

Review

Politics in environmental stewardship in Zimbabwe: Reflections on Ruwa and Epworth

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This article outlines, explains and discusses the stewardship of the bio-physical environment in Zimbabwe with special reference to the policy instruments used at national and localized areas. Issues examined include aspects of the ecological footprint, the national environmental policy and housing with special reference to aspects including burial space, water and sanitation, deforestation challenges, solid waste management, perceptions and attitudes towards climate change, personal and environmental health and town expansion. These are examined at the microcosm space of Ruwa and Epworth, two peri-urban towns, satellite to Harare, Zimbabwe's capital city. The bio-physical assets in peri-urban human habitats, like in any other setting are subject to a pressure cook of the forces of conservation and preservation vis-a-vis exploitation and consumption. How the stakeholders interact is a matter of politics. It is a power game. Perhaps it is a fight between rationality and some kind of political irrationalism. This is the thrust of this paper.

Key words: Environment, power, politics, stewardship, conservation, utility, policy.

INTRODUCTION

No matter what we do as researchers, conservationists, environmentalists, agriculturalists, sociologists, etc., everything in the end hangs on the understanding and application of our ideas by politicians (Savory, 1988:13).

On 24th March 2011, on my way to the office of the Environmental Management Agency (EMA), Block 1, Makombe Building in Harare. I observe that the state newspaper – the Herald - carries a headline: 'Harare governor Karimanzira dies'. I had planned to meet him but now he has died while I wait for my application letter to see local government officials is still with the Ministry of Local Government, Rural and Urban Development. This shakes me a bit. When I arrive at EMA offices I find the officers shaken as well. One of the officers says to his colleague, "This is a great loss indeed. Mudhara wedu (Our old man) has gone. He made our business quite easy. He was an easy and flexible man to work with." Indeed in the past six months or so, the late Governor and Resident Minister has been on the call for greening the environment, for calling upon spatial planners to

integrate urban agriculture in urban planning, for maximising land use by reducing urban poverty, among other green issues (Cullingworth, 1993; Bryden and Keith, 2000). Now I see the connection – yes, the oversight over the public affairs of four local authorities: City of Harare, Epworth Local Board, Ruwa Town Council and Chitungwiza Municipality. Speaking of regional stewards, their calibre and approaches, McKinney et al. (2004) in LeRoy (2004:6) have underscored that:

They share power and mobilize people, ideas.... tend to be committed to the long-term well-being of a particular place. They apply the same entrepreneurial spirit and persistence to solving regional challenges that business entrepreneurs apply in building a business; they are civic entrepreneurs. They see the need for more connected regional approaches to address social, economic and environmental issues; they are integrators. They build support from leaders,

citizens, interest groups and policy makers toward a shared vision; they are coalition builders. They hold themselves and each other accountable to achieve tangible results and sustained outcomes....Regardless of their background or station in life; they share a common belief in the need to work across boundaries to accomplish the goals of stewardship.

In the same vein, Beatley (2011:148) has argued:

Imagining cities as profoundly ecological and natural and working to further strengthen connections of urbanites with nature, also requires leaders such as elected officials, community activists and design professionals, among others – to step forward and to advance and advocate for often bold ideas and ambitious green agendas.

Environmental or place stewardship is much more than just staying in a place yet playing a passive and reactive role in terms of its upkeep. It ought to be rigorously proactive and purposeful (de Kort, 2009; Huby, 1998; EPA/ESSC, 2005). The issue of the ecological footprint is becoming a critical concern in Zimbabwe (Bryceson and Mbari, 2003). Human activity following rapid urbanization in the country, rated at 41%, to date, is cause of concern (Abrams, 1968; Huby, 1998; Lenssen and Roodman, 1995; Taylor, 2011). This is coupled with challenges in the management of the biophysical environmental degradation (Savory, 1988; Alberti, 2009) explained in terms of increased sand extractions, rock blasting and the exploitation of natural resources for livelihood support for poor households and the rich alike. Huby (1998:67) has commented on housing and its effect on the natural physical environment, which has a bearing on environmental politics and has thus opined:

Housing development has effects on the environment in terms of land use, loss of amenity and waste production, and these are felt unevenly by different sectors of the society. But the construction of housing, whether sophisticated homes for the affluent or the makeshift structures of wood, iron-zinc plates and asbestos roofing, which are typical of shanty areas in many developing countries, in itself has environmental impacts. The building of homes and offices is estimated to consume between one sixth and one half of the world's physical resources, wood, minerals, energy and water...

Housing development, in particular for peri-urban Harare,

is the explanation for the excessive urban sprawl factor (Bryceson and Mbari, 2003; Dávila et al., 1999; Day, 2005; de Sherbinin and Martine, 2007; Alberti, 2009). Bryceson and Mbari (2003) have emphatically stated that many households "...are moving into peri-urban areas to lessen urban living costs." This explains the formation of the enclaves of the poor outside the main city and for Harare, the capital city of Zimbabwe, such areas include Hatcliffe, Domboshawa, Epworth, Chitungwiza, and perhaps also Norton and Ruwa. In the past, the transport cost factor was not very much considered by these households and Bryceson and Mbari (2003:340) argue that given "...low petrol prices commuting long distances to work was economically feasible even if you were poor. Thus, the spatial pattern of African outlier urban settlements remained unchallenged." This may also be true of this day after dollarization in 2009 where rates charged to access the same areas are one dollar to access these places. Sometimes, it is even fifty cents. Poor communities are generally lax on critical issues including dangers associated with climate change, and suchlike environmental topics (Mitlin, 2003). The dramatic irony associated with this is that the ignorant and uninformed are often found to occupy risky and precarious places. This concurs with Williams and Melina (2006)'s observations in the US, where they noted heightened knowledge about stewardship being commonly associated with a higher family income, preference for a local steward, time spent in proximity to a danger or sensitive area, individual's level of religiosity, and having heard something about the site or eventuality during the past year. These observations without much ado, place context-based knowledge, experiential-based wisdom, religiosity and income-level at the centre-stage of place stewardship. The challenge that the Zimbabwean government and other key stakeholders have is of tapping on the critical four pillars to achieve sustainable development in its three fundamental spaces – the urban, the peri-urban and the rural.

