space planned and allocated for docking or when carrying out mechanical repairs in a manner that they do not lead to either visual pollution due to interference of the scenic beauty or pollution from oils used in the engines.

### **Spatial Planning Tools for Regulation of Tourism Activities**

The basic ideology of spatial planning is the control of development on land and sea through rules for land and sea use, including prohibitions and sanctions, that are unambiguous to enable efficacious implementation by enforcing agencies and the courts (COBSEA, 2011). The rules, prohibitions and sanctions under spatial planning are preventive in nature and implemented through tools such as development control permits, zoning ordinance, and building standards usually contained in approved statutory spatial plans (Wehrmann, 2011; Okeke, 2015). Environmental tools including environmental impact assessments (EIAs), plans and environmental audits are also applied concurrently with the tools contained in the spatial plans to regulate physical developments.

Presently, spatial planning tools applicable in Kenya for regulating all land use activities including tourism are based on the national physical and land use development plan, county physical and land use development plans, and local physical and land use development plans, which are prepared for city, municipality, town or urban centre jurisdictions. The provisions for the preparation of these spatial plans and the ensuing tools is contained in Part III of the Physical and Land Use Planning Act of 2019. Accordingly, the spatial plans applicable in Malindi are the National Spatial Plan (NSP) 2015-2045, and the Malindi Physical Development Plan. However, the presence of the Malindi Marine Park which is a Marine Protected Area

has led to the application of a marine management plan as provided in section 44 of the Wildlife Conservation and Management Act of 2013.

The National Spatial Plan (NSP) 2015-2045 approved in 2015, provides a framework for better national organization and linkages between different sectors within the national space. This Plan recognises Coastal circuits as one of the 5 tourism circuits in Kenya. In respect to coastal areas, the NSP calls for strict regulation of marine resources through the preparation of coastal management plans. In addition, it provides that spatial development plans shall be prepared to guide implementation of flagship projects for the tourism sector. Although the NSP serves as a vital spatial planning tool that provides a broad national framework for coastal zone management, it hasn't exclusively stipulated provisions on regulation of tourism activities within the land-sea interface. It has left the focus on specific zoning rules and prohibitions on use and development within the coastal zone to be provided by lower level plans such as the coastal management plans which are yet to be prepared. This means that the NSP is not effective in regulating tourism uses in the coastal zone, and leaves this to lower level plans to provide detailed and specific allocation of user zones, development control guidelines, and building regulations in the Malindi coastal zone.

The other type of statutory plan applicable at the county level is the Malindi Physical Development Plan which was prepared in 1979. The plan has been the basis for regulating spatial activities and uses including tourism within the terrestrial areas of the Malindi Municipality. However, the plan does not zone the allowable uses within the Indian Ocean's territorial zone. Thus, it is vague as to where the demarcation of the land-sea interface begins and ends, and the uses therein. In addition, the plan lacks zoning regulations such as guidelines for specific densities, plot ratios and permissible auxiliary tourist activities. This has limited its efficacy as such regulations are important in providing specific rules and prohibitions to aid in the implementation of the spatial plan. This is because they contain the criteria against which planning applications are assessed and development control permits issued in line with the approved plan. Hence, without such regulations, developers are not clear on the nature and character of allowable development. Moreover, the plan become obsolete in 2009 having been in place for 30 years which is the statutory time limit for a long-term plan.

However, in 2007 the Municipality engaged in an exercise to update the plan by preparing zoning guidelines. The draft 2007 guidelines are currently being implemented in the regulation of uses even though they have not been formally approved as per the requirement of the Physical and Land Use Planning Act 2019. Section 47 of the Act requires public participation, while section 50 requires approval of such guidelines by the respective County Assembly; in this case the Kilifi County Assembly, before being gazetted by the County Executive. Thus, the continued application of unapproved guidelines together with an obsolete plan limits their efficacy as the decisions made by the agency responsible for development control can be challenged in court as being illegal, null and void. In addition, these guidelines make no mention of the undertaking of environmental impact assessments (EIA) before approval of proposed development or commencement of works on site. This limits the vital role of EIA as a tool for evaluating potential impacts of a proposed development and in consequently providing mitigation measures if the project is permitted, as provided by schedule three of the Physical and Land Use Planning Act and section 58 of the Environmental Management and Coordination Act of 1999. These draft zoning guidelines also do not have explicit regulations to ensure orderly development of tourism activities on the sea-front or even the territorial sea.

