The Potentiality for a Resilient Urban Social Forestry Programme in Zimbabwe: Lessons from Trees Planted by the Harare Municipality in the Avenues Area between 1890-2020

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Abstract

This article focuses on tree species being propagated in public and private nurseries and planted by the City of Harare's Horticultural Department (Department of Works) along streets in the Avenues Area. It analyses policies, institutions, tree species stocked in nurseries and those planted along roads in the Avenues Area. The article also presents perceptions of selected residents to gain insights into governance issues in Harare. Key informant interviews with various stakeholders (residents, government officials, City of Harare horticulturalists and nursery attendants) were combined with group discussions with selected residents, both young and old. The study also included physical counts of seedlings in nurseries and analyses of nursery records. Research findings show that despite both private and public nurseries being stocked with both exotic and indigenous tree species, local authorities in Harare are still biased towards exotics, but a sizeable proportion of residents preferring the other.

Keywords: *urban social forestry; indigenous technical knowledge; cultural values; multi-stakeholders; Harare*

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INTRODUCTION

Public forestry-related policies in Harare still do not reflect changing cultural and aesthetic values of all tenants and passers-by. Above all, despite the existence of a wide range of tree species (both indigenous and exotic) available in Zimbabwe, there appears to be neither effort nor dialogue on issues related to tree species being planted in public places, such as along roads, parks and municipal premises. The institutional and legal frameworks for this to happen in Zimbabwe are already in place. Key is building political will and provision of government-donor support to develop an urban social forestry initiative or programme in Zimbabwe through research, public engagement and action.

Zimbabwe attained its independence from Britain on 18 April 1980 and many things have changed since then. For example, the post-colonial government changed the names of most major cities and those of other public amenities. Notable changes are also seen in education curricula that are increasingly inward focused and 'decolonising' the minds of Zimbabweans. More recently, in 2020, Zimbabwe launched Education 5.0 that talks to teaching, research, innovation, industrialisation and community service. Key in Education 5.0 is the heritage-based thrust that all state universities and affiliate institutions ought to embrace. This article is inspired by the new opportunities for urban forestry modelled around heritage, a necessary step for the national transformation and building of the much-needed national identity. Urban areas are social spaces from which future generations can learn from nature. Since the mid-1980s, local and international researchers have worked together to study, propagate, plant and manage indigenous trees based on local people's Indigenous Technical Knowledge (ITK). The studies and projects that came after were based on harnessing people's culture, knowledge and resources to encourage people to plant and manage indigenous trees after many years of colonial state neglect (Scoones *et al.,* 1989; Mukamuri 1995a; Braedt and Schroeder, 2003).

Traditional medicines collected from plants and animals play a significant role in the African health system, hence the call by the World Health

Organisation to include them in government programmes (WHO, 2008). This has been largely attributed to reduced access to western medicines because of poverty and the unavailability of adequate health infrastructure and services. In addition, poor health-seeking behaviour in Africa is also driven by the failure of western medicines to effectively treat long-known diseases, such as influenza, malaria, HIV and AIDS (Mahomoodally, 2013), and now COVID-19. Mahomoodally (*ibid*.) also asserts that Africa is endowed with biodiversity, the major source of medicinals. For example, Africa is estimated to have between 40,000 and 45,000 plant species that can be used as medicals but only 5,000 are currently used. The literature reviewed for this article shows that Zimbabwe is rich in bio-diversity (fauna and flora), with an estimated 8,500 indigenous tree species, 4,600 of them being classified as endemic (restricted and *peculiar* to Zimbabwe) and over 3,000 being of medicinal value (Gelfand, 1985).

The current COVID-19 pandemic speaks to the role both exotic and indigenous trees can play in people's health. For example, the value of the lemon fruit did not increase in terms of consumption but also in terms of prices, the latter quadrupling. For the first time in the history of the country, we have seen *Zumbani/umsuzwane (Lippia javanica* (Burm. f) Spreng*)* being commercialised and being researched on and yet it is a plant that has been known for ages as a remedy for the common cold and other ailments (Maroyi, 2017). The Mauritian President became a media star following his announcement that his country had found a cure for COVID-19, referring to Zumbani! We have also seen social media awash with 'remedies,' mostly comprising indigenous plants and trees, for example, *Mutombwe* (*Azanza garckeana*) and *Mupumbu* (*Acacia polycantha*). Both trees are easy to propagate, plant and manage. The latter is known to treat at least 20 ailments, apart from the fruits being eaten in many African countries, including Zimbabwe (Biotif *et al.,* 2020).