Pollution, in its entirety is a major cause of concern in peri-urban human settlements (habitats) as there is increased solid waste, sometimes in the environmental sensitive areas like vleis and dambos (Day, 2005; de Sherbinin and Martine, 2007; Girardet, 1999). As rocks are blasted, natural habitats are disturbed by unusual noises. The noises are also synonymous with the exploitation of groundwater resources in the case of Ruwa's upcoming middle density, suburbs where households have resolved to have own water resources given the failure of the local authorities to adequately supply such resources for their needs. Sometimes, the industrial sector has also deposited its unwanted waters into the rivers and streams posing a threat to the health

of the poor households in Ruwa (Munhenga, 2011; Mitlin, 2003) (Box 1). Environmental stewardship, being about wielding an incumbent responsibility and accountability of the natural resources, calls for a collaborative approach (Brand and Gaffikin, 2007) to the management of the biophysical actors, a process which involves the engagement of the available actors, instruments and process-driven mechanisms and institutions (Spaling and John, 1998; Chirisa and Chanza, 2009). The idea is environmental sustainability, which basically is about striking a balance between three factors: economy (market), ecology and society. These factors are the three concerns of prosperity, planet and people, respectively (Savory, 1988).

Stewardship as the foundation of collective responsibility is pinned on the individuals' capacity to apprehend the situation at hand (de Kort, 2009). Williams and Melina (2006)'s observations in the US where they noted heightened knowledge about stewardship being commonly associated with a higher family income, preference for a local steward, time spent in proximity to a danger or sensitive area, individual's level of religiosity, and having heard something about the site or eventuality during the past year. These observations of place context-based knowledge, experiential-based wisdom, religiosity and income-level are at the centre-stage of place stewardship (Mukamuri, 2005; Girardet, 1999). McKinney et al. (2004) in LeRoyed ed. (2004) outline the three goals of regional collaboration, in the framework of stewardship as liveable community (involving the preservation and creation of places to live and work), healthy environment (encapsulating aspects to do with maintenance and restoration of the natural infrastructure) and vibrant economy (shaped by preparing people and places to succeed). Powers and PEER Associates (2009:2) cite conceptualization of stewardship by Dixon et al. (1995), which include aspects that:

Stewardship is "...the moral obligation to care for the environment and the actions undertaken to provide that care", and that the same (stewardship) has implications of "... the existence of an ethic of personal responsibility, an ethic of behaviour based on reverence for the Earth and a sense of obligation to future generations."

Furthermore Dixon et al. (1995) argue that:

To effectively care for the environment, individuals must use resources wisely and efficiently, in part by placing self-imposed limits on personal consumption and altering personal expectations, habits and values. Also they put

across that appropriate use of natural resources within the stewardship ethic involves taking actions that respect the integrity of natural systems.

Siemer's (2001) in Powers and PEER Associates (2009:4) defines stewardship education as "... a process designed to develop an internalized stewardship ethic and the skills necessary to make considered choices and take environmentally responsible actions." He highlights that to be most successful, stewardship education programs should be designed to influence beliefs, values, intentions, action skills, and behaviours related to specific environmental issues. In this aspect, programs ought to address the entry-level, ownership level, and empowerment level variables that have been correlated with behaviour change. These variables include: environmental sensitivity; knowledge about ecology; in-depth understanding of environmental issues; a sense of personal investment in specific environmental issues; knowledge of environmental action strategies; skills in using environmental action strategies; an internal locus of control; and intentions to take action. Siemer advocates that stewardship education should be viewed as a set of sequential learning experiences that take place over an extensive time period, in a combination of formal and non-formal settings, within the context of a supportive social environment (Powers and PEER Associates (2009:2). Though this framework has been developed with school children in the mind, the same principles and philosophies are equally applicable with respect to adults in different communities.

Through use of observation, and interviews with the poor in the peri-urban areas in 2010 and key informants in 2011, the content of this article has been constructed. One key lesson learnt is that the poor always find means to survive life pressures and that sounds quite work for them in their context. If only the same technologies could be applied, that are suffering massive deforestation and its disastrous effects, then the problem of climate change due to indiscriminate cutting down of the trees might be put at bay. This article outlines, explains and discusses the stewardship of the bio-physical environment in Zimbabwe with special reference to the policy instruments used at national and localized areas (Herald, 2010a-g). Issues examined include aspects of the ecological footprint, the national environmental policy and housing with special reference to aspects including burial space, water and sanitation, deforestation challenges, solid waste management, perceptions and attitudes towards climate change, personal and environmental health and town expansion. These are examined at the microcosm space of Ruwa and Epworth, two peri-urban towns, satellite to Harare, Zimbabwe's capital city.

Box 1. Case of illegal water pollution and putting residents at stake.

