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NATURAL CO-EXISTENCE OR CONFINEMENT: CHALLENGES IN INTEGRATING BIRD-LIFE CONCERNS INTO URBAN PLANNING AND DESIGN FOR ZIMBABWE

Trymore Muderere.
Department of Rural and Urban Planning, University of Zimbabwe

ABSTRACT

This paper examines challenges associated with integrating wildlife concerns into the urban design and planning process for Zimbabwe. It indicates the manner in which urban wildlife has evolved either by natural coexistence or confinement since the establishment of urban centers in the country. Existing positions on environmental policies and other institutional frameworks in Zimbabwe have largely ignored the needs of not only urban wildlife, but the Bird-life specifically. For most planners, the city is a place for commerce, industry, transport, small-scale manufacturing and trade, housing, recreation, and sports. Yet wildlife is often ignored. These uses have put wildlife concerns peripheral in the planning processes. Furthermore, a lack of discussion on the status of urban wildlife in Zimbabwe does not lead to the formulation of wildlife sensitive policies or mechanisms of intervention oriented towards wildlife. The reasons which can be noted prima facie (something seen from the surface before a situation has been examined in detail) include culture of the people(perceptions), lack of proper design and planning guidelines, uncoordinated approaches to conservation, predation, fragmented habitats vis-a-vis competing uses, to name a few. It puts into perspective the Bird-life concerns through a case study of Monavale wetland, a wildlife-habitat in Harare.

Keywords: Urban Wildlife, Birdlife, Urban Planning, Urban Design

INTRODUCTION

Zimbabwe is a landlocked country in Southern Africa and Harare is its capital city. Zimbabwe is a landlocked country in Southern Africa and Harare is its capital city. The country is slowly recovering from a period of social, political and economic crisis that has lasted form 1998-2009 (Makonese, Mtisi, & Dhliwayo, 2007; Maphosa, Kujinga, & Chingarande 2008; Masunungure & Chimanikire, 2008). It saw the Central Government diverting most of its attention to focus on stabilizing the economy and striking political consensus (from 2009 to date). Environmental issues have not find a place in such a situation and were relegated to the bottom of the priorities list in terms of funding for the activities, awareness raising, capacity building or law enforcement.

At individual level everyone seemed to be concerned more about survival and taking what they can from the environment while little attention has been devoted on protecting the environment, let alone what inhabits therein.

Everyone was only interested in politics and acquiring more and more land and property in both the landscape and troubled waters of a state that was then in its existential test. As such wetlands and other poorly drained soils in urban Zimbabwe are being invaded by urban development. However, the despite the stabilization brought by the establishment of an 'inclusive government' and economic stabilization that followed, environmental issues are still peripheral.

At the individual level, everyone seems to be concerned more about survival and taking what they can from the environment, while little attention has been devoted on protecting the environment, let alone what inhabits therein. Everyone is only interested in politics and acquiring more and more land and property, in both the landscape and troubled waters, of a seemingly failed state. As such, wetlands and other poorly drained soils in urban Zimbabwe are being colonized for urban development. The rate of destruction of ecological, sensitive zones (wetlands) in Zimbabwe has reached alarming proportions as the majority of them are being turned into residential and industrial stands. Yet houses built on these wetlands are prone to flooding and collapsing through structural failure, cracking, and bending of structures as a result of differential settlements, thus reducing the lifespan of the structures built. The majority of the ecologically sensitive zones, which act as wildlife habitats, have been affected, to a larger extent, by construction of houses, mostly in urban areas necessitated by infill development policies. This situation has persisted over the past decade, and still it seems to be on the increase. In consequence, urban nature in Zimbabwe, like most developing countries, is faced with a big challenge. It risks extinction. The green and brown issues have not been fully embraced (Gilbert, Stevenson, Girardet, & Stren, 1996). The urban planning profession has also not embraced urban nature in practice. Yet, in theory, the two are married. The debate on integrating urban nature in the urban planning and design process in the country remains largely out of capital talk. There are often repellant reactions in the form of denial, resistance, relativism, and sterile regulatory responses, as regards to local practice (Muderere, 2011). It can be observed that, at the municipal level in Harare, the integration of urban nature into the planning process, let alone subsequent and associated conservation, remains fuzzy and tokenistic. There is a missing link. The urban man has been perceptionally disassociated from the cycles of nature and city dwellers have come to believe that nature can only be found in unspoiled forests and rural areas. Consequently wildlife has been worthy of a study in the 'out of town' nature sanctuary, but largely ignored in the city. Even the natural science disciplines in Zimbabwe, until recently, avoided the urban environment, preferring 'unspoiled' sites beyond the city limits where nature could be studied without the interference of man. Hence, the need to assess the challenges in integrating nature concerns into Urban Planning and Design process for Zimbabwe.

Existing positions on environmental policies and other institutional frameworks in Zimbabwe have largely ignored the needs of urban nature. Urban densification policies and urban agriculture increasingly threaten ecological, sensitive areas. The Harare City Council has emerged to be the leading local authority in the allocation of stands and development on urban nature sanctuaries. Residents of Ballanytne Park, Newlands, Monavale, and Mandara Vlei have gone as far as writing letters to the director of urban planning services (City of Harare) raising concerns regarding the increase in housing developments on ecologically sensitive areas (The Herald, 2010; The Standard,

2011). Despite legislation that has been put in place to govern the protection of ecologically sensitive areas, such as wetlands, their destruction is still on the increase with those responsible for pointing fingers, instead of coming up with solutions. There is deterioration and mismanagement of valuable eco-systems in the form of urban green spaces and wetlands. These are diminishing at alarming rates, despite their designation as 'green corridors'.

One the most affected and interesting urban wildlife sites is the Monavale nature sanctuary in Harare. The Monavale Vlei or Wetland is one of Harare's rarest bird breeding sites. Birdlife has flourished and it, undoubtedly, has more birds than there would be in any non-urban environment in Zimbabwe. Of the institutional establishments administering related pieces of legislation none have taken stock of the extent of the damage in the area. Neither the Ministry of Natural Resources and of Local Government Rural and Urban Development, nor the Environmental Management Agencies has ever attempted to carryout a wildlife protection and management mechanism, except a weakly attempt by the Conservation Society of Monavale. Yet it remains the least thoroughly studied, despite the fact that it exists in a city full of bird watchers. Concrete jungles in the form of residential infill developments are destroying the wetland that turned to be a nature sanctuary. Urban agriculture, at the other extreme, is increasingly trimming the size of the wildlife habitat.

