The Street User's Diversity and Its Impact on Livelihood Activities in the Central Business District

—The Case of Dodoma City CBD, Tanzania

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Abstract

City centers are always characterized by many daily population activities on their streets. This paper has provided descriptive information on the link between established livelihood activities and the diversity of street users in the Central Business District (CBD). The study involved the use of a case study research approach where, data were collected using different methods of data collection including literature review, interviews, observations, and a checklist. Three streets in the inner city to cover Commercial use, Institutional function, and Mixed-use function was selected for adequate data collection to make a comparative study under the respective sample (78 street users interview forms). Data that were needed was the link between street users' diversity and livelihood activities in inner cities, where the data were collected using multiple tools and methods of data collection to cover an exhaustive literature review on urban street users and livelihood activities, street inventory forms to assess the physical design of the CBD inner streets, street users interview with interview forms to gather their views on the contribution of streetscape elements on their livelihood activities establishment as part of street livelihood attraction on physical performance. Livelihood activities on various street types including Commercial, Institutional, and Mixed-use streets within CBD have been linked with the existing street users respectively. Street users include both motorized and non-motorized ones. These are Motor users, pedestrians, cyclists, Utility Agencies and NGOs. The methodology includes the use of a case study strategy and mixed-use research approach, and data were collected using literature, official interviews, inventory, and interviews with street users. The research findings indicate that
there is a vast and significant relationship between the existence of a diversity of livelihood activities on the street in relation to attraction made over street users as part of efficient physical quality performance.

**Subject Areas**

Urban Design and Public Spaces

**Keywords**

Street Users, Livelihood Activities, Central Business District (CBD)

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1. Introduction

Globally, developed countries interact daily with nature for most street users coming from their yards, streets, and neighbourhood parks (Woodcock, 2013) [1]. Some of the cities like Curitiba in Brazil, Dublin in Ireland, Paris in France, Oslo in Norway, Rome in Italy, Berlin in Germany, and London in England have put much emphasis on streetscape design more seriously by setting principles and guidelines on street design to come over the problems associated with streetscape over the users such like poor walkability, green landscapes and inadequate of street fixture and furniture in relation to time transition and technological change (El-Shimy, 2016) [2].

The typology of streets has been set according to the concentration of traffic and according to the function (Carmona 2014) [3]. According to the concentration of traffic we have high street which has a high composition of motor vehicles, downtown which has high commercial use with few pedestrians, and pedestrian streets which accommodate more pedestrians (Marshall, 2005) [4]. According to the block uses there are residential streets where the dominant land use is residential, commercial streets where the dominant land use is commercial, institutional streets with the dominant land use being institution, recreational and mixed-use streets where there are different land uses within the same street (Carmona 2014) [3]. Within those streets, street users include both motorized and non-motorized ones. Thus, the coverage of user diversity is discussed to have a motive behind covering inclusive design that allows safe access and use for all including pedestrians, bicyclists, transit commuters, and motorists for easy mobility and accessibility in their livelihood working environment.

People with different ages, disabilities, genders, and security have important needs such as: safe streets and walking areas, convenience, nearby places to walk, visibility, comfort and shelter, attractive and clean environment, access to transit, Interesting things to look at while walking and Social interaction (Lukenangula, 2017) [5]. Affordable transportation means that people, including those with low incomes, can afford access to basic services and activities (healthcare, shopping, school, work, and social activities) without budget strain (Georgia Department of Transportation, 2003) [6]. Proper streetscape can help in tackling
social exclusion by addressing barriers posed by the accessibility, availability, acceptability, and affordability of the urban mobility system (UN-HABITAT, 2013) [7].