The Epworth Local Board has fined a local company US\$600 for dumping potentially dangerous chemicals, resulting in the contamination of wells from which people draw drinking water. The chemicals were dumped about a month ago and the water is still discoloured. Kingfisher was ordered to collect the chemicalised garbage they dumped and fill the pit with sand. They were also ordered to scoop the contaminated water from the affected wells. The water had turned purple and the Environmental Management Agency, The Herald and Epworth Local Board have since collected samples for testing to determine its suitability for drinking. The results will be available soon. Yesterday, the water colour had not changed and people were still travelling long distances to fetch safe drinking water. Epworth Local Board secretary Mr Kizito Muhomba, said necessary measures had been taken against the offenders. The Secretary said:

The company paid a fine for the damage that they did and they also collected the chemicalised garbage that they had illegally dumped. As a board we have been monitoring the affected area and learnt that people still do not have safe drinking water so we have no choice but to force Kingfisher to scoop the contaminated water. We are going to revise our policy so that offenders like these pay dearly for the damage they do to the community.

An official with Kingfisher's public relations department said she did not have a comment:

We are not interested in the story my friend and the Local Board will comment on our behalf... The chemicals were dumped and whatever measures that were taken are none of the papers' business. You wrote about the issue, so why are you bothering us now?

Epworth resident Mrs Linda Chirata said companies should be heavily punished for putting people's lives at risk. She said:

Water is now a problem and we are walking five kilometres to get clean water. Those with clean wells in the area are now restricting how much we can get because they don't want to run out.

Mr Shadreck Kumbidzi added that the situation at their AFM church premises, near which the chemicals were dumped, was dire. He said:

The church has resorted to asking every member to bring their own drinking water for the day which is a burden since some members walk long distances. In a community, people should learn to do that which serves the best interests of the rest of the community.

Mbuya Elina Mhizha said she and her grandchildren had scooped the water out of their well and after some days it had cleared. She noted that:

The water is clear yes, but we are not using it since we do not know how strong the chemical is. We are waiting for the results of the samples that were taken recently before exposing ourselves to danger.

She alleged the local board had not done anything to help them and appeared to have been rather lenient with Kingfisher. Another resident and a brick moulder, Prosper Kureva, has said he is partly to blame for the contamination. He said he had dug up sand for his business within his residential stand and had reached the water table. In a bid to fill the trenches and holes, he had reached a deal Kingfisher to fill it by dumping its waste in them.

Source: Munhenga (25 February 2011), Board Fines Firm for Dumping Chemicals. The Herald, Zimpapers: Harare.

CROSSCUTTING ENVIRONMENTAL CHALLENGES IN ZIMBABWE

An overview

In this section, it is established that Zimbabwe faces a number of interlinked environmental challenges, which local communities must brace with and these include: increased deforestation, increased sewerage disposal

and river systems, solid waste management challenges, the climate change issue, subsequent personal and environmental health challenges and unbridled tendencies in town expansion explaining the problems associated with the ecological footprint. I may not dwell much on all the issues, but thanks to the media, which as a critical stakeholder has tried in as much as possible to cover these aspects as pointed out earlier on (Mukumbira, 2002; The Insider, 1991/1992; Pito, 2010).

The ecological footprint problematic in Zimbabwe manifests itself in and around the small settlements in the form of a decrease in woodland resources as residents poach firewood, housing developers and ancillary service providers destroying forests (Cumming, 1993; Mapedza, 2007), increasing siltation of water bodies, non-collection of household garbage due to local authority constraints in finances and equipment; decreased capacity of local authorities to cut grasses during the rainy season and loss of farming land due to various development schemes, housing included. Apart from the ecological footprint resulting in direct loss of biodiversity, there are a host of environmental hazards, which have frequented the country in the past three decades or so, including drought and flooding (Chirisa and Chanza, 2009). Although most of these environmental hazards have been put in the basket of the Acts of God, human action is partly to blame. Households often indulge in actions that are marked by a host of environmental reversals which have in turn triggered a host of natural negative developments. These actions can be termed community and household actions engineered in the demand-side philosophy of utilitarianism. A quick outline of these actions include, among other things: deforestation in response to the energy crisis in the country; illicit sand extractions and quarrying, in a bid to provide cheap raw materials for housing construction in urban and peri-urban areas; overfishing of the small rivers and streams in a bid to address food insecurity issues in households; pollution of land, water, and air, sometimes as ways of managing waste after local authorities have failed to provide basic services in waste removal especially in the past decade (the lost decade); informal business operations marked by massive tax evasions leading to 'poverty in mutuality' (citizens and local government sharing the negative externalities of a 'broken interface'); illegal constructions in a bid to self-house households for various reasons including capacity constraints by local authorities to provide houses and land for housing resulting in ballooning housing backlogs; and 'land invasions' by households for various unsanctioned activities including informal urban farming, squatter camping and marketing of wares and goods in undesignated sites.

Climate change as a subject, overall, was considered as rather abstract compared to the immediate needs that have been challenging the place ever its formation more than a century ago (Mukamuri, 2005). MENRAM (2010:26) has observed that:

Although the impacts of climate change and biodiversity have not been fully studied in Zimbabwe, evidence on the ground shows a decline in agro-biodiversity species after

droughts and floods.... The drying up of wetlands and other water bodies during the drought years have had negatively impacts on the aquatic biodiversity.