The COVID-19 pandemic provides renewed opportunities for research, education, innovation and community engagement, as well as industrialisation (commercialisation) through the promotion of propagation, planting and management of both exotic and indigenous

trees in urban areas (urban agroforestry). What is needed though are policies that link people and authorities in terms of values, norms of behaviour, institutions, beliefs and culture shared by a specific community, in short, social capital (Fukuyama, 1992; Putnam, 1995; Halpern, 2005).

This article is organised into seven sections. The first section presented the introduction; the next section presents the study area, followed by the methods. The second section reviews literature on the history of forestry in Zimbabwe, with the aim of connecting the colonial and current eras the city has gone through, literature to provide historical, local and regional contexts surrounding tree species selection and planting. The third section looks at the policy environment that is probably leading to the continued bias towards planting exotic or alien tree species and failure by authorities to encourage the planting of indigenous tree species or a combination of the two. Fourth, the article presents data collected from nurseries around Harare, focusing on species being propagated. Fifth, we explore tree species that were planted by the City of Harare along selected roads in the study site (Avenues Area). Sixth, we present residents' perceptions (preferences) on tree species that exist in the selected study area. Finally, we discuss and make recommendations based on the study findings.

The Avenues Area is the core study area (Figure 1). Specifically, the study was centred in the area bordered by Josiah Tongogara Avenue (North), Seventh Street (East), Montague Avenue (South) and Leopold Takawira Avenue (South). The area is small compared to the size of Harare but is representative enough to be able to show some dynamics of decision-making in the capital. We also selected the site because it has, though limited, forestry related documentation available as it was one of the places to be settled in by colonialists who initiated exotic tree-planting in the area. Secondly, the study area is also genuinely cosmopolitan, comprising mixed races (Africans, Europeans, Asians). Third, one of the authors is a long-time resident of the study area and established social connections across races that made access to informants easy. However, the study was not limited only to the Avenues Area because we extended it to public and private nurseries to collect data on seedlings in stock and of different stakeholders' experiences.

Figure 1: *Location of the Avenues Area* (Google Images@2012 TerraMetrics)

URBAN TREE PLANTING: A REVIEW AND CONTEXT ANALYSIS

Urban social forestry in Zimbabwe is closely intertwined with the colonial history of the country, (1890-1980). Harare, formerly Salisbury, is Zimbabwe's capital city and was established in 1890 by the Pioneer Column (Bowman, 1973). Harare has largely followed western planning and values despite the country getting its independence from the British on 18 April 1980. Other nationalities who gradually settled in colonial Harare included Italians, Greeks, Indians and the Dutch (Afrikaners), who established themselves in the city and the countryside (*ibid.*). Although Africans could reside in the locations or townships prescribed

for blacks through statutes moulded on the Group Areas Act (1950) of South Africa, they did not have meaningful control over the day to day running of the affairs of the city.

Reviewed literature suggests that the first jacaranda and flamboyant trees (two major exotic trees in Harare and other cities) were planted between 1902 and 1903 by Sir William Henry (1854-1930) who was a dedicated gardener (Mullin, 1993). He is reported to have brought them from Cape Town, South Africa, although they originated from Brazil, Central and South America and the West Indies *(ibid.)*. The first exotic trees were planted along the then Montagu Avenue (now Josiah Chinamano Avenue) in 1975.

Part of the reasons for planting exotics (for example the jacaranda in Plate 1) is best explained by Samovar *et al.* (1984) who associated exotic tree-planting with a colonial design to psychologically subjugate Africans through both cultural domination and erosion. (Garrette 2007). Scholars studying ornamental tree species conclude that the selection of species needs be culturally situated and the human dimension needs to be incorporated into the landscape ecological designs (Haines–Yong, *et al.,* 1993).

Plate 1: Jacaranda trees lined in a street in central Harare.

Muzhanje, an ever-green tree, is one of the most popular trees in Zimbabwe. Apart from indigenous people's belief that the tree is sacred and its fruits must not be sold, *muzhanje* fruits are now being sold in all parts of the country because of high demand. This is particularly the case in Harare where the fruits are sold in five-litre tins for at least US$3 during the low season and at aboutUS$5.00 during the high season, usually between November and December, and sometimes up to February. Officials are usually worried about health issues as the marketing season usually occurs during the rainy season. This season is often accompanied by serious cholera outbreaks across the country. With players spread along the value chain, from collectors (mostly rural women and children), transporters to retailers, the latter largely comprising urban mails. Interestingly, the popularity of its fruits has led to city officials turning a blind ear to the practice.

