

Realizing the potential opportunities of urban leftover spaces:

The case of Addis Ababa, Ethiopia

Samson Debele (PhD candidate), Dr.-Ing Zegeye Cherenet (Assistant Professor)

Abstract— Understanding the potential of urban leftover spaces is crucial for cities, especially for cities like Addis Ababa where the population number is increasing rapidly and urban land is unaffordable, which again has a direct impact on urban space utilization in terms of providing them housing, recreational centers, working spaces, and supplying them basic infrastructures in general. The paper focuses on identifying the inner potentials of those neglected urban spaces that are not currently functional for any particular uses in the city, keeping in mind that what might be done with them depends on the size, location, and condition they are found in. Maps and images are used to identify locations, pictures for showing their current status, and through a focus group, discussion, interviews, and questionnaire as input for what potential they have is identified with responsible stakeholders like city administration, academicians, professionals, and practitioners. The study identified that leftover spaces have a lot of potential for a city like Addis Ababa starting from being spaces for a shoeshine to spaces for recreational and exhibition centers.

Index Terms— Potential, Urban, Space, Urban space, Opportunity, land-use, and Leftover spaces.

1. Introduction

According to the UN (report, 2014), 70 % of the world's population will live in urban areas by 2050 with the number of cities expected to exceed 2000 by 2030, compared to 1551 in 2010. At the same time as there are 43 'large cities' with populations between 5 and 10 million in 2014, they are expected to be 63 by 2030. The UN estimates that there will be more than 40 mega-cities worldwide by 2030, each with a population of at least 10 million, compared to 28 today. /UN, 2015/. Addis Ababa will be one of the mega-cities by 2030 because the population is now predicted 7million app. Therefore, What kind of neighborhood do we have now and what kind to build, if we are considered to be one of the cities above, in the world. To that end, any development will depend on the current infrastructure, traditional and cultural desires, topography, financial resources, and the institutional scope for planning and political stability for growth management. As cities expand out across productive arable land, it is important first to investigate the potential value and usage of unused land or leftover spaces in currently developed areas of cities. Utilizing leftover spaces efficiently and productively should be no question phenomenon in the city. For all this, it is primarily important to realize the potentials of urban leftover spaces by identifying their determining factors and making use of them that would help the city to gain the aesthetical advantage and the community for better social, economical, and environmental benefits.

IJSER

2. Materials and method

Researches question: What are the potentials of urban leftover spaces?

Method: Case study research method

Materials	Techniques	Sources
Satellite and Google earth images	Categorizing typologies	- Internet - GII - Researcher
One to one interview	Scheduled and structured open-ended questions with city officials regarding their goals related to ULOS	- Land management office - AA Plan commission
Focused group	A scheduled and structured open-ended questions with all representative bodies of the city administration related with the land, if the potentials are already identified /6-10 persons/	- Land management office - AA Plan commission - Researcher
Questionnaires	Open-ended questions focused on the potentials of ULOS	- Professional - Land management office - AA Plan commission - Academicians
Secondary data	Reviewing literature and documents to identify the potentials of ULOS	- Land management office - AA Plan commission - Municipality office - Literatures