Perhaps, the biggest challenge that the world has at the moment is not the effects of climate change per se, but the minds that are not tuned to accept the reality of its existence. This is most evident among the urban poor, some of which are recent in urban centres as demonstrated by the case of Epworth. Not only are planners and policy makers better placed to address this knowledge gap but they also require a change of attitudes and perceptions. This will feed into changing of priorities, which will in turn change the general citizenry and hence their cities regardless of spatial scale. Fully involving them into these issues indeed, by making use of existing structures and capacitating them with the demystified technical aspects of the subject. Resilient cities are thus born and maintained through strong citizenship involvement, which capitalizes on indigenous technical knowledge and a general willingness to accept change (EMA, 2007; MENRAM, 2010). Climate change also is a subject that requires some change in the manner in which urban affairs are managed and upheld. It is pathetic that the culture of trust, accountability and transparency in Africa is not yet fully upheld among urban actors only but also among the countryside persons of the majority of the continent (Chirisa and Chanza, 2009). The challenge is in building the stewardship institution for resilience and management of externalities. Besides talking about critical subjects like climate change, the citizens must learn to 'walk the talk' by beginning to adapt, modify and accept new technologies, therapies and solutions that have been tried and tested and proved elsewhere. Given that peri-urban areas are not as better-served as the cores of cities, it is incumbent upon them to demonstrate aptitude and readiness as a people on the verge of vulnerabilities, risks and calamities, which are too costly to them to bear as the poor of society.

Chideme (16 August, 2010) points out that 66% of the water produced by Harare City Council is being consumed for free because the users were not registered with council as they were illegally connected. The author notes that council mentioned that out of the 34% of water billed, the city is collecting less than 50% of the revenue; implying that only 20% of the water revenue was collected. In its capacity Harare Water could collect US\$8 million from water every month, but receives only around US\$3.5 million. The collected amount includes arrears running into several months. Harare Water has made some investigations and found out that the majority of housing co-operatives in its service area are not captured as well as all new housing developments that have been

established after 2005. Specifically, the utility established that about 1,160 households under Nehanda Housing Co-operative in Dzivaresekwa are not in the council books as well as 777 houses in the various housing co-operatives in Hatcliffe. The same applies to other housing co-operatives in the capital (Chikwati, 17 August 2010).

Chideme notes that some co-operatives use faulty bulk meters, implying that incorrect readings are captured. One official of Harare Water mentions that the amount of 'non-revenue water' meaning water not paid for is a major cause for concern and the official defined non-revenue water as comprising physical losses, leaks and commercial losses that include illegal use, unmetered connections or faulty metering. He explains that physical losses accounted for 40%, while commercial losses were at 26%. Also, there was the issue of some contractors connecting some of the properties directly to the water mains while others hiring private plumbers to connect them without informing city authorities. The implications for the low water revenue collections were noted as the city losing its capacity to reinvest into water infrastructure. This is because twenty (25) percent of the water revenue should be ploughed back into maintenance and upgrading of the system. Chideme points out that Harare's expenditure regarding the water system included: US\$2 million on water treatment chemicals every month and US\$1.5 million for employee salaries, infrastructure and other running costs. In Chideme's story, one other city official points out that Harare's water challenges can be contained if Government speeded up the construction of Kunzvi and Musami dams as the city suffers a deficit of 600 ml (600 million L) a day. He points out that Kunzvi Dam has a potential to produce 270 ml while Musami Dam (supposed to be built on Shavanove River) has potential to produce 450 ml. The two dams could thus add another 570 ml. But the two projects would cost US\$1,170 billion. It was pointed out that it was the city's responsibility to then construct the treatment plants and abstract water.

Herald (18 August, 2010) speaks of the environmental experts presaging of a health catastrophe as local authorities countrywide continued to pump raw sewage into sources of drinking water. The reason cited was that most local authorities' pump stations and bio-filters were dysfunctional hence most embarking on diverting raw sewage straight into the natural water sources an act posing risk to people's lives. This has prompted EMA as the environmental watchdog to litigate such municipalities like Harare, Mutare, Chinhoyi and Marondera, among others. This is confirmed in the Herald of 24 August 2010, which reports that the Environmental Management Agency has dragged Harare City Council to the Mbare Magistrates' Courts over the local authority's alleged emptying of raw sewage into Mukuvisi River. In 2009,

EMA fined Harare US\$3 800 for failing to clear illegal dump sites in residential areas. Early 2010, EMA makes an urgent chamber application for council to stop pumping raw sewage into rivers and other water bodies around the capital. In July 2010, it fines Chinhoyi municipality US\$1 000 for discharging raw sewage into Manyame.

Deforestation is also a great challenge in the subject of environmentalism in Zimbabwe. Pito (16 August, 2010) gives a case of the Hurungwe Rural District Council (HRDC) mentioning an increase in the number of illegal firewood vendors and wood craftsmen in the area which has caused massive destruction of forests in the district (Mapedza, 2007). To curb the practice, the council collaborated with the Environmental Management Agency to clampdown on the illegal firewood vendors and wood craftsmen (including in May 2010, EMA and HRDC raiding the craftsmen and the impounding their wares which were then auctioned at the HRDC offices).

INTERFACE WITH THE EMA

Institutional position and responses

27 May, 2011. I arrive at the EMA offices at 08:00 h. It is not my first time being here. I have been coming to these offices for about three months and a number of alibis have been raised about assisting me with my research. But this time I am confident that something will happen today. One officer (Officer 1 in this discourse) sees me.

Officer 1: I have been seeing you over the months. Does it mean you have not received the attention and information that you need? Now tell me, what exactly you want. [I paraphrase my mission that I want to understand how, as an environmentalist they perceive housing development as impacting on the environment, the bio-physical environment.]

IC: Tell me in your view how housing development affects the ecological environment which, I think, is the thrust of what you manage.