Another key limitation in the application of the Malindi Physical Development Plan is that it does not apply within the jurisdiction of the Malindi Marine Park which is managed using a different type of plan prepared pursuant to section 44 of the Wildlife Conservation and Management Act (GoK, 2013). The Marine Park is managed using a management plan which is not defined as a spatial plan as per part III of the Physical and Land Use Planning Act 2019. Nonetheless, the management plan provides for the administration of various resources found in the park including fringing reefs, coral gardens in the lagoons, sea grass beds, mangroves, mudflats, marine mammals, turtles and various species of shorebirds. Whereas it provides useful guidelines for tourism activities allowable within the park such as glass bottom boat rides, snorkeling, camping and beach walks, the plan does not have a zoning map and is also not available to the public.

In addition, this management plan only regulates tourism activities taking place within the jurisdiction

of the Marine Protected Area (MPA) in ocean waters and not on land where accommodation facilities are found. The MPA is outside the scope of the Physical and Land Use Planning Act limiting involvement of the County Government of Kilifi in carrying out its development control role as provided by section 56 of the Act. Further, neither the Wildlife Conservation and Management Act or the Physical and Land Use Planning Act provides for, or requires, institutional coordination. This limits utility of the management plan in regulating the entire land-sea interface in Malindi where the majority of other tourism activities occur and which also have an impact on the MPA.

### **Process of Spatial Planning within the Coastal Zone and Challenges Faced**

There are four critical procedures that are important in spatial planning. These include: the intention to plan; formulation of the plan; plan approval; and a mechanism for redress. The process of preparing a spatial plan starts with the issuance of an intention to plan articulated through an advertisement by the owner of the plan (government department, county or agency). The notice is publicly displayed to inform the stakeholders of the commencement of the spatial planning process for a particular geographical scope. The geographical scope is based on a cadastral map which demarcates the area that would be subject to the spatial plan. This is in line with section 15 of the Land Registration Act cap 300, that requires the Director of Surveys to “prepare and maintain a map or series of maps, to be known as the cadastral map, for every registration unit”. In the context of spatial planning for the coastal zone such demarcation provides the foundation of land and sea use by defining property boundaries, parcel shapes, and plot locations (Libecap and Lueck, 2011).

A clearly demarcated boundary is essential for effective division of a state’s administrative responsibility and managing property rights regarding individuals and organizations (Srebro, 2013). The coastal zone requires clarity on boundary demarcation to ensure that the jurisdiction and extent of application of any spatial plan is consistent and clear. More importantly, the Survey Act cap 299 under regulation 110. (1) provides that a strip of land not less than 60 meters in width should be reserved above the high-water mark, held by the State as a public trust and to function as a buffer zone. This study noted a lack of clarity on the demarcation of the extent of the coastal zone in Malindi for purposes of preparation of spatial plans and compliance of tourism

activities with the 60-meter buffer zone. According to the Malindi Municipality Land Surveyor, the Government has not undertaken a survey of the coastal zone to produce cadastral maps which would clearly show the spatial extent of the coastal zone in respect to the 60-meter buffer zone and the territorial sea. This lack of an authenticated cadastral map has negatively affected implementation of spatial planning and development control measures. This is due to lack of a clear legitimately enforceable map that lucidly demarcates the extent and boundary of the three jurisdictions of land, territorial sea and the interface between the two where tourism activities thrive. This was demonstrated by about 96 percent of tourist accommodation facilities being situated within the 60 meters baseline.

Formulation of a spatial plan starts with determining the current situation of the planning area as identified in the notice of intention to plan. The current situation then informs the development of scenarios to illustrate possible future development options based on identified challenges and potentials. Thereafter, strategies, policies and measures to address the challenges, and harness opportunities in order to achieve the stated plan objectives and vision are developed. These proposals (strategies, policies and measures) are represented on maps and in text describing the desired spatial structure. The maps and text constitute the spatial plan as a tool for regulating land uses. In the regulation of tourism uses within the coastal zone through spatial planning, it is important that the strategies in the spatial plan address tourism activities on land, sea and the interface between the land and sea.

However, the spatial plans currently being used in Malindi have a land-based focus, as attested by 97 percent of the respondents managing accommodation facilities. This means that the vast majority of respondents viewed the plans as being unconcerned with tourism issues related to the ocean in Malindi. This phenomenon corresponds to various commentators such as Álvarez-Romero *et al.* (2011), Smith *et al.* (2010) and UNEP (2009) who have noted an unprecedented focus in the regulation of land-based activities while neglecting sea-based activities or even those activities that occur on both the land and the sea. Thus, the Malindi coastal zone is still left highly vulnerable to both single and cross-system threats from tourism activities such as pollution, erosion and encroachment of developments fronting the ocean.