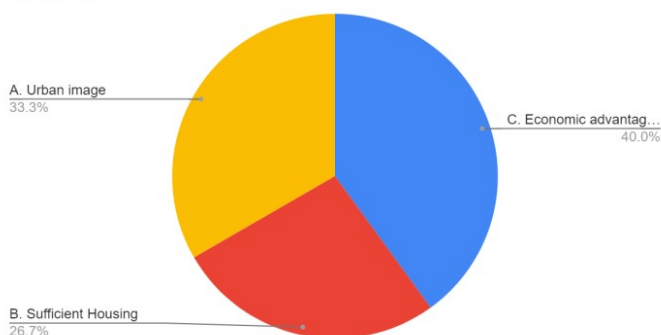
Table 1: Materials and method

3. Result and Findings

3.1. Potentials of urban leftover spaces

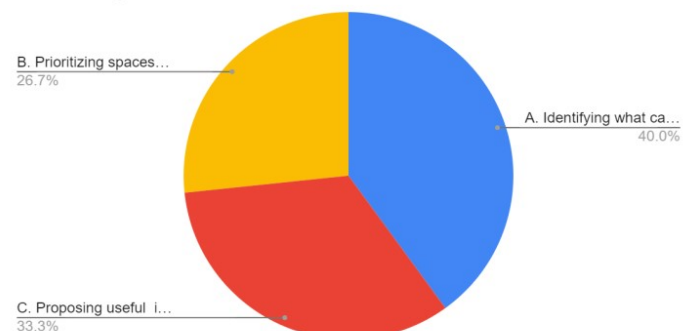
As described before, leftover spaces are of different forms and types, which create a variety of potential usage qualities. The possibility of metamorphosing these spaces is applicable by adopting a new purpose and social identity, but preserving the cultural value. A neglected space that is kept unused, or used negatively, could be an opportunity for the community to get benefit by reusing it for creating useful facilities.

1. What potential does the city lose because of urban leftover spaces?



Today, the potential of leftover spaces could be presented by several features including a dynamic perception of space and sense of movement, adaptability, and a relationship between space and time. The movement in architecture is based on two

2. What are the ways of approaching the potential of urban leftover spaces?



features: dynamic human perception by focusing on visual perception such as light, shade, and shadow, and architectural forms of constantly changing visual environment. On the other hand, when it comes to vitality, a relationship between the

user, function, and time of space should be managed. All this is to properly identify and make use of them for different purposes within the social context, as its seen from the chart they are mostly needed for supporting the urban economy in cities. The potentials of leftover spaces could be best summarized in achieving self-sufficiency, creating sufficient facilities and equipment, providing social facilities, vitalizing neighborhoods, improving visual qualities, personalizing spaces, enhancing the need for belonging to a group, providing security privacy, and comfort, enhancing diversity, and providing permeability.

Empty spaces are a fundamental part of the urban system and they live in cities in a nomadic way: they can move every time the power tries to impose a new order. They are realities that have grown outside, and against a modern project which is still unable to recognize their values, and therefore accept them by identifying what they can contribute to the city in large and appropriate them accordingly.

3.1.1 Determining factors

The potential of urban leftover spaces is dependent on the variables adopted for the classifications of urban areas were: land value, environmental aspects, centrality, and infrastructure. As it is mentioned by Gilberte Corso Pereira, 2008 in an article called urban voids; mapping, and classification of urban land that is commonly applied for the case are covered in the study, as mentioned above the spots are found in the highly active main city center of the country, so that every determining factors have a direct impact on the way utilize urban spaces for social, economical, environmental, physical, and aesthetical values effectively and efficiently in enhancing the day to day activities for a given society in that given environment.

Land value:

It is a theme that shows the variation of the urban land cost and provides input to classification, also defining a parameter of exclusion. Lands located in portions of the territory above a certain value, although they have no urban or environmental constraints to make them use, are deemed unsuitable for the deployment of projects.

The value of land in terms of cost for the development in the area is the most expensive one, in the country because of the location it is found, being a historical place, and its existence in the active commercial area of the city. it costs about 150,000ETB per one square meter of land in the lease bid system of transferring and use of land for up 50-100 years compared with 15,000ETB for the land found at the periphery.

Environment:

It is a theme that shows the geographical expression of the higher or the lower physical suitability in the municipal area. Environmental suitability is a no-question phenomenon where every function related to the main city center supporting activities are situated in the area commercial centers, private offices, administration offices, recreational centers, etc...

Centrality:

It defines and assesses the centrality, defined here as proximity

to the local where there it is the concentration of services and jobs.

The spots in the case study area are found at the main city center of the city as well as the country, so centrality which is the access to every part of the city and to get any facility and service is the most comfortable and even possible to say that the spots are found at the heart and ideal place of the city.