Officer 1: Regarding housing development, I must say our entry point as the Environmental Management Agency is Section 97 of the Environmental Management Act. Housing constitutes part of development projects which require an environmental impact assessment. But to operationalise this task of assessment you

must bear in mind that the Act is too generic. So there are statutory instruments, which specify the details of how to do it.... There is a general encouragement world over to embark on green building to mitigate the negative impacts of air pollution. But in Zimbabwe we have no green building. I say so because, instead of our people planting hedges around their houses, they are in fact removing the hedges and replacing them with walls – durawalls thus adding on concrete to the already existing concrete [jungle]. We are removing the green. Excessive carbon gas has no place for absorption. This has been part of the climate change debate and also the aspect of the ecological footprint. That some settlements are located further away from places of jobs or other social and economic activities means people have to travel using either buses or cars. There is pollution emission posed cars and buses. It infuses carbon in the environment. Our Climate Change Office [located within our parent ministry], I am sure has a way to make calculations of carbon content in the atmosphere. This explains why motorists have to pay carbon tax. All this is part of the ecological footprint and how we link it to settlement development, like those, which are outside the main city. Also, we are living in a consumer society. Imagine the waste that is generated after goods have been bought for household consumption. The peri-urban areas have generally been the main place where such waste is dumped. The ecological footprint is that impact associated with increased human action in space. We use a blanket approach to our environmental management endeavours. Thus, we don't specifically look at peri-urban areas as a separate space. Some of our policies however are specific to rural areas and other urban.

You guys, who are doing higher studies, are not trustworthy. [He says jokingly]. If we give you our material you won't return it. I did my MSc with CASS, you know, the Centre for Applied Social Studies? I am a social ecologist so I understand where you are coming from [regarding your topic]. We have relocated our offices to Bluff Hill. That is where all the stuff that you need I have it

in my office. We are preparing for an Environmental Expo, June 1 to 3 at HICC [Harare International Conference Centre]. There are a lot of issues. You can come and we discuss these there. At least the environment is less busy. We can chat over these issues, hours on end...

I told him that CASS is in our Faculty. He takes me to his car parked outside the EMA offices, and pull out some green covered documents. At the end, I am holding the Environmental Management Act, the National Environmental Policy and Strategies Document, the Local Environmental Action Planning (LEAP) Manual.

We also have a number of statutory instruments that we use...only that they are at my office. But you go and make sense of the contents of these documents.

I followed him back to the offices and told him I cannot go without seeing the Director, Environmental Management Services who has already said he is waiting for me over the phone. When I get to the Director's office, he is on the phone. He signals me to come in. Then another man follows behind me. The Director then asks me to wait in another office since he must talk to the man (a client) who comes after me, first. He talks with the man until he almost forgets about me. Some thirty minutes later I get out of the office where I temporarily lodge in. I meet the man the director has been talking with. I rush straight to the Director's door to show my face. I am so used to the Director now. Though he is an awe-striking figure, perhaps of he is of a military background, his eyes are quite friendly with me now.

Director: Come in but I won't be able to attend to you. I went to Cape Town to attend a meeting. I am busy with my back-to-office report. It is needed at the Ministry offices. But I will ask one of our officers (I call her Officer 2) to attend to you. I am surprised that you have not yet been attended to.

He calls in a slim and light in complexion lady and instructs her to help me with all courtesy. I follow the lady and find three other officers in, Officer 1 and 3. I have seen the two earlier but Officer 2 is quite eager to hear and answer my case. I almost felt ashamed of myself since I am almost repeating myself on the same issue. Anyway, I must just ask my questions.

IC: I am looking at the linking between housing including its production or construction,

use... and how this affects the environment, its management included. From what I have read, housing has great impacts on the ecological environment (Huby, 1998; Lenssen and Roodman, 1995). Tell me how 'enforce' EIAs for settlements like Epworth and Ruwa, which are settlements of different origin and shapes. Then, also is the issue I am hearing about of LEAP....

Officer 2: A settlement like Epworth has been in existence for quite a long time and if you look at the EIA initiative, it quite recent in the country. For such a settlement, which developed informal and as a rural set up, we cannot enforce the law in retrospect. But for new projects....there are subject to the law. So a place, like Ruwa one can safely say most of the projects have gone through EIA. In older settlements we have been encouraging the local authorities to work with CBOs that they identify the community challenges and strive to act together towards redressing the challenges.

I must stress that EMA does not work alone in addressing environmental issues. We work with quite a number of other ministries, agencies, departments and local authorities. For instance, regarding LEAPs, we work local authorities including Ruwa and Epworth as you have asked. We have trained these local authorities so that they engage CBOs within their areas of jurisdiction. CBOs are part of the plan, in terms of identifying problems and identifying the solutions and implementing those solutions. With LEAP, locals and other stakeholders are the agents for improvement and change. EMA facilitates the process; it guides. The locals act. LEAP may not be entirely about the environment; it may be to do with economic challenges affecting the local community. It may be poverty...where the locals say how we address poverty negatively affecting the poverty in our community. Environmentally, it may be about managing waste.

IC: Are you by any chance, as an agency applying GIS as a tool to manage some of the environmental impacts affecting communities like flooding, deforestation, climate change as it affects local communities...

Officer 2: Yes we do. That is what our

Environmental Planning and Monitoring section does. We are at that stage of putting up a laboratory to allow such operations. Climate changes....the Climate Department lies in the Ministry. As EMA we are mainly concerned with the implementation part. We aim at reducing or mitigating negative impacts to the environment, if not moderating them. Deforestation is a concern of our sister agency, the Forestry Commission. As you may know we are there agencies under the Ministry of Environment and Natural Resources Management. There is EMA, to manage the environment as it were, Forestry Commission to do with the planting of trees and guarding against deforestation, and the Department of National Parks and Wildlife mainly to manage the fauna. EMA in its duty is guided by a number of statutory instruments. There is Statutory Instrument 7, which is a general guide to environmental management looking specifically on issues like the setting of fireguards, doing EIA, sand abstraction, and waste management; Statutory Instrument 6 of 2007 dealing with water and effluent, solid waste and industrial and mining waste; Statutory Instrument 10 of 2007 sets standards for Hazardous Substances; Statutory Instrument 12 of 2007 is about Hazardous Substances like fuels and chemicals; and, Statutory Instrument 72 of 2009 on Air Pollution. The instruments are critical for our operation. Industries must comply with the benchmarks stated in these. The Ministry of Health assists us a great deal in the implementation, monitoring and evaluations linked with the enforcement of these instruments.