Harare's concern for nature seems to be soiled in the bloodstream of a cruel perception, one that lacks a heart for nature. Yet we, in urban planning, are better placed to influence policy and, most importantly, the behavior of the urban man. We shape the environment, how it is used and managed, including deciding what inhabits therein. As succinctly put the, "man is a product of his environment" (Telling, 1982; Heap, 1996; Madanipour, 1996). Our urban planning profession stands guilty for the modern man's attitude towards wildlife. What the researcher implies of this lack of concern for wildlife by the urban man in the street, council office, and public office, in their opinion, is a 'planning baby'.

Harare's response to nature over the years shows a paradigm shift from the natural co-existence philosophy to one that expresses a utilitarian view of wetlands (wildlife habitats) as resources. Equally, studies on urban nature or wildlife from a developing world perspective are few and inconclusive. Of concern to this paper is the search for ways in which the city and nature can be brought more closely together, if not into each other. The researcher advocates for a city that is not only a place for industry, commerce, sports, housing, and recreation, but a city that is also a place for the fox and the owl. Additionally, concern is not only with the preservation of habitats, but with opportunities for their creation, especially for birdlife. This article analyzes urban development and environmental policies in Harare. The principal aim is to synthesize what is known about urban wildlife and planning in Harare and, having determined the state of our knowledge vis-à-vis a theory, point out directions for the future. In addition, current policy problems are highlighted and their implication for the integration of wildlife in the urban design and planning process is explored.

Answers to challenges in integrating Bird-life concerns into Urban Planning and Design for Zimbabwe are sought by employing a case study approach. The point of departure is a call for a deeper understanding of different actors' perceptions concerning the urban wildlife and urban planning nexus. A theoretical framework is sought within the discipline of urban planning by applying a set of theoretical screens to establish what is held in theory. With a qualitative outlook tools used to construct the data are the key informant interviews and observations. The four main actors identified during the course of the study include Community-Based Organizations, public administrators at the central and local government levels, and Academics. The most highlighted views were issues relating to non-wildlife oriented planning strategies in mentioned order. These made up the themes of the qualitative account and analysis of experiences based on the case study of Monavale wetland. The main findings from the study showed that the concept of integrating wildlife in urban design is variously constructed among Zimbabweans due to the actor's spatial inclusion or exclusion. Even if different respondents or actor groups often identified similar views, their way of reasoning highly deviates in the way they emphasized practical, environmental, and policy concerns related to integration of urban wildlife into the planning process.

CONCEPTUAL FOCUS

Urban Planning and Design is a discipline with a broad focus. It determines what happens where and why within the city or regional space. Madanipour (1996) attempted to distinguish the planning from the design of urban environs. Urban Planning was seen as a profession concerned with the conscious creation, generation, enhancement, and management of the built environments, which are sensitive to their contexts and sympathetic to people's needs. Meanwhile, urban design was delimited to the urban microform at the macro-scale. Its focus is on the shaping of various pieces of urban land at the macro-scale and with spaces between them at the micro-scale levels (Barnett, 1982; Brown, 1999; Larson, 2006). However, the terms 'urban planning' or 'urban design', are often used, synonymously, in the planning literature and this usage is entirely acceptable. But where two words exist, there is a point in seeking to draw distinctions between them. Although the two fields are closely related, 'urban design' differs from 'urban planning' in its focus on artistic merit to physical improvement of the public environment; whereas the latter tends, in practice, to focus on the management of private development through established planning methods and programs, and other statutory development controls.

Traditionally, urban design has been regarded as a disciplinary division of urban planning, landscape architecture, and, in the contemporary world, has been linked to evolving disciplines, such as landscape urbanism or design (Watson, Plattus, & Shuubley, 2003). Nevertheless, with its growing importance in the activities of these disciplines, it is better conceptualized as a design practice that operates at the juncture of the preceding disciplines. In this study, this definitional debate is omitted. In principle, urban design or planning has roots in environmental determinism. Central to it is the premise that if one carefully blends the hard (built environment) and soft landscape (natural environment), one can inevitably improve the lives of the people. This brought ecological values into the profession that would otherwise exist through unsympathetic handling of topography.

The issue of natural processes occurring in urban areas has been extensively researched (Hough, 1991; Baschak & Brown, 2000; Wells & Donofrio, 2011). Extensive research has also been done on wet lands as bird habitats (Stewart, 2001; Birdlife Zimbabwe, 2010; Carbio-Ramirez & Zuria, 2011). Stewart (2001) attempted to conclude that wetlands are important bird habitats; birds use them for breeding, nesting, and rearing young ones. Research has also shown that birds also use wetlands as sources for drinking water and for feeding, resting, shelter, and social interactions (Carbio-Ramirez & Zuria, 2011). Studies have also revealed that birds have daily and seasonal dependencies on wetlands for food and other life support systems (Isaach, Maceira, Bo, … Peluc, 2005). The availability or influence of water has also been noted as an important wetland feature to birds, while the presence or absence of shelter may influence whether the birds will inhabit a wetland or a nearby upland area (Stewart, 2001).

Articles and textbooks, at both elementary and advanced levels, showed that many studies have been done on birds. Some have coined the study of birds, "Ornithology", and have given birds scientific names, often difficult to pronounce, while others have painted captivating portraits of birds. Aristotle, at the other extreme, went to the extent of studying the bird embryos (Wallace, 1963). However, attention towards the relationship between urban planning and/or design and birdlife has not been forthcoming. So is with the broad spectrum of wildlife, in general. Many have attempted to look at the effect of urbanization on the natural land scape; however, they did not address the impact of urban encroachment into wetlands; their emphasis was on confinement of wildlife in zoos. They did not look at the centrality of urban planning to the sustainability of urban ecosystems, especially the possibility of integrating wildlife right from the planning to the design of urban environs. This study puts bird life and urban planning and design nexus into context.