The stage of plan formulation also involves public participation and access to information as provided by article 10 and 35 (3) of the Constitution of Kenya 2010, and under section 23 (1) (c), section 40 and section 55 (1) (g) of the Physical and Land Use Planning Act 2019. Under these sections, public participation is enabled through publication of plan completion notices which allow the stakeholders to access information on the draft plans for comments and input. However, 87 percent of the accommodation facility managers in Malindi asserted that they had not engaged in preparation of any spatial plans. This lack of public participation affects the efficacy of these plans associated with the Malindi land-sea interface, as members of the public are not aware of the regulations and user guidelines that they contain. According to Lausche (2019) and UNEP (2009) the limitation of public participation as well as inadequate consultations fundamentally affects user awareness and comprehension of the spatial plans, further limiting implementation and sound decision making. The lack of adequate public participation affects the sustainable management of the coastal zone in Malindi as the people who carry out tourism activities are not empowered to make sound decisions relating to the use of the space. The lack of adequate public participation limits the integration of local knowledge to inform the planning process, implementation and monitoring of development.

Plan approval involves a number of administrative steps to make the plan legally enforceable. For example, spatial plans that are prepared by the county government are presented to the County Assembly, which is constituted by representatives of the people at the ward level, for debate and approval. Once the County Assembly has approved the spatial plan, it is signed by the Governor on behalf of the County Government and gazetted in both the Kenya Gazette and County Gazette. This makes the spatial plan a legal policy document that can then be used to enforce development control. In Malindi, the spatial plan currently being used to regulate tourism uses has not been approved, as noted by the Municipal Physical Planner.

Mechanisms for redress are important for any spatial planning process as it provides aggrieved parties with an opportunity to challenge decisions relating to preparation and implementation of development plans. In Kenya, the redress mechanism as it relates to spatial planning is through administrative mechanisms as provided under part VI of the Physical and

Land Use Planning Act 2019. The Act provides for the establishment of physical and land use planning liaison committees at the national and county government levels to hear and determine appeals against decisions made by the planning authority. One of the key functions of the liaison committees is to hear appeals in respect to physical and land use development plans. The decision of the liaison committee is to be filed with, and considered as a judgment of the Environment and Land Court in line with section 80 (3) of the Physical and Land Use Planning Act 2019. However, if a complainant is not satisfied with the administrative mechanism in relation to the dispute relating to spatial planning, they can thereafter seek further redress from the Environment and Land Court which has jurisdiction on issues touching on land in respect of its use, planning, possession, control, title, compulsory acquisition or any other dispute as upheld in the case of *Republic v County Government of Nairobi, Kilimani Project Foundation & 21 others* (eKLR, 2020).

#### **Institutional Roles and Responsibilities**

The Constitution of Kenya 2010 redefined the institutional framework for spatial planning and development control. Through this Constitution, Kenyans settled for a multi-dimensional approach to the organization and management of governance and state power and hence the devolved system of government as provided in Article 10(2)(a). Article 175 the Constitution created two levels of government, namely national and county governments. Article 186 assigned functions to the two levels of government, allocated finances to the two levels and demarcated geographical territory for each county. As a result, the preparation of spatial plans which was hitherto a preserve of the national government was devolved, giving county governments more responsibility in the preparation and implementation of spatial plans as provided in the Fourth Schedule of the Constitution of Kenya.

Article 67 of the Constitution also established the National Land Commission (NLC) with the responsibility to monitor and have oversight responsibility over land use planning throughout the country. In relation to the coastal zone, article 62 (3) of the Constitution provides that such land shall be held by the national government and administered by NLC. However, Section 6, 10, and 11 of the Physical and Land Use Planning Act has allocated specific spatial planning roles to other National Government agencies including the

National Physical and Land Use Planning Consultative Forum, the office of the Cabinet Secretary responsible for land and physical planning, and the Director-General of Physical and Land Use Planning.