Urban streetscape is a term that is used to describe the natural and built fabric of the street and depict the design quality of the street and its visual effect as programs to improve street conditions on the road cross-section, traffic management, sidewalk conditions, landscaping (particularly tree cover), street furniture (utility poles, benches, and garbage cans), building fronts, and materials specifications. Urban streets in developed countries enhance distinctiveness, social interactions, walking, and cycling (Toth, 2009) [8]. Cities represent one of the most profound modifications of the Earth’s surface, and at some point, in the early part of this century, more people will live in cities than in rural environments thus increasing the number of street users within inner urban streets (Lance et al., 2014) [9].

In developing countries, urban streets have slowly been considered places where street users work, shop, meet, and engage in different social, recreational, and economic activities (Dumbaugh, 2005) [10]. This is linked with the way Urban Street’s value continues to be determined by the way it encourages community interaction and exchange (El-Shimy, 2016) [2]. The continuous practice of urban street design is not only based on the flow of goods and street users as aspects of accessibility but maximizing thinking and design on how the interaction will be friendly and encouraged in daily livelihoods (Hart, 2015) [11]. This field of study examines social and economic factors to better understand how the combination of both influences better interaction (Gehl, 2010) [12].

Currently, in Tanzania Urban design has become more live, and amongst its seven elements street falls within where, Social sustainability encompasses notions of equity, empowerment, accessibility, participation, sharing, cultural identity, and institutional stability. The good thing about many Towns in Tanzania including Dodoma is spatially controlled with the aim of attaining sustainable development through provisions of plans that follow planning laws, policies, and guidelines as a part of the legal frameworks (Lukenangula, 2017) [5]. In urban areas like Dar es Salaam City, some streets have been pedestrianized to accommodate more street users, some have been converted from one way to two ways for similar reasons, and still, in some cases, buildings have been brought down to allow for road expansion.

Livelihood includes the “capabilities, assets (both material and social resources) and activities required for a means of living” as defined before by Chambers and Conway, (1992) [13]. The core of the urban livelihoods approach is the concept of increasing security, defined as the ability to recover from shocks and stresses and to maintain and enhance capabilities and assets (Rakodi 2002) [14]. Human assets, especially labor activities, are considered the most important livelihood assets for urban residents and this is to mean that, livelihood strategies take heed of building strategies, income-generating strategies, and access to basic services...
as well as gender equity and mobility (Meikle 2002) [15].

The great concern is how street users bring out the translation of investments into walkways, bikeways, railways, and roadways as they create jobs, encourage urban livelihood expansion and increase economic output (UN-HABITAT, 2013) [7]. A livelihood is exposed to include capabilities, assets (stores, resources, claims, and access), and activities required for a means of living and cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable opportunities for the next generation; and which contributes net benefits to the economy in the short and long term (Chambers & Conway, 1992) [13].

Differentiation in livelihood involves relative well-being or it may focus on issues such as gender, age, or ethnicity (Coad et al., 2008) [16]. It can also help us to understand where resistance may develop if, for example, activities threaten certain groups within the community as it relates to determinants of beneficial livelihood outcomes which include; adaptive, collaborative, and integrated management, enabling and supportive policies, legislation, institutions, governments, and markets, equitable distribution of benefit across genders, ages, classes, and ethnic groups, Broad community participation and stakeholder involvement in development processes, Enabling environments for entrepreneurial development as well as Empowerment and capacity (Coad et al., 2008) [16].

In 2015, Grigor Doytchinov, Aleksandra Dukic, and Catalina Ionita acknowledged that modernity is highly enhanced in capital cities by modern city planning, streets, and (street) lighting, running water, and sanitation in larger buildings and transport connections which depicts the presence of street major components which are activities, people and access. The need of expanding our culture, reputation, and services is highly encouraged to be in a global level perspective (Doytchinov et al., 2015) [17]. This creates a competitive arena for the cities in order to attract visitors, investors, and future citizens as part of street user diversity who tend to find a harmonious place where various aspects of the benefits, economic development, and political stability can meet their individual needs and requirements (Babere, 2015) [18].