The Mupani or Mopane tree is also highly valued for its firewood, browse and *Mopane* worms (*Imbrasia belina)* (Hobane, 1994; Kozanayi and Frost, 2002), the latter also marketed in large quantities in urban areas, a 20-litre tin of dried worms selling for around US$25 and US$40, depending on the season. The *Mupani* tree species would grow well in low urban areas, such as Chiredzi, Chipinge, Bulawayo, Tsholotsho and Zvishavane.

A recent study on the use of medicinal plants in south central Zimbabwe lists over 100 species used by people to treat human diseases and ailments, as well as to alleviate pain (Maroyi, 2013). Major ailments include gastro-intestinal disorders, sexually transmitted infections (STIs), respiratory disorders, snake bites, coughing, sore throat, skin rash, injuries, nervous disorders, gynaecological and pregnancy challenges and birth preparation, sexual dysfunction, ophthalmological, fit attacks, headaches and urinary dysfunction, among others.

Mukamuri and Mandondo (1998) also report the wide use of medicinal plants to treat the effects of and warding off of bad spirits among people. Tree species used by people to treat ailments also include exotics, such as the mango tree (*Mangifera indica*) and Pawpaw (*Papaya papaya*). In

reality, the list of medicinal plants in Zimbabwe used by people is over 3,000. A further review of literature also points to other medically important tree species that exist elsewhere in Africa, with some already now existing in Zimbabwe. These tree and plant species include the following: Dorstenia mannii Hook;Gum Arabic (*Acacia Senegal, L);* Bitter Aloeor Cape Aloe (*Artemisia herba-alba Asso);* Wormwood *(Aspalathus linearis Brum.f.);* Rooibos (*Centella asiatica L.);* Madagascan Periwinkle (*Catharanthus roseus*) Honeybush (*Cyclopia genistoides (L.);* Devil's Claw (*Harpagophytum procumbens*) and Bitter Melon *(Pelargonium sidoides DC)*.

AFRICAN MYTHOLOGY SURROUNDING INDIGENOUS TREE SPECIES

Literature suggests that trees are highly revered across the world among diverse cultural groups. Trees serve as embodiments of life, aesthetics, provide shade, windbreak and act as strong symbols of social and political representation, worldviews and futures (Hofstede, 1984; Coder, 1996; Conradt et al., 2009; Durkee, 2011). The Cherokee Indians believe that the cedar tree is inhabited by the spirits of their departed ancestors and is a reminder to never forget them. The Nepalese consider some of their native trees as sacred (Wassink, 1974). Japanese Buddhists believe that the blossoming of the cherry symbolises how fleeting life is, including the pink petals of the cherry blossom symbolising the Japanese Samurai of the blood they are prepared to shed. Biblically, the acacia is strongly believed to have been used in the construction of the biblical Ark of the Covenant. To date, Catholics still use the almond tree to fashion the Pope's staff (Coder, 1996). Nearer home, the Venda of South Africa, highly value *Mugaragora* or Fever tree (*Boscia transvaalensis Pesta)* and is used in most maturity rituals. The Tonga in the Zambezi Valley, bordering Zimbabwe and Zambia, believe that certain trees harbour spirits of dead relatives (Byers, Cunliffe & Hudak, 2001).

In Zimbabwe, several tree species known to be of spiritual and symbolic importance are protected under traditional norms from domestic use, such as construction and cooking. For example, *Lonchocarpus capassa* is believed to attract lightning and, therefore, cannot be used in homes. *Muzeze, Pseudostylus maprofolia* and *Gardenia globiflora* are also believed to attract evil spirits if used for domestic purposes. Some tree species have real use

values, such as edible fruits (*Lannea discolor*, *Azanza garckeana, Schlerocarya birrea*, *Adansonia digitata*), fodder (*Combretum spp*, *Kigelia africanum*), construction (Combretum spp, *Julbernadia globiflora*), medicinals (*Warburgia salutaris*, *Swartzia madagascariensis* etc), improving soil fertility (*Acacia spp*, *Afzelia quanzensis*, *Schlerocarya birrea, Kigelia africanum, Diospyros mespilformis*) and aesthetic among several other uses (Scoones et al., 1989. In addition, most of the trees are multipurpose, hence their protection by traditional norms (Chidari et al., 1992).