The National Environment Management Authority (NEMA) is charged with general supervision and co-ordination over all matters relating to the environment in line with Section 7 and 9 of the Environmental Management and Coordination Act (EMCA). NEMA is mandated by section 9 and 12 of EMCA to coordinate various environmental management activities being undertaken by the lead agencies and may direct such agencies to perform such roles as relates to environmental management. Such coordination by NEMA is supposed to realise integration of environmental considerations into development policies, plans, programmes and projects for proper management and rational utilization of environmental resources. Thus, the Authority is mandated to ensure that all proposed developments undergo environmental impact assessment to demonstrate their impacts on the environment. In doing so, the Authority is supposed to ensure stakeholder participation by publishing the report in the Gazette and newspaper to enable persons to submit their comments. The Authority also involves the other sectoral agencies by requiring them to comment on the proposed developments within their areas of jurisdiction.

On the other hand, the County Government of Kilifi has overall responsibility for planning and development control within their area of jurisdiction. In undertaking this mandate the county is expected to perform the functions of formulating county specific policies, strategies and guidelines, preparation of county spatial plans and urban spatial plans, implementation of the plans, undertaking of research on spatial planning within their area of jurisdiction and participating in the preparation of regional spatial development plans. Section 56 of the Physical and Land Use Planning Act 2019 expressly mandates the county governments to carry out development control within their areas of jurisdiction by ensuring that no development is carried out without approval.

However, this responsibility does not extend to the land between the high and low water marks, the territorial sea, the EEZ and the sea bed which constitute the land-sea interface, as these are under the administration of the NLC. The implication of this is that the responsibility of the county to implement spatial

planning starts from the high-water mark, but as noted earlier, the lack of a survey plan demarcating this boundary has led to poor implementation of this role by the County and NLC as demonstrated by encroachment of tourism developments within this space.

Due to the diverse socio-economic activities and natural resources occurring in Kenya's land-sea interface, there are also other sectorial government agencies involved in its planning and regulation. The leading agencies dealing with coastal and marine related issues include: the Kenya Wildlife Service (KWS) which manages Marine Parks and Reserves through preparation of management plans (Malindi Marine Park) in line with the Wildlife Conservation and Management Act No. 47 of 2013, section 6 and 7; the Kenya Forest Service (KFS) who is mandated to conserve, protect and manage all public forests including mangroves such as in the Malindi Mida Creek Mangrove Forest as per the Forest Conservation and Management Act No. 34 of 2016 section 7 and 8; and National Museums of Kenya who are responsible for forests within the coastal zone that are declared as protected areas, and also monuments such as the Vasco Da Gama Museum in Malindi, based on National Museums and Heritage Act No. 6 of 2006 section 25.

The State Department of Fisheries, Aquaculture and the Blue Economy is mandated to develop and implement appropriate legislative measures as well as to enforce the guidelines for sustainable economic development in line with the Fisheries Management and Development Act, 2016. This is under the directive of the Cabinet Secretary responsible for agriculture, livestock and fisheries. In particular, the State Department is to govern mariculture, fishing, inclusive of trawling, and other sustainable tourism activities encompassing the sea grass and coral areas. They therefore control all fishing activities that take place within Malindi Marine Park. With respect to managing fisheries at the County level, the Beach Management Units (BMUs) serve as the main bodies established by the Kenya Fisheries (Beach Management Unit) Regulations, 2007. The BMUs are supposed to co-manage fisheries and associated resources with the aim of reducing degradation, pollution and over-exploitation of coastal and marine resources.

The assessment of mandates of the national government agencies shows overlap with the overall mandate of the county government. For

example, counties have no mandate for marine parks, yet they give development control permits on contiguous land where some of these developments have a direct impact on the sustainable management of the marine park. They also regulate waste disposal from tourist establishments located in the terrestrial space but whose impacts affect marine parks especially when there is illegal discharge of wastewater into the ocean. In addition, the Malindi Fisheries Officer noted that the County government has an essential role in the fishing jurisdiction where the County is expected to provide and regulate fish landing sites. This, the officer argued, is a challenge when the County is not in charge of licensing the various fishing activities including those carried out by tourists. On the same note, the warden in charge of Malindi Marine Park also noted that they face a challenge in regulating sport fishing vessels and gear which are under the jurisdiction of the State Department for Fisheries Aquaculture and Blue Economy.

These institutional challenges are attributed to bureaucratization and fragmentation of government that induces contradictory mandates and goals (Lausche, 2019). This fragmentation results in poor coordination as more actors, i.e. quasi-governmental corporations and private entities, operate in different sectors and levels of government. This consequently leads to weak collaboration in the management of cross-cutting spatial issues of the land-sea interface (Lausche, 2019). This challenge was also noted by Okidi (2008) who argued that there is potential for user conflict within the interface among legally permissible activities such as exploration and production of oil, laying of submarine cables, and mariculture. The current scenario hampers effective management of the interface leading to unsustainable use.