It has been acknowledged that good and quality street encompasses characteristics like being clean and well maintained, pedestrian and vehicular accessibility, well-lit and safe, good attraction and associated activities, sensitive alteration and quality landscape, pedestrian harmony, comfortability, and human attractive and distinctive while the vice versa likes to result into negative values (Carmona, 2014) [3]. Streetscape should be inclusive by accommodating different groups of users who will translate the design products, services, and environment into their daily life interactions (Burton, 2006) [19]. In this literature, Hierarchy, distinctiveness, comfort, safety, and connectivity are also explained to be part of the priorities on streetscape (Burton, 2006) [19]. In other words, streets have been explained to accommodate the safety factors, smooth and convenient movement, cleanliness measure, comfort, attractiveness, and the promotion of a
green environment to reduce the impact on the natural and built-up environment (Pune Municipal Corporation, 2016) [20].

It is strongly argued that; Streets account for about 80% of public space in urban areas and provide the setting for billions of pounds worth of property (Telford, 2002) [21]. Streets are shown to touch the attitudes and perceptions of the users. In extension to those attitudes and perceptions of users, the Street is used for many things by these different users identified (Marshall, 2005) [4]. The focus to date has been on productive activities, buildings, and physical access to buildings as they are all based on the provision of equal access and opportunities to the street users despite their social and economic differences (Burton, 2006) [19]. The belief is that many activities that are taking place on the streets are informal ones and are exercised at large competition (Babere, 2015) [18]. Street Partnerships reinforce the role of the street as a basic unit of democracy with the potential for livelihood activities progress and environmental action, encouraging social support networks and strengthening the community (Telford, 2002) [21].

The Link has been greatly made between the Integrative Theory of Urban Design and the livelihood concept (Chambers and Conway, 1992) [13]. Other concepts include the shared street concept and the responsive environment concept by Benjamin Hamilton in 2008 [22] and Ian Bentley in 1985 [23] respectively. The livelihood concept is traced back to 1992 when it was introduced by Chambers and Conway. The link has been made to include capabilities, assets, and livelihood activities as a sustainable livelihood approach towards poverty alleviation and make the coming generation recover from stress and shocks and expand more opportunities at local and global levels on a short and long-term basis (Chambers and Conway, 1992) [13].

2. Methods of Data Collection

The study involved the use of a case study research approach where, data were collected using different methods of data collection including literature review, interviews, observations, and a checklist (Yin, 2003) [24]. Three streets in the inner city to cover Commercial use, Institutional function, and Mixed-use function were selected for adequate data collection to make a comparative study under the respective sample (78 street users interview forms). Data that was needed was the link between street users’ diversity and livelihood activities in inner cities, where the data were collected using multiple tools and methods of data collection to cover an exhaustive literature review on urban street users and livelihood activities, street inventory forms to assess the physical design of the CBD inner streets, street users and their respective livelihood activities accommodated within, official interview using official checklist, street users interview with interview forms to gather their views on the contribution of streetscape elements on their livelihood activities establishment as part of street livelihood attraction on physical performance, camera to capture the design image of the inner streets.
and corresponding livelihood activities.

3. Presentation and Discussion of Results

This part is going to provide the study analysis on the urban street users within CBD and their livelihood activities including the Commercial streets, Institutional streets, and Mixed-use highway streets which are mostly found within inner cities.

3.1. The Users of streets in Central Business District (CBD)

It is strongly argued that; Streets account for about 80% of public space in urban areas and provide the setting for billions of pounds worth of property (Telford, 2002) [21]. Proper streetscape argued to help in tackling social exclusion through addressing barriers posed by the accessibility, availability, acceptability, and affordability of the urban mobility system (UN-HABITAT, 2013) [7]. This part has discoursed the street users within Commercial Street, Institutional Street, and Mixed-use Street. It starts with their types, origin, and frequency of street use and finishes by discoursing the social and economic interactions within the urban streets. Streetscape should be inclusive by accommodating different groups of users who will translate the design products, services, and environment into their daily life interactions (Burton, 2006) [19]. Street user types explored here, include the motorized street user compositions, non-motorized street user compositions, and development agency compositions. This address is as Table 1 below presents.