People in Zimbabwe keep sacred grooves that are under the control of chiefs, headmen and kraal-heads and these are found in many, if not, all parts of the country. Sacred forests or grooves are believed to harbour autochthonous spirits known as *makombwe* and *mhondoro*. These spirits are believed to be dangerous if disturbed or angered. More importantly, they are associated with social tranquillity, good rains and fertility. The sacred forests are believed to attract these perceived important spirits because of the 'coolness' that results in good shading, a result of the high density of trees. The sacred grooves are also dedicated to territorial cults, such as Zame, Muchembere and Tavara that are believed to bring rainfall and good harvests (Mukamuri 1987; 1995b). Although traditions vary, tree species commonly found in the sacred forests include *Muzhanje* (*Uapaca kirkiana*), *Mukute* (*Eugenia cordata Hochst. ex C. Krauss)*, *Musasa* (*Brachystegia spiciformis*), and the hardy mupani *Colosphospermum mopane* and acacia (Mukamuri, 1987). In eastern parts of Zimbabwe, Manicaland, acacia grooves are important as burial sites. Traditional norms are universal in the protection of these grooves.

In short, Zimbabwe, like the rest of the world, has a strong cultural and socio-economic base for highly valuing indigenous trees. During Zimbabwe's war of liberation, songs were composed to show the close association between black Africans and trees, in the sense that the black barks of indigenous trees provided natural cover to black fighters and not to white Rhodesian soldiers! Zimbabwe's urban areas are now home to Africans who are the majority and in management positions and, therefore, capable of making important decisions the latter pointing to the need to change the urban landscape so that it identifies with the new inhabitants, in terms of culture, needs and aspirations. Most of black

Zimbabweans come from rural areas that are widely recognised for their strong beliefs that are centred on indigenous trees, mountains and rivers Schoffeleers, 1985; Mukamuri, 1987).

In addition, sacred grooves are similar to parks found in urban areas. What is interesting, therefore, is why these traditional values are not taking root in cities being run by Africans some of who, if not most of them, have strong rural and traditional backgrounds? Perhaps the above concern constitutes what Ostrom (2007, 2009) calls the complex nature of the socio-ecological environment that requires a strong institutional analysis, especially how lived environments change people's cultural heritage, such as indigenous trees (Plate 2) in Zimbabwe's urban areas.

Plate 2: A blossoming *Msasa* tree

RESEARCH METHODOLOGY

This research is both qualitative and quantitative in nature. Literature was reviewed to get insights into social-cultural and historical aspects related

to indigenous and exotic trees in Zimbabwe. Qualitative aspects of the study included key informant interviews and group discussions. Key informant interviews were conducted with selected residents, officials, nursery owners and attendants. Group discussions were carried in the study site with three categories of people: young, middle and old ages, and these included both sexes. Quantitative aspects of the study centred mainly on physical counts of trees planted and recording both common and scientific names. Selected nurseries were also visited and stocks of seedlings recorded. Tree species were recorded either as indigenous or exotic. Collected data was logged into an Excel Data Sheet and analysed. Qualitative data were analysed thematically.

RESULTS

TREE SPECIES IN PRIVATE AND PUBLIC NURSERIES IN HARARE

Overall, combined survey results show that indigenous tree species have a slight but significant dominance over their exotic counterparts, (54% and 46%, respectively) (Figure 2).