## Conclusion and recommendations

Coastal tourism can be a catalyst for growth and development, but it can also be an engine of destruction and environmental degradation if not properly regulated. Tourism activities occur on both the land and in the territorial ocean space. Activities such as construction of hospitality facilities, curio vending, and leisure walks occur mainly on the terrestrial space, while boat snorkeling, swimming and sport fishing mainly use the ocean space. Some activities use both the terrestrial and ocean space. For example, boats used for fishing and snorkeling require space for docking and space for maintenance and servicing in

the terrestrial space. Whereas accommodation facilities are located on terrestrial space, their impacts traverse both spaces. This demonstrates the need to ensure that the spatial planning applied responds to both terrestrial and ocean space use.

Tourism accommodation facilities are physical developments on land and are thus subject to regulation through spatial planning. This is because they are within the definition of development as provided in the Physical and Land Use Planning Act of 2019. Section 2 of the Act defines development as “carrying out any works on land or making any material change in the use of any structures on the land”. However, other auxiliary tourism activities such as snorkeling, leisure walks on the beach, visitation to the Vasco da Gama Pillar Museum, collection of souvenirs made from corals, recreational fishing, and swimming in the ocean, which are supported by the accommodation facilities, are not subject to regulation by the Planning Act as they do not constitute material change in land use. Nevertheless, these touristic activities in their totality have generated demand for both land and ocean space, creating conflicts over use and having a significant impact on the environment, thus requiring regulation through spatial planning (Akama, 1990; CDA 1996; GoK, 2009).

To sustainably manage the coastal zone, there is need for integrated spatial planning that addresses itself to the interdependence of land and ocean where tourism activities occur. Such spatial planning should be undertaken using the Integrated Coastal Zone Management (ICZM) approach. UNEP (2009) notes that ICZM is an adaptive, multi- sectoral approach, which strives for a balance between development, use and protection of coastal environments, based on the principles of good governance, inter and intra-generational solidarity, safeguarding the distinctiveness of coasts, and the precautionary and preventive principle. The ICZM approach is based on the “need for cooperation between stakeholders and translation of broad resource planning into more specific zoning and land use planning” (UNWTO, 2013). The zoning and land use plans are vital in providing details and a legal basis for spatial differentiation of developments and activities allowable with reference to the ICZM process which provides broad strategies for treatment of different coastal activities (UNWTO, 2013). As argued by Crist *et al.* (2009), integrated spatial planning will be effective in addressing the human use of land and marine resources while also working

to maintain the integrity of terrestrial, aquatic, and marine ecosystems within the coastal zone. The integrated spatial planning proposed for the coastal zone in Malindi should involve geographical, functional and policy integration.

Geographical integration would involve planning of land and ocean space as a holistic space due to the fact that tourism activities thrive in the transition zone between land and the ocean. This would lead to the preparation of a specific tourism spatial plan that regulates tourist activities within both the terrestrial and ocean space based on the ICZM approach. This plan would designate allowable tourism uses within these areas. The plan would also provide strategies to prevent the natural heritage from being further destroyed and protect environmentally sensitive areas such as sandy beaches that are particularly threatened by the growing tourism sector. The spatial plan would also designate the location of areas at risk, buffer such areas and set mechanisms for regulating all tourism uses including physical developments and auxiliary tourist activities. Functional integration would then be realized with all sectoral management bodies involved in the preparation of the integrated plan based on common development objectives and strategies. Policy integration would involve ensuring that sectoral management policies, strategies and plans are incorporated in the overall tourism spatial plan.

For both policy and functional integration to be realized, the institutional architecture should also be reformed to clarify the mandates of the national and county government agencies, especially in matters of preparation of spatial plans and development control. This should be through administrative reform where the National Land Commission, which is mandated with the administration of the coastal zone land, provides procedural guidelines on how each agency should carry out its sectorial mandate based on the integrated spatial plan. This will ensure that the responsibilities of the various institutions are harmonized and effectively communicated to the public. The reviewed legal framework should also include robust public participation guidelines which are able to demonstrate the threshold of adequate participation in the process of preparation of spatial plans. This would allow the regulator to benefit from local knowledge while developing the capacity of the public to comply with the spatial planning regulations.

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