The study has also observed motor users as part of the street users in all three streets. The composition of motor users includes the presence of private cars in all three streets while cars for public transportation are found in Institutional and Mixed-use Highway streets. Furthermore, there are Motor bikes including the motorcycle rickshaws on the streets.

Table 1. The existing street users in commercial, institutional and mixed-use streets.

<table>
<thead>
<tr>
<th>Street user</th>
<th>Commercial street</th>
<th>Institutional street</th>
<th>Mixed-use highway street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor users</td>
<td>Private cars</td>
<td>Private and public cars (Dominant users)</td>
<td></td>
</tr>
<tr>
<td>Pedestrian</td>
<td>Dominant</td>
<td>Moderate</td>
<td>Less dominant</td>
</tr>
<tr>
<td>Cyclist</td>
<td>Dominant</td>
<td>Present</td>
<td>Present</td>
</tr>
<tr>
<td>Utility Agencies</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
</tr>
<tr>
<td>NGO’s</td>
<td>Present (Solid waste management)</td>
<td>Present (Solid waste management)</td>
<td>Present (Solid waste management)</td>
</tr>
</tbody>
</table>

Non-motorized also observed pedestrians as part of the users in all three streets. The composition of pedestrians in commercial street covers the business men and customers as well as people bypassing the street, while to the Mixed-use street pedestrians include workers in different offices both governmental and non-governmental ones, mini commercial space business operators, customers as well as the one who are just by-passing to others streets. In Institutional streets, pedestrians include workers in institutions within, customers in different mini-spaces, and business operators. The composition of the pedestrians takes the inclusion of men and women of different ages where youths play a great part with more than average of 50 percent from the observation in all three streets under study. This shows the position of the design to encourage youths to conduct livelihood activities within the streets.

Other street users that were found within Commercial Street, Institutional Street, and mixed-use Highway Street are cyclists even though the streetscapes have not offered separate spaces for them. They use part of the carriageway that is used by motor vehicles thus endangering their safety.

The study identified utilities such as electricity and sewer systems and water supply. This signifies the Utility agencies in all three streets including the Commercial street, Institutional street, and mixed-use street has also become part of the street users. This is to include the Dodoma Urban Water Supply Authority (DUWASA) and charitable group TANESCO involved in the supply of electricity within the commercial street, Institutional street, and Mixed-use highway street. The study observed the presence of Non-Governmental Organization to include the presence of Green Wastepro which take control of solid waste collection in all streets within Dodoma CBD using their cars to assist in the Municipal collection of solid waste. These users aid in making the available streetscape appear to be clean most of the time.

3.2. Street Elements and Livelihoods in Central Business District (CBD)

The following Map 1, Map 2, and Map 3 show the elements as identified from the Commercial street, Institutional street, and Mixed-use highway street and documented in the previous chapter as they hereby being linked with the street users and livelihood activities.

The majority of the users in Mwangaza Commercial Street use the street for their daily livelihood activities only, while their residents are out of there by 94 percent and the rest are the residents within the street. This is nearly the same the Institutional Street where the study shows that 95 percent of the street users are not residents within the street with the remaining 5 percent being the residents, while for the mixed-use highway street, the study has observed the lowest percentage of the people who conduct their livelihood activities within being the residents, as all respondents showing coming out of the street. This is linked with observations made on the nature of buildings existing being of commercial
Map 1. Street scape elements and livelihood activities on Commercial street. Source: Author construct from modification of google earth shapefiles to suit the study demand, 2019.

Map 2. Street scape elements and livelihood activities on Institutional street. Source: Author construct from modification of google earth shapefiles to suit the study demand, 2019.
Table 1 shows the comparison of the nature of street users for the three street types under study. This signifies that in Highway mixed-use streets the offered design nature does not favor people who conduct livelihood activities within as it was observed to be concentrated with the movement of motor vehicles, temporal business livelihood activities, and institutional and recreational activities, unlike the rest of the studied streets with.