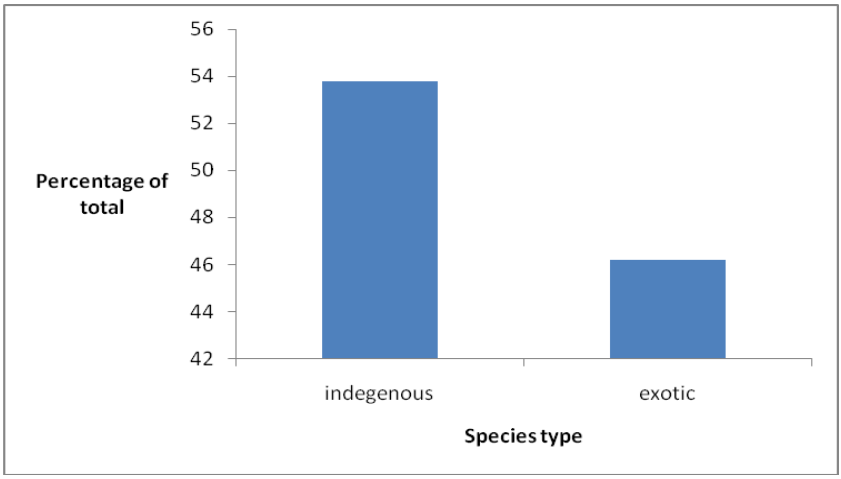

Figure 2: Tree species in Harare

Notable differences in species composition were noted following analysis of data from individual nurseries. Helensvale and Mandara, privately-owned nurseries, were stocked with exotics and indigenous species, respectively. Acacia trees, comprising mostly *Acacia xanthophloea,* dominated the seedling composition of the second nursery located in Mandara (a middle-class residential area largely dominated by African senior civil servants) in which the tree species also grow, naturally.

Nurseries located in more affluent residential areas, and consequently habited by people of European origin (whites), tend to have more exotic than indigenous species. This phenomenon does not only display cultural linkages between species preference, but naturally also the market's selection of species stocked in nurseries. The two biggest nurseries in Harare run by the Forestry Commission and the City of Harare nurseries, had varieties of indigenous tree species that outnumbered exotic ones. Exceptional was the nursery located in Helensvale (dominated by people of Greek origin) (Figure 3).

Figure 3: Trees species Planted in Harare

Figure 4 presents results from a physical count of all standing trees planted along the different streets, during and after the colonial era.

Ironically, Harare Street, which bears the same name as the country's capital city, does not have a single tree. On the other hand, main streets and avenues, even those named after senior liberation war heroes, such as Josiah Tongogara, Hebert Chitepo, Leopold Takawira and Josiah Chinamano, have 90%-100% exotic trees, obviously very few and no indigenous trees.

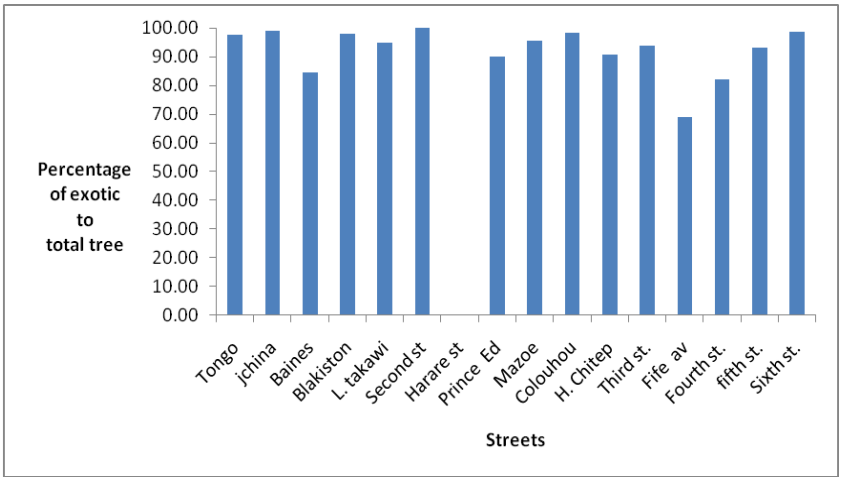

Figure 4: Number of Standing Trees Planted Along Different Streets

TREES IN NURSERIES AND USE VALUE

Nurseries combine trees with various use-values. Ornamental tree species dominate stocks raised in all types of nurseries (61.9 %), followed by fruit trees (29.6 %), medicinals (5.4 %), timber (2.2 %), and last, food (0.9 %) (Figure 5). The Moringa tree (*Moringa oleifera*), largely believed to relieve HIV & AIDS symptoms and promoted by donors, dominated the list of species grown for medicinal purposes with one nursery stoking over 17 000 seedlings for sale. Among indigenous trees grown for medicinal purposes was the quinine tree (*Cinchona pubescens)*, largely believed to treat malaria. Eucalyptus species are also popular with some nursery operators because of their economic (timber) and medicinal (treatment of flue and fever symptoms) values.