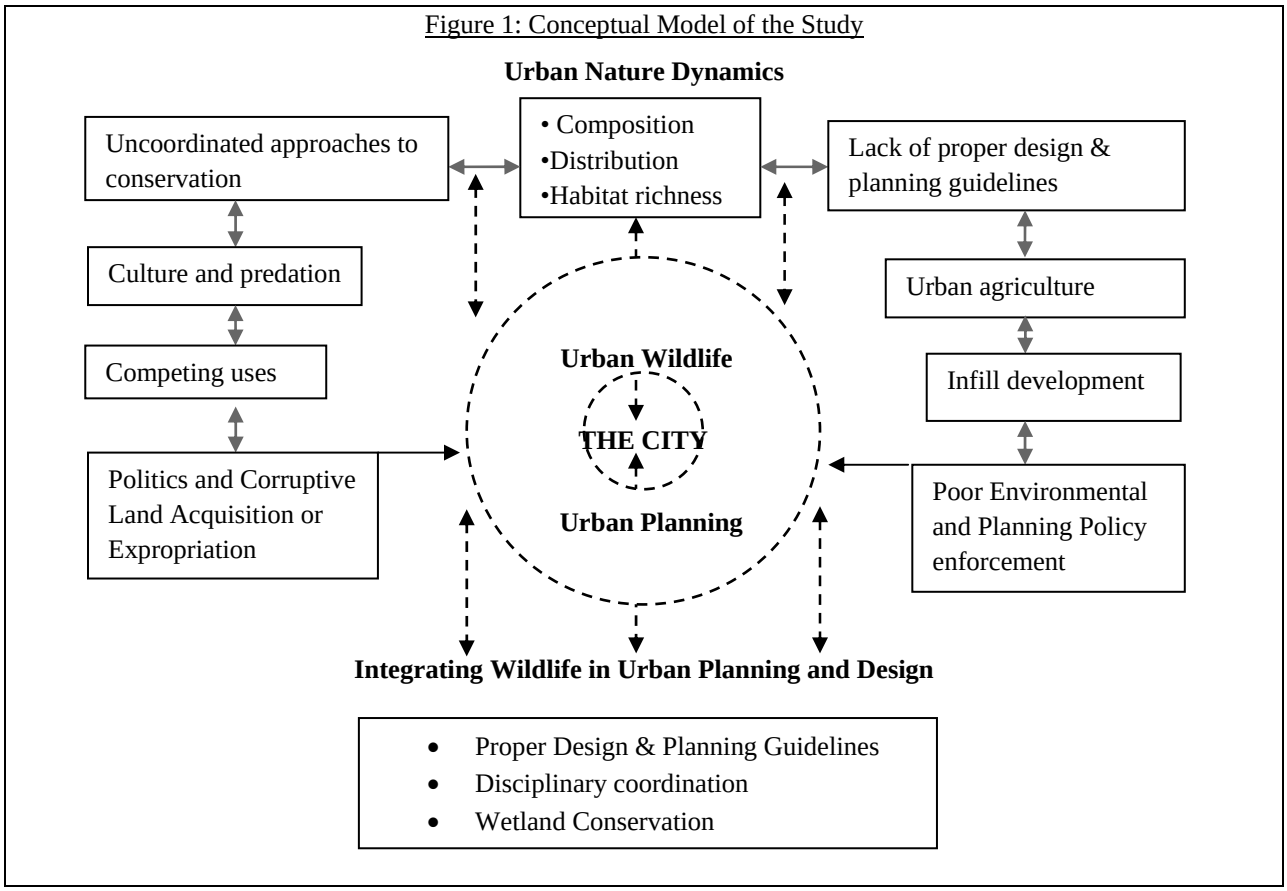
Plate 1: the Planner's Image of the City from Harare-Zimbabwe

Plate 1 shows a city image in which urban uses tend to dominate nature. Hence urban wildlife richness in Harare tends to increase with distance from the city centre. Meanwhile, the model in figure 1 shows relationships and linkages between the urban wildlife dynamics, urban design and planning and how such relationships lead to environmental changes associated with habitat degradation and a city that has no place for wildlife (figure 1). Whereas the schematic representations may depict a linear relationship between urban wildlife dynamics and integration of the former in urban design, a two way interaction continuously exists. In this study, the city, urban wildlife, and urban planning are seen as major constituents of an integrated urban system. It assumes that integration of urban wildlife is a function of Urban Design, Habitat Conservation, and Sound Environmental and Planning Policy. Indicated by the formula:

IoUW= F (Ud + Ep + Hc)

Where: IoUW is Integration of Urban Wildlife; f is a Function of; Ud is Urban Design; Ep is Environmental and Planning Policy; and Hc is Habitat Conservation.

Figure 1: Conceptual Model of the Study



It also sets out that there is a direct connection between urban development and loss of wildlife habitat, in which the later is likely to continue, unless policies that favor conservation take precedence. If any of these variables is disturbed, there will be an equal negative impact on wildlife.

STRATEGIES FOR CO-EXISTING WITH WILDLIFE IN URBAN SETTINGS IN ZIMBABWE

In Zimbabwe, wildlife is largely confined to protected areas or private game reserves and nature conservancies. Usually, small game is left outside national conservancies, while endangered and big game animals are confined in parks, which occupy most of the dry parts of the country in the southwest, as well as northern, parts of the country. At the same time, some farmers are moving towards game-ranching with government support (The Herald, 2011). This is increasing the amount of private land available for wildlife. However, while this is so for most of the country, attempts towards integration of wildlife in the urban design and planning of cities has not been forthcoming. There is no clear strategy for embracing urban nature. In urban areas, it appears that the philosophy that wildlife and other natural resources must 'pay their own way' is being implemented in several different ways. Urban wildlife has not been consciously confined into parks, as in the country side. The philosophy seems to be 'that don't protect it, just live it for its own selling'. But planning is needed to guarantee protection of urban nature, hence, the centrality of planning in this dialogue. Township development has no right to stifle wildlife conservation. Urban wildlife is unique; we will never get it anywhere else, hence they require protection.