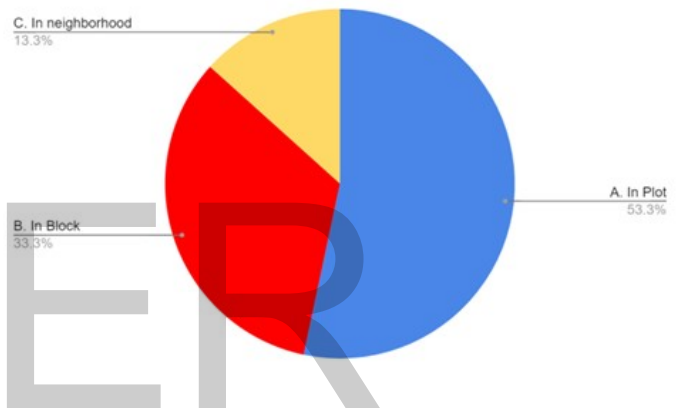
Infrastructure:

It is a theme that summarizes the presence or absence of infrastructure networks – telephone, water, sewage, energy, and road system – defining the need for a greater or lesser investment.

3.1.2. Parameters of Analysis

Concerning analyzing and realizing the potentials of urban leftover spaces, it is important to identify first what types of urban leftover spaces are found in that given environment.

3. What types of urban leftover spaces are there at the MCC?



because it is fact that at the end of the realization it is for the benefit of the people living in the area for enhancing their creativity, productivity and healthy living by activating, utilizing, and making them productive space that again depends on the types of spaces to be used, so that is why the spaces are identified and found mostly on plot scale, as it is identified on the maps and shown also on the answers from the questionnaires, which is much helpful where activities can potentially be done at the individual level within each site. The followings are the parameters that characterize a successful transformation of leftover space:

The spaces are divided for the analysis based on the size they have and are analyzed depending on the parameters discussed above and because all the spots in the case study area are found at the center of the city they have scored maximum in all of the determining factors for the potentials of urban leftover spaces in terms of land value in cost, environmental suitability, the centrality that is location and fulfillment of basic infrastructures.

1. Large-sized spaces: More than 5,000m²
2. Medium-sized spaces: From 1,000 – 5,000m²
3. Small-sized spaces: Less than 1,000m²

1. Large-sized spaces

No.	Types	Land value	Environment	Centrality	Infrastructure
1	Space inside municipality compound	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied
2	Space in between the two Arada blocks	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied
3	Gorge spaces at Te-wodros square	Moderate Value	Challenging	Easily accessible from all directions	All the basic networks are supplied
4	Space under LRT bridge line	Moderate Value	Challenging	Easily accessible from all directions	All the basic networks are supplied
5	Edge space around AA stadium	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied
6	Space inside Fil-wuha	Highest Value	Highly suitable	Easily accessible from all directions	With All the basic networks

Table 2: Paramets of analysis

2. Medium-sized spaces

No.	Types	Land value	Environment	Centrality	Infrastructure
1	Island space at Immigration	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
2	Side Space at Ethio-Cuba park & Ethio-tell	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
3	Biherawi edge spaces	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
4	Street-side space at Ethiopia hotel	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
5	Space around La-Gare (Moha-Anbesa)	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are installed and constructed

Table 3: Paramets of analysis

3. Small-sized spaces

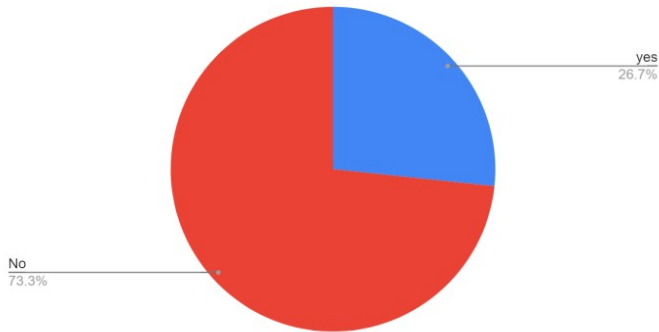
No.	Types	Land value	Environment	Centrality	Infrastructure
1	Corner space to Mercato	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
2	Edge spaces at Te-wodros square	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
3	Corner spaces at Te-wodros square	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
4	Street-side space to black lion school	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed
5	Street-side space at AIB	Highest Value	Highly suitable	Easily accessible from all directions	All the basic networks are supplied and constructed