Officer 3: There is also Statutory Instrument 3 or 5 of 2011. It is not totally new but just adding value to Statutory Instrument 7. You may also need to have a look at that one.

IC: As you outline these, you remind me something: Where does ISO Certification come in? How are you involved in 'enforcing' it?

Officer 1 and 2: [together]... ISO Certification is voluntary. That one is the baby of SAZ....Standards Association of Zimbabwe. It is about global compliance standards for industries...

Officer 2: We are a public institution. We enforce public laws!

IC: Okay, I get that one. Now, I once read in the newspaper of some industry...it was called Kingfisher that dumped its waste in a river in Epworth and you were said to have been involved in that matter. Residents cried foul over the issue.....

Officer 2: Yes, such cases do happen. This issue is not about companies dumping their waste. It is about dumping that waste without a license. Before dumping they must be licensed to do so. They must have their waste tested in a laboratory so as to determine which band the waste belongs to. We have several bands for example the Blue Band, Green Band, Yellow Band and the Red Band. Each band stipulates the type of licence required in terms of how much the polluter must pay. I encourage you to grab those statutory instruments that I mentioned to you from Government Printers....I don't remember what is now called. Oh ...it's PrintFlow! All the specifications are in those statutory instruments.

IC: Okay, I get it, but one more aspect, before I ago is the observation that I have made in both Ruwa and Epworth. I understand it's also happening in some other areas today where housing construction is taking place. The matter concerns two issues: quarrying by households for concrete requirements and deforestation due to perhaps increased powercuts and also perhaps most of the upcoming settlements don't have access to electricity yet...

Officer 2: Indeed those are interesting observations but I have this to say to you. First, about quarrying, that is not administered by us but the Ministry of Mines. So I don't have much to comment there. Second, regarding deforestation, again, that is the issue for the Forestry Commission. But I should point to you overall what the Communal Forest Resources Act says. It states that communities have a right to the resources that are available in their areas. So communities can exploit these resources, for example woodfuel. In fact, this is also a provision in our [National] Constitution. Perhaps the question is the rate of exploitation which is problem to really

tackle. That is where the question of sustainability comes in. They [communities] must use these resources within their areas of living. They are not allowed to transport these to other places without a licence. It becomes a big challenge when resources are commercialised.

IC: I see. So for you it must be a very difficult job to balance between these needs: people, prosperity and planet, they say.

Officer 2: No, not difficult. It's interesting!

This dialogical engagement with the authority at the centre of environmental management conveys a lot of message about the attitudes it has over certain issues – sustainability included, places, and how the communities are supposed to work tirelessly across a wide range of problems besieging their communities (Chirisa and Chanza, 2009). Such challenges are a reality and need attention warranting an environmental stewardship endeavour and ethic. Perhaps this is epitomised in the words by Alberti (2009:28):

Instead of asking how emergent patterns of human settlements and activities affect ecological processes, the question we should ask is how humans, interacting with their biophysical environment, generate emergent phenomena in urbanising ecosystems. And how do these patterns selectively amplify or dampen ecological processes and functions. Cities are coupled human-natural systems in which people are the dominant agents.

EMERGING ISSUES FROM RUWA AND EPWORTH

Poor communities are generally lax on critical issues including dangers associated with climate change, and suchlike environmental topics. The dramatic irony associated with this is that the 'ignorant' and 'uninformed' are often found to occupy risky and precarious places. In my field surveys in 2010 in Epworth (it was during the World Cup Soccer Tournament in South Africa), upon asking one lady respondent about her knowledge of climate change she said:

We [as a family and perhaps, also speaking on behalf of the marginalised groups] would be interested to understand such a subject you are asking about. But here we have to big challenges: we do not have a radio set as a family, and, even if we have we do not have

electricity. The lucky ones to know about such a subject are those with radios and electricity....

Most of the poor in Epworth indicate that issues outside coining a livelihood now are non-essential to them. The issue also lies with their 'having heard of it' in recent times. But where any issue directly impinge on their day-to-day life they can comment in a more articulate way (Box 1).

For example, Zingoni et al. (2005) found that the groundwater in different parts of Epworth (samples collected from 10 shallow boreholes and 20 shallow wells across the settlement) had significantly elevated levels of nitrates and coliform bacteria in most parts of the settlement. The researchers indicate that the levels of coliforms were highest in the old parts of the settlement. The results helped the research team to delineate the settlement into parts or zones with three broad zones being defined as: Zone 1 (water drinkable after boiling), Zone 2 (water for agricultural use only), and Zone 3 (water unsuitable for domestic or agricultural purposes). They concluded that most parts of the settlement had no safe groundwater for human consumption and Zone 1 could be faced with high nitrate levels in future. The team stated that it was too late to prevent contamination of groundwater in this settlement but suggested that as a cost-effective measure to reduce health risk, the local authority could consider the provision of a limited water supply, via communal taps, starting in those areas in Zones 2 and 3 except for the south-east where there are already communal taps. They also advocate for a health education campaign on the risks of drinking polluted groundwater in this settlement. Another alternative was the development of a sewage system although it was expensive at the time of the research (due to economic doldrums in the country). Yet the proper sewage reticulation system in place could not deal with the levels of nitrate which would remain high, until flushed by recharge. Such knowledge was not often available to the general public.