Existing laws are often poorly enforced; enforcing remains difficult because of inherent weaknesses in law enforcement or development control mechanisms and shortage of money. There are few measures to control encroachment of wetlands; existing ones remain ad hoc at best. Meanwhile, at the practical level, where efforts to integrate environmental concerns into urban development have been attempted, these have been done through more abstract concepts, like the Radburn concept (residential areas being interspersed with intensive greenways). Meyrick Park and some parts of Monavale, especially residential developments in the Hill and northern district of Harare area, reflect this. Additionally, there is a lack of coordination between different actors that deal with wildlife and the environment; this is often compounded by a lack of dialogue between those disturbing the environment and those trying to prevent it from harm. Therefore, a platform for exchange, networking, and lobbying would allow for the establishment of a multi-stakeholder forum to discuss relevant issues.

Integration of birdlife (wildlife) concerns into the urban spatial form has not been an issue of concern in the planners' minds. Ecologically sensitive areas are often seen as waterlogged areas, unsuitable for development in the immediate and short-term, and not as areas rich in the flora and fauna species. It possibly explains the case in policy shifts; that is, designating open spaces (green fields) today, revisiting them tomorrow as pressure in urban development (transport and other infrastructure costs) mount through such policies as infilling and densification. Open spaces are not seen as areas rich in biodiversity, but real land uses or pieces of land awaiting discovery of more appropriate technology and use; that is, zones in transition.

PROMOTIVE FACTORS

Zimbabwe is one of the countries with a well developed policy and regulatory system for urban development and environmental management. A number of factors promote integration of urban nature in the urban planning and

design process. Provisions of the Regional Town and Country Planning Act (RTCP Act) Chapter 29: 12 of 1996, together with those of the prevailing Environmental Law, namely, the Park and Wildlife Act of 1976 and the Environmental Management Act (EMA) of 2004, are essential legal software for embracing nature into the planning and designing process of the built environment. For instance the preamble of the RTCP Act has the object of conserving the physical environment. In Section 22, the same Act provides for the meaning of development. Particularly section 22 (1b) defines development as altering the character of the use of the land or building (Government of Zimbabwe, 1996). This implies a wetland is designated as an open space because it's an ecologically sensitive area, altering it for urban agriculture and residential development and is, therefore, a development. Hence, they must follow proper application proposals for development in line with the provisions of EMA and RPCT Act. Statutory Instrument 7 of 2007 EMA provides that before any development starts, there must be an Environmental Impact Assessment done and for protection of Wetlands, Public Streams, and other certain lands in part III and VI, respectively (Government of Zimbabwe, 2007).

At the municipal level, there exist notices, ordinances, and by-laws which relate to the protection of urban nature. These act as local vices which deter abusive human practices that are antithetical to the object of conserving urban nature. However, in Zimbabwe, these last saw their being in effect during the pre-independence era (period pre-1980). For instance, according to Priest (1929) the municipality of Salisbury (now Harare) in 1929 published a notice for the approval of a by-law for better protection of birds in the municipal area (Box 1).

Box 1: Municipal Responses to Urban Nature

The following notice is now in force:

Salisbury Municipality

Protection of Birds

Notice is hereby given that it is the intention of the Municipal Council of Salisbury to submit for the approval of His Excellency of the Governor the following bye-law for the better protection of birds, viz:

"No person shall on the commonage of Salisbury or any other Municipal Lands or in the Municipal Gardens, or any Park, Street or other such-like public place within the limits of the Municipality of Salisbury take, injure or destroy any bird or spread or use any net or set any snare or use any gun, catapult or other instrument or means for the taking, injury or destroy any bird's nest or willfully displace, disturb, injure or destroy any bird's nest or willfully take, injure or destroy any bird's eggs.

Any person objecting to the proposed bye-law is required to lodge the objection in writing with the under designed within fourteen days from date hereof."

By Order of the Council

R. L. POLLETT,

Town Clerk

Town House, Salisbury,

1st August, 1929

Source: Priest (1929)

It was the colonial administrations that got it right, that nature needs to be protected. The post- independence city administrations overstayed in their honeymoon of political independence and so quickly did they forget how the master used to do it. This points to why Muderere (2011) noted that there are often repellant reactions in the form of denial, resistance, relativism, and sterile regulatory responses, as regards to local practice.

In addition, the Zimbabwean people identify with animals through the totem symbol (a cultural ideology). As such, people refrained from killing or eating animals they are identified with. Through such cultural filters, people are forbidden to kill totem emblems and animals around sacred groves. Additionally, birds have a national significance, especially the *Hungwe* Bird (Fish Eagle), which is a national emblem, and as such, its killing is punishable.

Majority of residential areas in Harare has houses well interlaced with trees, which act as habitats for most urban bird species. Hence by planting suitable vegetation for bird life in most residential yards in such a manner that the bird movement is not restricted is also a promotive factor for co-existing with urban nature. However, what is questionable is whether this was a conscious effort or not.

INHIBITIVE FACTORS

Three main factors are noted as inhibitive to the integration of urban wildlife in urban planning and design processes in Zimbabwe. These include: hostile urban land use policies; sterile institutional responses (lack of enforcement of development control); political interference, in addition to resource shortages and outdated laws, which are too weak to boost wildlife conservation efforts.

Emerging land use policies towards urban containment in the form of densification and infill development are a menace to conservation of ecologically sensitive areas in urban settings in Zimbabwe. For instance in the city of Harare, areas earlier designated for open spaces have been converted for housing and industrial development. Infill development policies currently pursued in the City of Harare are threatening wildlife habitats and, in particular, rare birdlife.

It is also clear that in spite of the existence of broad policies dealing with the designation of areas of outstanding beauty and natural habitats, the local planning authorities do not have clearly defined planning and designing parameters of integrating wildlife into urban planning and design. There is no legislation that encourages wildlife corridors to be protected or that put wildlife movement as a priority over the needs of the people.

Resource shortages at both household and municipal level cause the reliance of urban livelihoods on nature habitats. At household level resource shortages increases poverty and food insecurity and as such the urban poor often abuse ecologically sensitive environs. Meanwhile, at the institutional level, resource shortages stifles enforcement of development control. Even when resource aid is there, questions arise as to whether conservation funds are for

human life or wildlife? Despite international aid to civic organizations in the form of funds, equipment, and personnel for the wildlife conservation programs, the government and allied organizations have failed to honor their commitments. In a country where food insecurity, education, and unemployment are pressing issues, diversion of funds, if not embezzlement, is common.