Table 4: Parameters of Analysis

3.1.3 Potentials of Leftover Spaces

Once the potential of leftover spaces is identified it will generate better insight for the city on how spaces can be utilized for much more activities than being a dumping and ideal neglected site. Because they do not have uses inside the city, especially at the main city center where land is expensive as a result of the already installed and constructed infrastructure networks

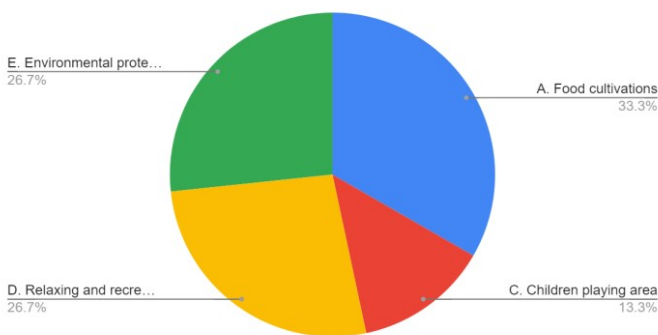
4. Is it possible to say leftover spaces are as useful as they are now?



in the area, as it is shown on the chart the use of leftover spaces as they are found now is insignificant, that is why the study focuses on the identifications of the potentials keeping in mind the process of creating this spaces does not prove to one a reason but possible to say these spaces are created without realization of their existence and the absent of know how to deal with them because they are not even identified as a space in the city waiting for future development rather they are considered as they are functioning as per the need and target of the city.

But when they are identified and recognized as they will be useful spaces as any space then they can become functional and attracts chances for the city and at the end efficiency of land will also be achieved.

5. What are your suggestions concerning the effective use of leftover spaces in the city?



To make use of leftover spaces is creating opportunities that are dependent on the potential they have that again depends on the factors that are mentioned in the first part as that of land value, environment, centrality, and infrastructure. As it is shown on the chart most of the respondents suggest the spaces

for food cultivation under urban agriculture, this indicates to what extent city centers require immediate food supply and basically how much leftover spaces has to be changed to something functional plus solution-oriented and the suggestion depending on the size and location where the spots found. As mentioned on the article: Activities under the flyovers of Kuala Lumpur by Nurulhusna Qamaruz-Zaman, Zalina Samadi, Nik Farhanah Nik Azhari, 2012. The findings show some similarities leftover spaces in activities such as stalls and cafes, recreational activities, business, and services as well as the basics of seeing and being seen.

The more we tried to read and understand our built environment the more we get things to correct and shape. Leftover spaces are the one that needs this deep observation and reading from a given environment. Then seeking for their inner potential will follow. The following can be mentioned as some of the advantages of dealing with the potentials of leftover spaces.

1. It would help to understand their nature primarily by identifying the forces which created them, then this will allow us to establish new coordinates and methods to appropriate them for particular use which is demanded by either nature or society, so it gives us a clue to what extent that we have to use our natural resource to create a better environment.
2. It will show us also how much we are in a different position with our built environment
3. Will give a tool of reading about the spaces in the city' how to read, identify and understand this spaces, and it would be easier for Planners, Architects and all professionals working on urban space if they know what is behind and will try to come up with an appropriated them with intention.
4. Once you understand who is behind it, this would help to properly act on it, and then you will intensify the number of leftover spaces left in the city.
5. Will give us a tool to do things more precisely, to live properly, with our prime resources.