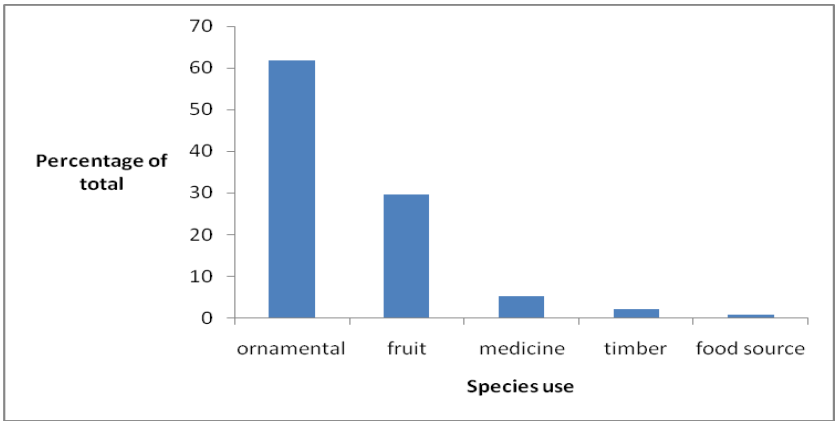

Figure 5: Use Values of Tree Species in Selected Nurseries in Harare

PERCEPTIONS ON INDIGENOUS AND EXOTIC TREE SPECIES

Urban residents' knowledge of tree species is greatly influenced by age of respondents. The least knowledgeable group is that of 13-17 years olds, 95% of whom are not aware of the difference between indigenous and exotic trees. The same respondents (65%) mentioned admiring flowers of the flamboyant and the jacaranda trees, but also complained about hay fever from pollen (35%) during flowering. A very significant number of this age category (90%) reported eating fruits from trees growing along the streets or off overhanging branches from private gardens. A very insignificant percentage professed knowledge on who is responsible for growing ornamental trees in their area of residence. Informants in this age category seemed not to care about participating in debates about urban tree planting, which they viewed as a prerogative of their parents. Respondents in the 18-25 years category were able to differentiate indigenous and exotic trees and that they preferred a balanced mix of indigenous and exotic trees to be planted in their area of residence. They too professed their admiration for exotic trees' shade and beautiful jacaranda flowers. For them, a mixture of exotics and indigenous trees is important as it reflects the cosmopolitan nature of residents (including foreigners). According to this group, planting trees with marketable values, such as fruits, would create chaos as powerful people will sell them just like what is happening in rural areas with *Ziziphus mauritania*, *Adansonia digitata* and other fruits.

Indigenous trees are part of Zimbabwe's cultural heritage. Focus group discussions with adult informants, who have lived in the study area for more than 15 years, lamented the continuing disrespect for Zimbabwean culture. They called on city planners to be more sensitive to cultural symbols when selecting trees to be planted as ornamentals. Informants blamed country's education system for ignoring the important role all indigenous resources, plants and animals, play in society and yet they do not feature in any of the nation's school syllabi. Informants reiterated that not planting indigenous trees in public spaces reflects a lack of accountability and foresight and on the part of City of Harare officials. Public consultations over the types of trees to be planted were highly recommended by all participants (Table 1).

Table 1: ***Perceived Advantages and Disadvantages of Indigenous and Exotic Trees***

Attributes	**Indigenous Tree Species**		**Exotic Tree Species**	
	Perceived Advantages	**Perceived Disadvantages**	**Perceived Advantages**	**Perceived Disadvantages**
Economic	Economic and cheaper to raise	Slow growth and require specific soils to be raised on (endemism). Poor market as not very popular with customers.	High growth rate	Expensive, might require artificial chemicals, such as fertiliser and herbicides.
	Shade leaves once a year making cleaning cheaper .			Expensive to clean as most of them shade leaves most of the time.
Use Value	Sturdy and multipurpose.			Limited uses.
Environmental	Require less water.	Seeds not easily available. Aggressive root system destroy infrastructure.		Draw too much underground water (desiccation e.g., Eucalyptus spp). Very invasive (*Latana*

				camara; water hyacinth). Stifle any undergrowth because of their high allelomorphic qualities. Negative hybridisation (*Rubus* spp in South Africa).
Social	High value firewood.	-	Fall on people and property due to shallow roots and rot on trunks e.g, flamboyant tree (*Delonics regia*).	Smoky and less heat generated when used as firewood.
Health	Treat many human and livestock ailments.			Associated with a lot of allergies. Irritating smoke when used for domestic purposes.
Culture	Provide a typical Zimbabwean experience.			
Aesthetic	Very beautiful colours during spring. A mixture of aesthetically attractive colours.		Very beautiful colours during spring, attracts tourists.	