Furthermore, since there are no designated spaces for nature, the majority of small games tend to live by default in spaces left as open spaces. However, open space cultivation is a political matter for politicians in Harare. This is worsened by the fact that policymakers lack the political will to develop policies on open space cultivation, which they are supportive in their wards or constituencies. All this is in direct violation of not only the Council's standing by-laws, but the Regional Town and Country Planning Act, which in its definition of 'development', section 23, subsection (b), paragraph (iii) states that the use of urban land for agricultural purposes does not constitute land development (Government of Zimbabwe, 1996). Local politicians in Harare seem to be getting away with dual agendas, whereby they support open space cultivation in their constituencies or wards, but also support statutes that are opposed to open space cultivation in council chambers or parliament. This is, in fact, a deviation from formally recognized urban land uses of commerce, industry, and housing and, most importantly, ecological regeneration. However, the fact that most planners view the practice as negative could be an asset to bank-on for ecological restoration and sound environmental stewardship.

In line with the preceding, planning exists in an environment of local and political pressures driven by short term expediency. Admittedly, many of the projects that do environmental damage, although not always the planner's statutory business, are approved by this professional. However, I am not trying to put the profession on trial here, I 'love my profession', but silence about bad habits being adopted in planning practice kills not only the noble profession but ecological assets. This may not go down well with fellow planners, but I can't help it. Extensive infill developments are being instituted on ecologically sensitive zones, like Monavale wetland, without anyone being fully appreciative of the total environmental impact. In addition, political interference is visible in many cases of wetland abuse in Harare. The abusers are well connected, politically. In several instances where the city of Harare did not stop a development, such connections helped to overrule the decision. This spells the effects of some underwriting in the institutions administering these locales.

Weak institutional responses are also part of this equation. The enforcement capacity, among various institutions, charged with Environmental Management and City Planning is very limited. In consequence, the Environmental Management Agency's responses in environmental accountancy and bargaining for regulation are just too weak in confronting hostile developers and ending the environmental mischief. The Environmental Management Body coined legislation, which requires compliance with technical standards, which subsequently meant the need for technically trained inspectors who are able to interpret the standards imposed and assess the practices of the licensees against those standards. This creates a staffing and organizational dilemma, which leads to poor enforcement of existing legislation, resulting in on-going conflicts between urban planning and urban nature

conservation. EMA's laws are also not stringent enough to stop construction of houses on wetlands. The policy governing the management of wetlands has not been enforced and the Environmental Management Agency has no muscle to stop housing developments on the wetlands.

A key finding is that there is a serious disjuncture between the legal provisions and what happens on the ground in terms of the implementation of what is provided on paper. It is therefore important to build the capacity of the Government, members of the public, Civil Society Organizations (CSOs) and allied professions.

CONSERVATION AND DEVELOPMENT STRIKING THE BALANCE

One of the purposes of planning is to resolve competing claims for land use in an orderly fashion. Conservation of urban ecology or wildlife is also one of the objectives of any planning system, but this does not mean total preservation in the face of competing claims as environmentalists would prefer. It is also an objective of any planning system to ensure that sufficient land is available for housing needs. With an aorta of common sense no one among town planners either may want to lose urban nature. But in planning, we also respond to people's needs, hence we must provide homes for people to live in and preserve habitats for wildlife. This presents a priority dilemma on whether to conserve urban nature, when the people are hungry and have a shortage of houses. Emerging issues of this nature calls for ways to strike the balance by way of integrating nature into urban design, either by way of confinement or natural co-existence.

Urban wildlife and its habitats are dying because there was nowhere for the urban poor to live and earn a livelihood. However, it is a planning authority's constitutional duty to make sure that urban wildlife does not die due to starvation induced by urban development. The increasing pressure through piecemeal, business-led development on wetlands will result in an environment of poor overall quality in urban design terms and where future generations will suffer nature deficit disorder. Planning systems need to cope with this and inevitably designate some ecological sites for conservation.

After realizing the weaknesses of the protected areas approach and with a view to addressing threats to biological diversity within protected areas and outside, there is need to come up with new innovative programs. In Zimbabwe, the protectionist approach to conservation, where the state owns and controls all wildlife, has proved inadequate to save birdlife from habitat fragmentation in the wake of infill developments. The vast majority of people who occupy marginal land have been neglected in wildlife conservation. Yet, they are passive initiators of habitat destruction and subsequent environmental damage.

Above all there is a need to align urban planning with environmental planning and protection, the requirement to involve as many people as possible in the process. Although money sometimes is not enough, but rather there needs to be an on-going commitment to the protection of urban nature. Finally, political goodwill is also an essential

prerequisite for success aided by disciplinary coordination through defining the centrality of the urban biologists in planning issues.