And also

- ✓ Make professionals more understand about urban spaces' value
- ✓ Assists to follow efficient space planning design approach options, especially in preparations of the local development plan
- ✓ Make you think flexible spaces design approach
- ✓ Helps to updated planning rules and regulations
- ✓ Helps to establish new policies and responsible offices specifically for leftover spaces
- ✓ These are mostly found in the spaces allocated for public green areas and services
- ✓ Helps the city to have organized data about leftover spaces
- ✓ The three land management goals in the city plan

commission will be achieved, those are Creating an effective land market, Social equity, and Environmental protection and sustainability

- ✓ Clears the confusion of ownership issue
- ✓ All stakeholders will Aim at making the city clean, safe, comfortable
- ✓ Enhance pedestrian experience that is directly related to building a healthy community
- ✓ Create a coherent and connected urban environment

Have economical, environmental, and social values

Economical

- ✚ Generating income, if they are functional enough to provide services
- ✚ To alleviate the economic status of the society
- ✚ Create an effective land market
- ✚ Decrease informal land practice

Environmental

- ✚ Wetlands: Groundwater storage, replenishment, shoreline, and flood protection
- ✚ As buffer zones for direct sunlight and sound pollution
- ✚ Efficient use of land
- ✚ Bring in safe, healthy, and vibrant spaces in the community

- ✓ Every space in the city will be identified, measured, recorded, and allocated for an appropriate functional
- ✓ They can also be seen as a land bank, where you can use and entertain the interests of the city someday at some point.
- ✓ The efficiency of land is measured by the amount of leftover space in the city

Social

- ✚ Recognition of ownership through collaboration approach and appropriating them for various events in the community
- ✚ Reduce crime and built a safe environment
- ✚ Enhance walking so will have a healthy community at the end
- ✚ Social equity
- ✚ Easy to control land usage
- ✚ Increase emplacement rate
- ✚ Create transparency between authority and the community
- ✚ Used by incorporating it with the urban dynamics

Potential opportunities for urban leftover spaces

Unused space: Vacant or void

Underused space: Functional but under their capacity or limits

Misused space: Shift in function from their desired purpose

No.	Types	Current condition	Potential opportunity
1	Space inside municipality compound	Underused space	Protected urban green space, public space and social gathering
2	Space in between the two Arada blocks	Unused space	The public art center, festivals, and exhibition spaces
3	Gorge spaces at Tewodros square	Unused space	Mixed commercial centers
4	Space under LRT bridge line	Misused space	Green buffers, public space with seats, and book stores
5	Edge space around AA stadium	Underused space	Mixed commercial centers
6	Space inside Fil-wuha compound	Misused space	Green cover recreational space, exhibition center, and social gathering

Table 5: Potentials of urban leftover spaces

1. Space inside municipality compound



Figuer1: Google earth Image: Municipal compound uls



Figuer 2: Picture: Municipal compound uls

2. Space in between the two Arada blocks



Figure 3: Google earth image: In-between uls



Figure 6: Picture: Gorge uls



Figure 4: Picture: In-between uls

3. Gorge spaces at Tewodros square



Figure 5: Google earth image: Gorge uls

4. Space under LRT bridge line



Figure 7: Picture: Under bridge uls



Figure 8: Google earth image: Under-bridge uls

5. Edge space around AA stadium



Figure 9: Picture: Corner uls

6. Space inside Fil-wuha compound



Figure 11: Google earth image: Wetland uls



Figure 12: Picture: Wet-land uls



Figure 10: Google earth image: corner uls

IJSER

2. Medium-sized spaces

Figure 20: Google earth image: Street side uls

No.	Types	Current condition	Potential opportunity
1	Island space at Immigration	Underused space	A public park for Urban breath, reading, and meditation spaces
2	Side Space at Ethio-Cuba park & Ethio-tell	Underused space	Skating, shoeshine, street shops, and meeting discussion area
3	Biherawi edge spaces	Unused space	no man's land, mixed commercial areas
4	Street-side space at Ethiopia hotel	Underused space	Cultural center, open-air theatre, mixed commercial center
5	Space around La-Gare Moha-Anbesa	Misused space	Public park with reading space