The study shows that the trend at which the street users rely on the street they use to be part of their daily livelihood activities performance is nearly equal with higher magnitude respondents for the institutional and Mixed-use Street by 90 and 95 percent respectively, meanwhile, the commercial street has permanent users with 13 percent of the respondent conducting seasonal business and contribution being from the new members as well on street in conduction of livelihood activities. This also signifies that the streetscape design and nature of land use design will highly contribute to the way users will either stay permanently or temporarily on livelihood conduction. Strongly there was no response on the new user amongst the respondents on each street signifying the large extent to which streets have users who at least have been there before for livelihood activities.

3.3. The Livelihood Activities in Urban Streets within CBD

Literally Urban streets are shown to accommodate both formal and informal livelihood activities (Telford 2002) [21]. The study came with observation of both
formal and informal livelihood activities within the streets. Initiatives by the Municipal authority to use task force to control the informal livelihood activities within Hospital institutional streets have been strongly achieved as street vendors have been provided with business identification cards to which they pay 20000 Tanzanian shillings directly as a government fund to be allowed to conduct their livelihood activities freely per annum. Despite the achievement on this street, control has been even more difficult on the part of Mwangaza Commercial Street and Nyerere Mixed-use Street. Only 77 percent of the respondent’s part were conducting formal livelihood activities in Mwangaza commercial street while for the Mixed-use street, 90 percent of the respondents’ part were conducting formal livelihood activities. This signifies that the majority understand the importance of formal livelihood activities to both streets despite the few who have been still conducting informal livelihood activities by searching for an easy way of obtaining their customers temporarily. Maps 1-3 show respondents on formal and informal livelihood activities within Commercial streets, Institutional streets, and Mixed-use streets within CBD.

The study has come to show that there is a variety of activity composition for the three streets picked within the study area. These activities include walking, Commercial parking, transportation, Non-food vending, workshops, and trading in mini-commercial shops. Composition for these activities differs from one street to another.

Commercial parking is friendly for Mixed Use Street and Institutional Street by 10 and 15 percentage respectively signifying that the design favors the two than the busy commercial street and hence more room for livelihood activities by motor users to consume services and products within, unlike the two streets. Transportation activities are high in Mwangaza Commercial Street by motorcycles and rickshaw drivers compared to the rest by 24 percent as they expect to get more passengers from busy business areas than the rest of the streets as Table 2 shows. The existence of the public transport services in Institutional Street and the control of the parking by 50,000 penalties on informal parking makes transportation services by motorcycles and rickshaws scoring none. Walking is more dominant in Mwangaza Commercial Street by it being busy on commercial uses than the rest of the two thus putting room for more customers to consume products within.

Street vendors take domination in Hospital Institutional Street by 50 percent of the respondents following the permission by the Municipal Authority after the payment of 20,000 shillings per annum. This domination over the other two streets followed the shift from formal mini-bus stands at Jamatini where they are now allowed to conduct their livelihood activities as long as they have a permission identification card. From institutional followed on street vendors is Mixed Use Street and lastly the commercial street by 30 and 5 percent respectively. This signifies that street vendors will always largely accommodate in areas where pedestrian movement is higher with supportive streetscape elements for them like.
Table 2. Varieties of activities on streets.