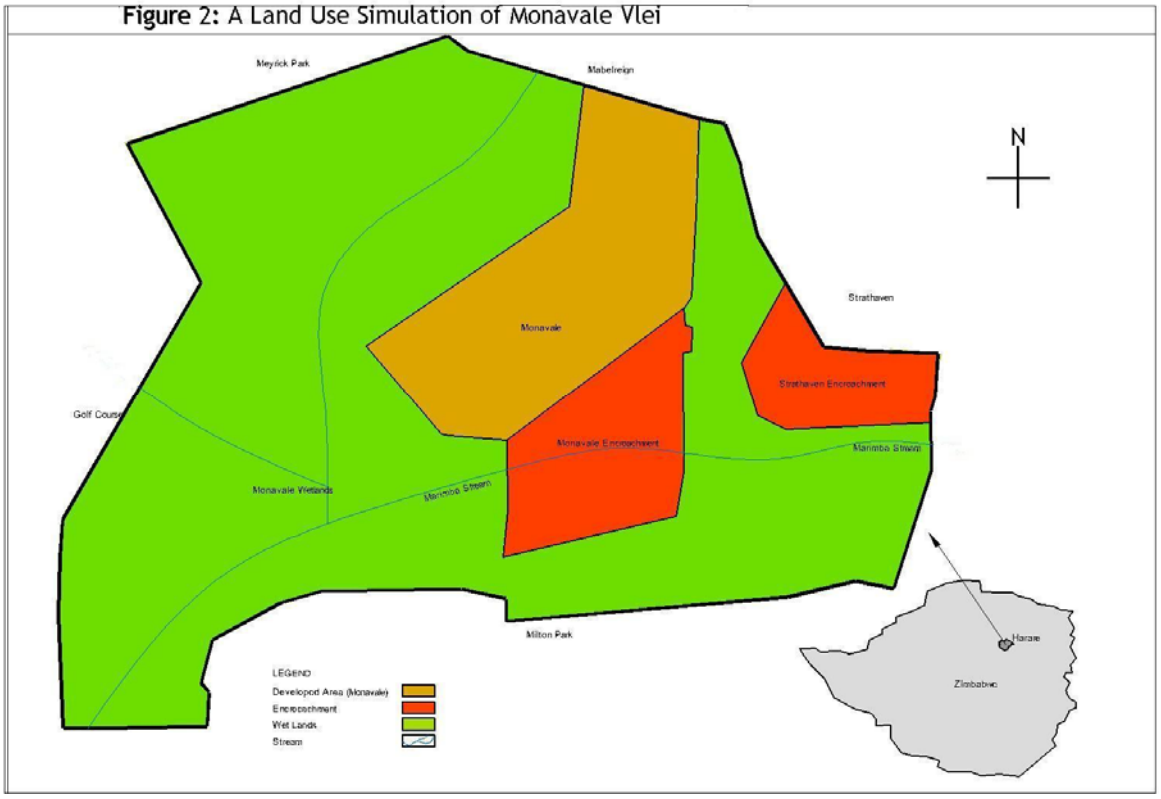
CASE STUDY OF MONAVALE BIRD HABITAT

PLATE 2: MONANVALE NATURE SACTUARY

LOCATION AND BACKGROUND

The Monavale vlei is located in the suburb of Monavale, which is situated in the Mabelreign district some 4 kilometers (west) from the Central Business District of Harare. It lies between 288,600 and 289,300 east and 803, 0500 and 802,900 degree coordinates north, on approximately 40 hectares of wetland (figure 1). Of the 40 hectares, 30 hectares is state land, administered by the City of Harare under the Urban Councils Act, and 10 Hectares (ha) is private land that has been converted into residential development. Monavale is dissected by *Marimba* stream and stands as an ecologically diverse and sensitive wetland (Plate 2). In terms of urban development policy, it is zoned as an open space awaiting residential development in the old Town Planning Scheme (City of Harare, 1976).

The area is bounded by a mosaic of low and medium density residential suburbs (figure 1). To the southeast is Milton Park, in a low lying area overlooking the wetland; to the west is Meyrick Park, an old area designed along the Radburn Concept (residential areas interspersed with a lot of greenways); and to the north is the hill area of Monavale, bounded by Fennela Drive, Lyndhurst, and Quendon Roads. These residents enjoy a picturesque view of the wetlands. Encroaching, the low lying areas from the northeast and southwards (area shaded red) are the beneficiaries of the densification policy, whose houses occupy portions on the wetlands. While the green hatch indicated undeveloped parts of the wetland, these have been severely damaged by land clearing for urban farming. The brown hatch shows old suburbs of Monavale, wildlife fleeing from the low lying parts of the wetlands have taken advantage of vegetation preserved by the Radburn Concept applied in the design of this residential zone (figure 2).



Monavale is one of the few wetlands that still exist within Zimbabwe's capital city, Harare, and its surroundings. It is unique, seasonally and partially flooded wetlands, with surrounding hilly outcrops. Its qualities and capacity to support a diversity of species, including threatened birds, is being negatively affected by urban related suburbia development, extensive informal cultivation, dumping of waste, and poaching. It is a remnant of a previously bigger wetland, stretching along Marimba stream to Lake Chivero. The wetland is surrounded with three corridors, which occur in diverse sizes to include semi natural open spaces, waterways, and golf courses. To the southwest is a wildlife corridor that stretches down through Warren Hills, along Marimba River to Lake Chivero. In the north, the Mabelreign, in the east Avondale and in the west, are water ways which act as corridors. However, for all the foregoing corridors though having connectivity by way of physical continuity, barriers in the form of roads increase the risk of death of wildlife by vehicular traffic.

BIODIVERSITY IN THE MONAVALE VLEI

The bedrock in the area is shallow, which allows for flooding on the vlei, even in relatively dry years. This has kept the area a permanent wetland. Parts of the wetland are submerged under water during rainy seasons. Its unique sparsely Savanna mix of scanty indigenous shrubs, grass patches, and moist feature makes Monavale an excellent location of not only local birds, but for small game, such as the Water and Bush buck, warthogs, mice, fish (in the water stream), and predators that feed on birds, among others. The hilly area of Monavale (dry land) is in its natural sense. It is full of indigenous trees and residential developments that are well integrated with nature (plate 3). Trails of warthogs are visible, whilst other small game observed are the bush bucks and the rabbits. To the southwest of this hilly area, no cultivation is taking place.

Plate 3: Environmentally Conscious Designs

It terms of bird species, Monavale is an important breeding and foraging ground for a variety of bird species, such as the Streaky-breasted Flufftail (Sranthrura boehmi), the Striped Crake (porzana porzana), the Spotted Crake (Aenigmatolimnas marginalis), a non breeding migrant from Europe, the Grass Owl (Tyto Capensis), Black-Collared Barbet, Tawny Wren-Warbler, the Masked Weaver, and Mozambique Serin, among others. The rare Stripped Crake breeds in the pools in the long grass, whilst the equally rare Flufftail breeds in the short grass with a shallow layer of water. A wide variety of birds can be seen during the rainy season, which ranges from Black Coucal, Streaky Breasted Flufftail, and the Redchested Flufftail, which are very common in the vlei. Also visible are different skulkers in the wet season, like Coen Cake, Striped Crake, Spotted Crake, the African Crake, and the Black Coucal, in group with the Cuckoo Finch, Great Reed- Warbler, and Dark Capped Yellow warbler. By mere coincidence, one might be able to view the Locustfinch, Rosy throated Longclaw, and the Pale crowned Cristicola, Yellow mantles widow bird to name a few. The Guinea fowl and Dark Grey Doves are other types of bird species visible.