DISCUSSION

Principles of Social Forestry successfully experimented in India and Zimbabwe from the mid-1980s offer insights for achieving sustainable

urban tree planting through public participation (Mukamuri, 1995a; Prahbu *et al.,* 2008; Mutimukuru-Maravanyika, 2010). Key among the social forestry principles include people's involvement and participation (Noronha and Spears, 1985); connecting forestry with human habitation by taking cognisance of needs and aspirations (aesthetics, wood, fuel, fruits, fodder, ecological balance; involvement of key beneficiaries in the design and implementation of tree planting projects; community-focused awareness building, knowledge and responsibility for forest and tree-related resources (Cernea, 1985); incorporation of people's culture (ideas, perceptions, beliefs, wants and values) for generating positive attitudes and behaviour and context-sensitivity and accountability among actors, in this case, City of Harare officials responsible for silviculture.

While it sounds novel or new, the urban social forestry proposal has much encouraging precedence in southern Africa. South Africa has adopted the use of indigenous tree species for street ornamentation, including the eradication of exotics in urban areas since 1994 (FAO, 2011). Cape Ash (*Ekebergia capensis*) is indigenous to South Africa and is currently being widely used for ornamental purposes in its towns and cities (Maroyi, 2013). The tree species have multiple use values, high-quality shade, edible fruits (for birds and other mammals), medicinal properties and industrial use (tanning). Authorities in Tswane are reported to be in the process of phasing out jacarandas by replacing them with indigenous tree species, such as the wild plum, *Harpephyllum caffrum,* because of their cultural significance.

The tree is evergreen, attractive and its fruits are useful in attracting birds and butterflies into an otherwise sterile urban environment, making it popular (van Jaarsveld, 2013). It is also used to make traditional wine. The wild plum's drooping leaves provide good shade. Traditionally, the tree is used to treat acne and eczema. It is often applied as a pulpy facial scrub. Its bark is used to treat sprains and for dyeing cloth. In parts of the Eastern Cape, the wild plum is used to treat paralysis, believed to be caused by sorcery. The tree attracts hair-tail butterflies, egger moths, the rare African green pigeons, cape parrots and barbells *(ibid.)*. Zambia is also reported to have recently adopted a deliberate policy to plant indigenous trees as ornamentals along roads (ZDF, 2012).

The next section presents Zimbabwe's existing legal instruments that are capable of facilitating urban social forestry and the accompanying resilience.

Table 2 presents legal instruments that can support an urban social forestry initiative. Key is the Constitution of Zimbabwe, that in its various sections, provides the framework for integration of the following rights: cultural, indigenous knowledge, human, educational, economic and environmental. Both the Forestry Act and National Forest Policy give government and communities rights and obligations to protect, plant and benefit from trees, forests and woodlands, both natural and artificial. Also important are the Environmental Management Act (2002) and the Environmental Policy and Strategies that provide frameworks for both a clean environment and sustainable programming in a participatory or multi-stakeholder approach.

Table 2: Legal Instruments and Opportunities for Urban Social Forestry in Zimbabwe

Legal Instrument (National Level)	Opportunity for Social Forestry in Urban Contexts
Constitution of Zimbabwe	Supports environmental rights and public consultations.
Forest Act/Policy	Provides for the management of forests and forest resources in the country.
Environmental Management Act (EMA)	Advocates for conservation of biodiversity, maintaining the natural resource base and basic environmental processes to enhance environmental sustainability.
Environmental Policy and Strategies (2009)	Equity in both access and use of natural and cultural resources.
Urban Councils Act of 1995	Provides urban councils with autonomy and decision-making powers, e.g, authority to design parks, roads and other public places and also to make environmental by–laws.

In short, a legal and policy environment exists in Zimbabwe, and for cities to take advantage of in their bid to establish urban social forestry programmes. We argue that Harare should initiate the process as it is the capital city whose colonial legacy is evident, as shown by the foregoing sections.