<table>
<thead>
<tr>
<th>No.</th>
<th>Activities</th>
<th>Commercial street</th>
<th>Institutional</th>
<th>Mixed-use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>%</td>
<td>no</td>
</tr>
<tr>
<td>1</td>
<td>Walking</td>
<td>1</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>2</td>
<td>Commercial parking</td>
<td>1</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>3</td>
<td>Transportation</td>
<td>9</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>4</td>
<td>Non-food vending</td>
<td>2</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>5</td>
<td>Workshop</td>
<td>1</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>6</td>
<td>Trading</td>
<td>26</td>
<td>68</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: Field work, 2019.

paved walkways where they will catch more customers in their livelihood activities. Workshop livelihood activities are dominant in Mwangaza Commercial Street respondent while in the other two, there is no workshop activities Thus nature of streetscape elements appears to be livelihood activities of this kind including as to include the need for space size on their accommodation.

Trading activities in mini-commercial shops take domination in Mwangaza Commercial Street by 68 percent of the respondents taking part in trading as a livelihood activity. This has been highly contributed by the nature of the street itself being of commercial use thus a lot of market opportunities make people at large percent to thin of the street for livelihood activities. The study identified that trading activities also take highly in Nyerere Mixed Use Street by capturing 50 percent of the respondent taking part in it as their livelihood activity. To the Hospital institutional street, the trend is very low following that, the nature of the street is highly supporting institutional services with little trading livelihood activities as supportive service by 30 percent of the response from the users. The following plates and figure show the summary comparison of livelihood activities composition within three types of streets under the study.

3.4. Lesson Learned

The study uncovered several issues that need attention from relevant authorities in order to enhance the functions and productivity of different streets in urban areas;

1) Streets remain the major important public space and act like a public living room for the community.
2) Streets are the main point of contact between residences in urban neighborhoods, visitors, and traders.
3) Streets are the main areas for livelihoods for the urban population especially those with low income.
4) Streets act as a public display place for goods and some services needed by people. The activities in the streets represent the day-to-day struggle of people with their livelihood activities.

5) Activities in the street create vibrancy of an area creating an active public space.

6) The physical characteristics of streets determine the category of users who use those streets.

4. Discussion

Across the cases, the study has identified the presence of common street users on livelihood activities performance. The presence of businessmen and customers who make up a great part of pedestrian street users with more than 50 percent, has been a touch in all streets despite some being aimed for Institutional use. This concurs with the position of struggle for urban space in conducting livelihood activities (Babere, 2015) [18]. Street vendors are found all over the urban streets even though some streets were not authorized for such livelihood activities but, following politicism, they ended up accommodating vendors and pedestrians as their customers to be the dominant users within. The major common issue identified by street users is competition mostly amongst mini-shop business operators, street vendors, and, pedestrian customers.

The study has further come to argue that, Urban Street types and their respective streetscape elements are proportional to the attraction of livelihood activities operators as part of street users from time to time. Despite the location of the street, the provision of streetscape elements and proper maintenance will still function positively in attracting livelihood activities with each street typology within the CBD. Also, the nature of land use and proper streetscape design assigned appears to be the big factor in attracting number of livelihood activities within Urban streets (Carmona 2014) [3]. This hence shows the achievement of the concept of good city form and integrative theory of urban design to accommodate a variety of livelihood operators despite the difference in their origin. The study further investigated that, the frequency of visits to Urban streets for livelihood activities is attracted to streetscape design that offers many customers and businessmen for livelihood activities (UN-HABITAT, 2013) [7].

5. Conclusion

The study shows that Mixed-use Highway Street is more vibrant in livelihood activities by having a wide range of street user diversity as compared to commercial streets and Institutional streets. Significant design of the streetscape will increase the accommodation of more variety of street users on inner urban streets within the CBD. This then tracks the good position of ensuring that the existing streetscape does favor livelihood activities to reflect the provision of a Responsive environment and shred street concept which appears to take a great succession on the existing streetscape designs within the CBD.
6. Area for Further Research

This study has covered the influence of streetscape elements on the livelihood activities of people in Urban streets within CBD. There is a great need to progress in examining the influence of streetscape elements on the livelihood of people in peri-urban areas so as to have a general link between livelihood activities taking part in peri-urban and those taking part within the CBD.

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Conflicts of Interest

The authors declare no conflicts of interest.

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