More than fifty percent of the people living in Epworth live illegally, as it were. Efforts to upgrade this peri-urban town have been limited and ineffective; it continues to receive a new horde of illegal settlers who have to fend for themselves in order to make do with life including access to energy. Epworth has, consequentially, so much been subjected to all forms of environmental degradation, deforestation ranking high in the list. With diminishing firewood, the poor peri-urban dwellers have embarked on finding sawdust from various source markets including Mbare in Harare and Ruwa, a sister peri-urban town with a host of timber and furniture manufacturing companies. With this sawdust and some firewood brought from the surrounding farms with just one piece of firewood is put together with some compressed sawdust and the fire is

quite strong to do all the cooking and heating. Combustion efficiency may be high at the way households perceive it but the pollution effects of this technology remain unknown in terms of human health and the general environmental sanity.

INSTRUMENTS FOR STEWARDSHIP

National and local levels

Actions and policies crafted in the name of environmental resources protection are meaningless and fruitless unless certain attitudes and knowledge gaps in the stakeholders, particularly communities are addressed (Savory, 1988). The Ministry of Environment and Natural Resources Management (MENRM) has been at the forefront of fighting against environmental maladies in the Zimbabwe. The 'environmental issue' has been a topical as it is covered almost daily in the media, particularly the print media for example, Herald, 16 and 19 August, 2010a; Herald, 16 and 19 August, 2010b; Herald, 17 to 18 August, 24 August, 8 September, 8 February, 20 September, 2010; Herald, 2010; Kadzere; 1 April, 2010; and Kashawo, 22 August, 2010. The coverage includes admonitions, initiatives, reports, awareness campaigns to name but a few, all crosscutting rural, peri-urban and urban spatial zones. Forthcoming are the themes and cases to illustrate how this has been so. The role of citizen participation remains pivotal given that individuals are the main factor behind destructions and mismanagement of natural and environmental resources.

Looking at the supply-side of environmental stewardship in Zimbabwe there are a number of policy and plan initiatives across the board with the Environmental Management Agency being the principal determinant of steering environmental initiatives in the country. The continuum of action has ranged between regulation or control and facilitation or promotion. There may also be traces of inaction and ambivalence. It is important to take note of some of these instruments in a bid to find out the role of the public institutions in fostering and enhancing environmental stewardship in the public affairs of the nation. I shall single out National Environmental Policies and Strategies (NEPS), National Environmental Plan (NEP), the Local Environmental Action Plans (LEAP), some statutory instruments and the Environmental Impact Assessment (EIA).

There are 60 guiding principles spelt out in the country's National Environmental Policy and Strategies document. This is a framework that Zimbabwe has adopted in keeping with "its commitments made under Rio Convention on Environment and Development (Agenda 21)" (GoZ, 2005:26, Nhema, 2005). According to the NEPs document, the purpose of NEP is to

“...promote and facilitate the consolidation and coordination of strategies, plans and activities developed at different levels (9 provincial, district and community) and in different sectors across the country. Once adopted, the NEP binds everyone including the state. In essence, the NEP, like any other plan is an ongoing process, time bound and subject to the stages of planning life cycle (Sections 87 to 94 of the EMA Act). Then comes also the aspect of Environmental Management Plans (EMPs).

According to the EMA Act, section 96, every specified authority “shall an environmental management plan within such a period as the ministry may specify” and whose contents include; a description of the functions exercised by the specified authority in respect of the environment, a description of the environmental standards set or applied, and a description of the policies, plans and programmes that are designed to the plan, highlighting the degree of compliance required of other persons, arrangements for cooperation with other persons or environment management and a description of the manner in which the specified authority will ensure that its functions are exercised in a way that will ensure compliance with this Act, other relevant enactments and environmental standards so as to achieve the management and protection of the environment. The preparation of EMPs, according to the law is to conform to set prescriptions. That alone may be problematic to enhancement of stewardship as it becomes more political, legalistic and a setback to voluntarism associated with stewardship.

EMA (2007:1) defines the Local Environmental Action Plan (LEAP) as “...a process which addresses an area’s environmental threats or problems [involving] the local community coming together, identifying their problems and concerns, and working together to solve them.” It is thus a collaborative process involving community visioning most likely informed by an analysis of the place and the community’s strengths, weaknesses, opportunities and threats. In itself, a LEAP fosters and enhances community resilience to possible disasters and risks. LEAP in Zimbabwe is linked to the country’s National Conservation Strategy (NCS) which was launched in 1987 by the then Prime Minister, Robert Gabriel Mugabe (EMA, 2007; Nhema, 2005). EMA (2007) acknowledges that LEAP responds to the tenets and requisites of the Agenda 21. The idea of LEAP was first introduced in the rural areas under the District Environmental Action Plans (DEAP) process. The belief then was that environmental problems were in synonym with rural areas. However, upon realising the challenges urban areas also face, the idea was taken urban (EMA, 2007). To date, the idea of LEAP has been enshrined in the Environmental Management Act (Chapter, 20:27).

EMA (2007) has identified the challenges associated with the LEAP process (Section 95 of the Environmental Management Act) that; the process is time consuming, costly and raises high hopes among members of the community, which however may not be corresponding to with the resources available to execute the expected.

However, there is a justification as to why local authorities should develop LEAPs, particularly that they form a baseline and serve as blueprints upon which future investments in the place are to be based. Secondly, its people-centricism, in terms of the participation involved in producing the plan, give the local people and key stakeholders an urge and sense of ownership, perhaps, not only of the plan document, but also of the place and its investments (Cunningham and Alison, 2002). EMA (2007) spells out the importance of LEAPs as: a forum for bringing diverse groups and individuals, and individuals with different interests, values and prospective together for a shared vision, and a tool for sustainable development.