AVAILABILITY OF HABITATS

Transect walks across the wetland revealed that the availability of bird habitation in the wetland is minimal. Foraging is common during day times, while nesting is visible along the Marimba stream and in the Monavale Hill (old Monavale suburb location), where there are a variety of micro habitats which these birds require for nesting. This can be linked to the increased threat of predation in the wetland by urban farmers and unsustainable methods of land clearing. The nesting and distance from the road and residential development correlations depict an assumption that human induced intrusions destruct nesting habits of birds and tend to locate in faraway places, mainly thorny bushes in backyards yards (cf. Plate 7).

Habitat change is the most threat to the biodiversity in the area. The encroachment of a human settlement, waste dumping, and urban agriculture has changed the ecosystem and, subsequently, the habitats. As a result, animals are

finding it difficult to adjust, hence taking away wildlife. It is visible that extensive wildlife habitat damage is underway. Increasingly, those birds that cannot live close to man are becoming invisible, while snares are all over the Guinea fowl tracks. The use of the wetland for agriculture has decreased the amount of space available to wildlife. Hence, the wetland continues to be under pressure from agricultural and urban expansion. The rare Stripped Crake breeds in the pools in long grass, whilst the equally rare Flufftail breeds in short grass with a shallow layer of water.

URBAN LAND USE AND ECOLOGICAL RESILIENCE

This section looks into the implications of urban related developments, as well as ecological resilience of Monavale wetland and the wildlife that inhabits therein. Following the road to Monavale wetland (Plate 4), it highlights how the nature sanctuary has been responsive to the effects of concrete jungles as a measure of resilience.

Plate 4: Road to an encroached wetland- Monavale Nature Sanctuary

It has not been an easy task for urban infrastructure to be successfully integrated in the Monavale Vlei without displacing birdlife and destroying the ecological integrity of the wetland. The roads have been weakened as a result of the traction generated by vehicular traffic at the backdrop of the differential contraction and expansion of the water logged soils. This reflects how the hard landscape (built environment) has not been carefully blended with the soft landscape (natural environment) and how the initiation of such a project is ‘suspicious’ from the outset. Lately, it is posing a serious threat to wildlife that inhabits the wetland, with barely less than 5 years of inception.

Most of the developments, especially in Monavale, are taking place without any Environmental Impact Assessments being done, because a house cannot be developed a few meters from a stream in a flooding zone, let alone a wetland (Plate 5). Houses built on the wetland are prone to moist and structural failure through cracking and bending of structures as a result of differential settlement. Its high water table and subsequent excessive moisture on or near ground level is reducing the lifespan of housing units. In addition, residents of these houses sitting on water complained of mosquitoes and water logging during the summer seasons and low temperatures in winter.

Plate 5: Houses sitting on water

1. 2.

In addition to structural failure being experienced on roads and some housing units, electricity lines are also tilting. This also poses a threat to human safety, whilst it remains a looming threat to sustainable service provision. The land has proved to be not resilient enough to sustain structures imposed in a seemingly unsympathetic handling of ecologically sensitive topography.

Urban agriculture is also one of the activities causing unprecedented rates of habitat fragmentation at Monavale. The practice poses a threat to birdlife, as is with other forms of urban nature. Typically detested are the methods of land clearance (especially fire) (Plate 6.1.); use of artificial fertilizer; and traps and pesticides, as these are a threat to birdlife. It will be difficult to get low income urban farmers away from the wetland, due to the fact that the Zimbabwean planning system had not accommodated food systems into the planning system, as well. Land could have been set aside for urban farming. However, unsustainable methods of land clearance are not welcome if conservation of the ecologically diverse wetland is to be protected. Despite the foregoing urban agriculture, it is a reality which cannot be outdone without resistance and without putting social protection measures in place to shield the low income urban farmers from poverty. More so, considering the bumper harvest and good quality crop they are harvesting it becomes nearly impossible to get the urban poor out of open spaces (Plate 6.3.)

Plate 6: Land clearance and urban agriculture

1. 2. 3.

The link between urban nature and spirituality has also been noted. The apostolic sects cleared parts of the wetland as places for worship (Plate 6.2.). Six spaces were observed in the wetland area. Hence integrating places of meditation and nature could be an avenue to allow the urban man to live side by side with nature. However, something to detest is land clearing associated with it, as well, and waste dumping.

The fragmentation of the wetland by the twin forces of residential development and urban agriculture has seen vast birding areas being lost. While some other wildlife are migrating to more secure areas leaving fragmented wetland habitats. Vegetation has only been limited to river banks along the Marimba stream. Birds, such as doves, were observed on power lines in the Strathaven encroachment (figure 2, area shaded red in the northeast). The area has no vegetation; hence birds rest on the power lines. In response to the fragmentation of the wetlands, the majority of the bird species has adopted the Monavale Hill for nesting. Most of the nests observed were in thorny bushes and trees (Plate 7). The habit of nesting in thorny trees may be an attempt to deter predators from accessing nests. Bird species, such as the Masked Weaver, were observed foraging and nesting in the maize fields. However, this risks the collection of eggs and young ones by field owners. This is substantiated by Chenje and Johnson's (1994) findings about poverty and resource use. Their findings showed that when people lack adequate, as well as financial, resources, they often had a little choice but to take what they can from the environment. The agricultural activities of the urban poor who have invaded the Monavale wetland validate Chenje's findings in several ways.