Table 3: Existing Institutions Capable of Supporting Urban Social Forestry in Harare

Institution/Organisation	Opportunity for Social Forestry in Urban Contexts
Forestry Commission	Has mandate over all forestry activities in Zimbabwe. Provides forest extension agents and has done research on indigenous trees and also runs a large network of nurseries across the country, including a very large one in Harare. An essential partner for sourcing funding from both government, donors and the private sector.
Ministry of Local Government	Oversees and directs developments in urban areas and also coordinates elections of all city officials, including the mayor and councillors, as well members of parliament.
City of Harare Horticulture Department	Well-established and in charge of tree nurseries and planting in Harare's 9 districts. Employs a Director of Horticulture and a district horticulturalist, both responsible for selecting ornamental tree species planted at all public places and along roads.
Non-Governmental Organisations (NGOs)/Civil Society	There are around 993 registered PVOs. The vast majority of these, are community-based NGOs and support resilience projects. Key partners include SAFIRE; HIVOS; Environment Africa; Action Aid; Zimbabwe Traditional Healers Association (ZINATA).
Association of Urban and Rural Councils	An Inter-Ministerial Committee set up by the government to oversee problematic issues in urban and rural councils.
Harare Residents Association (CHRA)	Formed in 1980, it is the umbrella of most residents' associations in Harare representing over a million of residents. Presides over all major concerns of resident including environmental, health and security issues, among many others (Chirisa and Kawadza, 2011).
Universities	Harare has a number of universities (University of Zimbabwe; Zimbabwe Open University; Harare Institute of Technology, ARUPE) that have the capacity to support urban social forestry programmes in terms of research, mapping, silviculture and even developing business plans under the new government initiative under Education 5.0.
Private Sector	Harare has several private sector players that include the manufacturing industry, transport, services, health and education, among others. These can support the urban forestry initiative through donating excess land, funding, research, processing and commercialisation of products.

Table 3 shows institutions or organisations with the capacity to support an urban social forestry programme incorporating planting a wide range of tree and plant species, in a participatory process. Left out in the list are institutions representing religion, health, environment, education and tourism, among other sectors of society. Also evident from the list is that existing institutions can provide support in terms of legal, policy, planning, funding, technical expertise, implementation, monitoring and evaluation, as well as fostering local participation in terms of selection of tree species for planting, location and management capable of driving a robust and inclusive urban social forestry in Harare a programme that has the potential to be extended to other cities and towns in Zimbabwe.

CONCLUSION AND WAY FORWARD

The colonial legacy, biased towards exotic trees, is still reflected in Zimbabwe's urban areas through continued planting exotic trees and other ornamental plants in public spaces, such as recreational parks, roads and public facilities. While this is still the case, the practice runs short in terms of reflecting changing times and the multi-cultural dimensions currently in existence in terms of the origins, needs and aspirations of the divergent residents. Trees mean different things to different people and this needs to be seriously taken into account when planting trees in urban areas. Also important is considering intergenerational and gender aspects regarding the choice of trees to be planted in urban areas. Hence, youths, women and minorities need to be consulted in any urban social forestry programme. Zimbabwe has a wide range of indigenous and exotic tree species that can be selected for planting in urban areas. These can be planted as ornamentals, windbreaks, shade, fruits, nutrition, firewood and medicine. The novelty would also be coming up with programmes that incorporate a business model and a package of incentives for people, both as individuals and communities, who plant trees in their homes and neighbourhoods, as well as those who may donate their land for the purpose. What is lacking among most City Fathers is developing a new paradigm in tree planting in urban areas that is reflective of a new vision that matches the national call for heritage-based development. Within the urban context (where land is scarce and competed for, the existence of multiple stakeholders with divergent cultural and economic interests), the application of social forestry principles listed above requires not only

political will, but also robust legal and institutional arrangements to drive the suggested paradigm shift (Kuhn, 1970a) and also to be able to deal with the current domineering hegemony of European culture over the African one (Femia, 1981).

An urban social forestry programme is possible if supported by sound policies, local consultations and funding. Fortunately, for cities in Zimbabwe, there are no major legal and institutional vacuums to support and kick off inclusive social forestry programmes in urban areas. Useful lessons for engaging in robust urban social forestry programmes are available, both locally and globally. These experiences include participatory community engagement, institutional and stakeholder analyses and silviculture of both exotic and indigenous trees that can be planted in accordance with Zimbabwe's climatic conditions, more importantly, learning from the natural vegetation existing in the specific areas and experimenting with those tree species found elsewhere in the country. In terms of scientific research, effort could be directed towards pharmacological properties of medicinal plants building on what is already known from studies in the field (Taylor *et al.,* 2001).

Finally, in our view, all that is needed to launch the urban social forestry programme is political will among City Fathers, residents, donors and policy-makers. We also see great opportunities for schools, universities and other educational institutions to adopt the urban social forestry initiative. They can do this by incorporating urban social forestry in their educational curricula, teaching, researching, innovating and industrialising as advocated for under Education 5.0.

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