In implementing a LEAP, the local authority takes a centre stage, coordinating all the stakeholders. Where the local authorities have operative master and local plans, EMA (2007:28) advises that the LEAP process “...be integrated into these planning processes to avoid duplication, conserve resources and ensure funding.” Overall, the LEAP process adheres to the project lifecycle approach, from needs identification, search for alternatives, selection, goal formulation, design, implementation, monitoring and evaluation all these being lubricated by public participation (Baum, 1982; Gittinger, 1982; Davidson and Payne, 1983; Olthof, 1990; WVI, 2002; Mulwa, 2008). Methodologically LEAP process involves tools enshrined in Participatory and Learning and Action (formerly Participatory Rural Appraisal (PRA) including: mapping, transect walks, trend diagrams, well-being ranking, seasonal diagramming, scoring and ranking, role plays and games (EMA, 2007). Livelihood analyses are also done (Mulwa, 2008). It makes use of the common principles of the PRA including reversal of learning; learning rapidly and progressively; offsetting biases, negative attitudes and beliefs (Chirisa, 2009; Cunningham and Alison, 2002); facilitating and not teaching and lecturing; being self-critical; not dominating; and, relaxed sharing and not rushing (EMA, 2007:39; Chambers, 1997). Alberti (2009:250) has outlined planning and management principles needing integration and these are: resilience, diversity, integration, learning, flexibility and adaptation. Overall, UNHABITAT (2010:19) has stated that:

There is only one sure winning strategy, and that is to understand and build upon the strengths of your own city – to identify, capitalise on, nurture

and improve the indigenisation processes that are already working well.

In essence, this is the spirit and purpose of LEAP. It is more than a 'home grown solution' to environmental and other transcending challenges affecting a place. Indeed, this is a pillar for effective environmental stewardship of any place.

Environmental Impact Assessment (EIA) is provided for in the EMA Act, sections 97 to 108. In the National Environmental Policy and Strategies document, GoZ (2005:27), EIA is defined as "...both a process and a tool for Project Planning and decision making... (Whose)...purpose is to ensure that during development planning, possible impacts on biophysical, economic and social cultural elements of the environment are taken into account... (with the)...aim to identify, likely impacts, estimate their security, indicate which impacts may be significant and what opportunities there might be to avoid or minimise negative impacts and enhance potential benefits". As a prerequisite, the policy document stipulates the need for alignment of development subject to EIA with the National Environmental Plan and Local Economic Actions Plans (LEAPs). Guiding Principle 52 of the NEPs document underscores the centrality of EIA of which housing is one sector in its ambit. The wherewithal of carrying out EIAs is spelt in part 3 of statutory instrument 7 of 2007 on Environmental Management Regulations.

CONCLUSION

It is noted that the subsequent phenomena in various spaces in Zimbabwe have been eyesores and the general degradation of land resources in rural, peri-urban and urban centres alike. In this aspect, the need for sustainable habitats in Zimbabwe, like many developing countries is no doubt long overdue. Environmental stewardship is a concept and practice enshrined in the concept of governance whose thrust is the creation of a forum for 'policy from below'. It is an empowerment tool to enhance the bottom-approach to the development of a place. The idea is for collaborative engagement of the citizens (Brand and Gaffikin, 2007), and in this case the dwellers of the fragile and ever-shifting peri-urban zones. Communities must 'own' their environment and take it upon themselves that they have a pivotal role in utilising resources endowed in the place without undermining them for the benefit of future generations (McCombs, 2001). The central pillars to this ethic are enshrined in the communities and stakeholders in financing the Environment, resolving the Heritage Question of the place, and sometimes marketing the place as a way to

show commitment and pride in it. Indeed the communities have the environmental and planning rights in the place they live in and so, must, with the leadership and coordinative capacities of their local authority take the initiative to transform their places for the better. The tools discussed here (EIA, LEAP, NEAP, etc) are there to spruce up this drive. One way of achieving that it to inculcate among the citizens a stewardship culture whereby they begin to see the place in which they live in, not as a second, transient and unimportant home but rather as a permanent place to live and invest in. This means making citizens in the first place, to relate to their place is wholly owned by them; supposedly apt 'defend' it against all woes and vagaries including the risks and disaster associated with climate change; prepared to make appropriate choices for building materials which are not only durable but amenable to the challenges of say, climate change; who can organize themselves to manage not only the micro-environments they occupy. A reflection on the contribution by Abrams, four decades ago can help us to put these ideas and policy actions together. He wrote rather prophetically (Abrams, 1968:216) to say:

Instead of permitting sprawl, skip-over subdivisions, and the wanton destruction of green spaces and orchards to make way for small speculative subdivisions, we can preserve what open lands or green spaces should be preserved for our future settlements while simultaneously acquiring and planning for land for new downtowns with room for apartment dwellers, workers, industries, commerce and all other services than any working urban settlement requires.... We can also merge or bring under planning control the thousands of disparate little governments that surround the central cities and keep their regions from growing sensibly. These little governmental units have common problems in water, transport, sanitation, education, parks, air pollution and hospitals. Yet they compete with each other for industries, revenue and people as though they were no part of the main.

The whole idea is to have an approach that is integrative, holistic, collaborative and allowing for strategic communal visioning and practical action. Stewardship is also an individualistic view of one's impact to the earth, and to the environment as epitomised by a reflection by Taylor (2011:18) that:

"My 'thumbprint' holds my contact details, my cell number and social network connects. My 'footprint' is the impact I have on the planet through the lifestyle choices I make. My

'handprint' reflects the positive commitments I make towards sustainability. Working with others I commit to a 'sustainability commons', where through our actions, we add substance and vigour to the quest for sustainable living".

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