Plate 7: Birds Resilience and Nesting Habit Responses

The majority of wildlife that used to inhabit the area were reported to have gone. Warthogs used to forage and stay in the wetland, now come and go. Three women who identified themselves as Warren Park (a high density suburb 3.5 kilometers away from the wetlands) residents during a reconiscence survey lamented that, "*Vashoma varikubva kumaDaleDale vachizorima mubani umu vazhinji tisu…"* (Of the people with pieces of land here, few are from the low density the majority are us from the high density (low income groups)). Meanwhile, concerning the effect of wildlife on their crops, they said, "*Nguruve dzaisimbodya zvirimwa zvedu asi ndinofunga dzakatiza* …" (warthogs used to eat of our fields, but we see them no more. Maybe they fled). Meanwhile, one of them said, "*Mune mhembwe yanetsa irikudya beans*" (there is a bush buck that is straying and is feeding on our bean crops). The women vehemently showed their reliance on the wetland, upon assuming that the researcher was from the city of Harare and on a mission to stop the invasion of the wetland. One of them said "*…vakomana musadaro torarama nei*?" (Please don't do that, how can we live?). They lamented that they were in Harare and had no land for farming, at the backdrop of economic hardships. In addition, they had small stands, which could not allow them to plant maize, but could be only be used for vegetables. This is an emerging human need, which planning has to respond to, considering that the object of planning is to address human need, without which it becomes irrelevant.

It has emerged that urban related developments in Monavale wetland are, by any standard, intrusive and damaging. On the other hand, ecological resilience is ever at the coldness of the effects of residential infill development and urban agriculture. The threat for extinction has driven wetland birds and other forms of wildlife into the hilly and dry parts of Monavale. Nevertheless, it is found out that their main fear is loss of life at the hands of a man, driven by selfish motives. This shows how the field of urban planning has affected the form and character of ecologically

sensitive environments, as well as the ways and extent to which occupants have had contributed in their own way. Based on the ecological significance of the Monavale wetland to the Harare water supply catchment and local climate, there is a need to come up with a design document in the form of a Local Development Framework that rationalizes the management of the wetland whilst ridding off undisciplined development. These would foster some form of judicious application of wildlife sensitive measures. Agricultural intrusion and residential encroachment should be stopped, while additional 'native' vegetation should be planted so as to increase nesting areas. If such wetlands are to be utilized at all, they can be used as recreational facilities, like parks or golf courses, as this will not affect their ecological functions. Hence there is also need to consider the possibility of adopting environmental economics by bring value to conserve the wetland through community led eco-tourism.

LESSONS FROM MONAVALE

Given the preceding discussions and highlighted environmental burdens, the fact that Monavale wildlife habitat is an endangered and threatened wetland is beyond dispute. It represents a typical example of the challenges facing urban nature sanctuaries in the developing world. More so, man tends to learn more when things go bad. In light of this, four key lessons can be drawn from Monavale experiences. These are:

- Weak institutions are dual players to urban environmental damage;
- Urban wildlife does well if confined or separated from man, rather than when they live side by side;
- Adverse local conditions (economic meltdown, politics, and corruption) stifles natural resources development; and
- Without appropriate technology, the Wetlands should not be put to urban development.

What has emerged is that Monavale is a wetland that demonstrates bad practice. The availability of habitats is in a bad state, whilst ecological resilience has been weak to accommodate concrete jungles. However, despite the effects of land clearing for farming and residential development, the wetlands are home to a diverse range of species. The unique wildlife sanctuary can be restored to a seemingly unaltered state provided key stakeholders, principally the Local Authority; Central Government (Ministries of Environment and Natural Resources and the Local Government Rural and Urban Development); the Environmental Management Agency; Habitat Restoration Groups and Community Conservation Groups; and Planners and Environmentalists, among others, to co-ordinate and foster an application of intelligent spatial planning and environmental values.

POLICY OPTIONS

In view of the issues raised in this paper and in addition to the emerging issues, this paper recommends a four-step process for effectively responding to the needs of urban wildlife to allow for co-habitation of urban nature and man at a local scale. They are:

- recognizing the positive role played by ecologically sensitive areas in urban climate, aesthetics, and water regeneration;

- adopting revisions to policies and regulations to facilitate and enable the control of development and to clearly define wildlife rights;
- strengthening institutions,
- coordination of natural resource persons, urban planners, and other allied professions; and
- Advance community participation in urban nature conservation.

However, spatial exclusion, than inclusion, dents the centrality of allied professions urban nature planning. Therefore, planning as an intervening factor in addressing environmental problems needs to be given attention for sustainable urban development. Planning has been in existence since the turn of the 20th Century; its impact on urban development has not been adequately felt. This is due to several reasons, including political interference, inadequate personnel, and institutional and legal framework weaknesses. However, room for improving planning exists and two issues need to be stressed here. First, the move from reactive to a proactive type of planning in the city would make headway in addressing the environmental and urban development challenges. However, questions as to whether politics or planning failures and/or financial problems have lead to general failure of urban wildlife conservation remain standing. The overarching policy challenge is the existence and enforcement of contradicting policies. Policies and laws relating to environmental protection and development need to be harmonized to ensure sustainable management of the urban environment.

At the other extreme, it is clear that the challenges facing cities around the world are complex and that the solutions will have to be multi-dimensional. New concepts and approaches are needed to constructively integrate urban planning and management with the optimization of wetland ecosystems and the protection of wetland biodiversity in order to deliver sustainable cities.

There is a need to institute more intelligent urban planning and designing, policy development, including development frameworks, and spatial zonation intervention so as to create a real future for nature. The centrality of urban planning as a management tool is in its being a public activity that creates or corrects an anomaly by way of controlling or facilitating integration of nature into urban environments. The direction the world is going calls for the need to create a future, where nature has to live side by side with man in urban settings.

CONCLUSION

The fact that wetland birds have a unique and complex set of needs for wetland habitats makes it difficult to generalize how this loss or degradation of wetlands affects bird populations. More so, the freedom of birds to come and go makes it difficult to deduce management simulations. Human activities, in the form of urban agriculture and principally urban residential development, have caused shifts in wet-land dependent bird populations. The research revealed that the government of Zimbabwe has made tremendous progress in terms of legislating for environmental issues. A key finding is that there is a serious disjuncture between the legal provisions and what happens on the ground in terms of the implementation of those legal provisions. It is, therefore, important to build the capacity of

the planning and regulatory authorities and community groups, among others. The emerging challenges facing urban wildlife appear universal, irrespective of the country, location, or economic prosperity of the city. It is only the magnitude of change and the transferability of solutions that needs to be refined.

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ABOUT THE AUTHOR:

Trymore Muderere, Spatial Planner, University of Zimbabwe, Department of Rural and Urban Planning