Table 6: Potentials of urban leftover spaces

1. Island space at Immigration



Figure 13: Google earth image: Immigration Island uls



Figure 14: Picture: Immigration Island uls

2. Side Space at Ethio-Cuba park & Ethio-tell



Figure 15: Google earth image: Biherawi edges uls



Figure 16: Picture: Street side uls

3. Biherawi edge spaces



Figure 17: Google earth image: Biherawi edges uls

5. Space around La-Gare (Moha-Anbesa)



Figure 18: Picture: Biherawi edge uls



Figure 21: Google earth image: island uls

4. Street-side space at Ethiopia hotel



Figure 19: Google earth image: Street side uls



Figure 20: Picture: Side space to Ethiopian Hotel uls

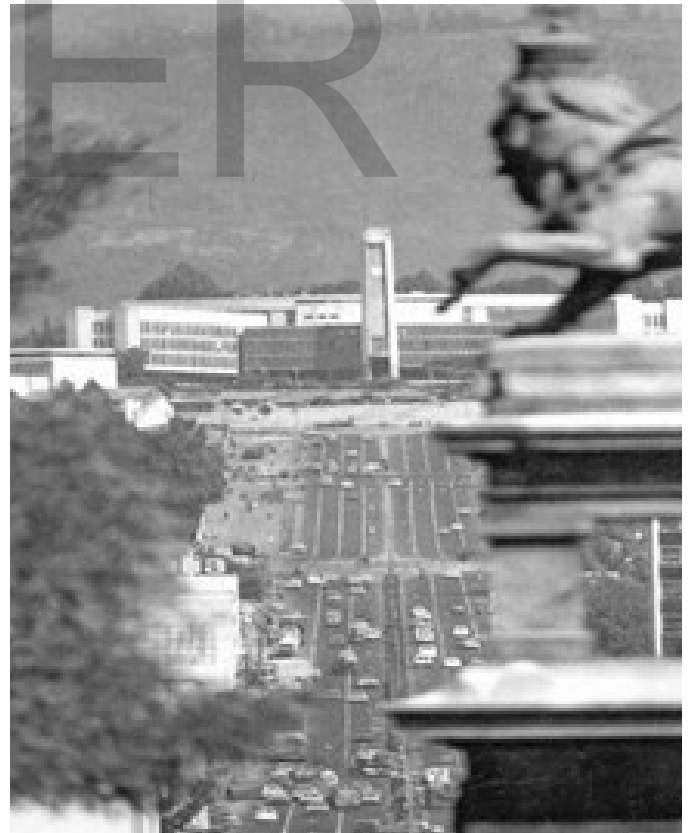


Figure 22: Picture: Island uls: Source Biniyam G/M

3. Small-sized spaces

No.	Types	Current condition	Potential opportunity
1	Corner space to Mercato	Unused space	Food stalls and Cultural coffee place
2	Edge spaces at Tewodros square	Misused space	Small business activities
3	Corner spaces at Tewodros square	Unused space	Shoeshine and drinks
4	Street-side space to black lion school	Unused space	Open-air reading space and coffee
5	Street-side space at AIB	Underused space	Street-side shops for urgent needs

Table 7: Potentials of urban leftover spaces

1. Corner space to Mercato



Figure 23: Google earth image: Corner space to Mercato uls

2. Conner and Edge spaces at Tewodros square



Figure 25: Google earth image: edge uls



Figure 24: Picture: Corner space to Mercato uls



Figure 26: Picture: square edge uls

4. Street-side space to black lion school



Figure 27: Google earth image: street side uls



Figure 28: Picture: Street side uls

5. Street-side space at AIB



Figure 29: Google earth image street side uls



Figure 30: Picture: Street side uls

4. Discussion

Identifying and understanding the potentials of urban leftover spaces is an important aspect in the process of city making because the value of space is dependent on the potential that it has on that specific area and again the potential will determine the function of the spaces which are mainly dependent on the location of the space, not only that as Gilberto Conso Pereire, 2008, puts clearly in the article that the variables that determine the potentials of leftover space are land value, environmental aspects, centrality, and infrastructure. As the study is conducted primarily at the main city center of the city for the proof that it is rare to find leftover spaces, but if so, we can use them as a piece of evidence that these spaces are everywhere in the city not limited to the periphery, and to understand the fact that how much of these spaces are value-full but neglected as they are not. When we look at all the spaces through the eye of the determining factors, all spaces have high land value, are found in a suitable environment, are proximate for any local services and jobs, and are fulfilled with all the necessary and basic infrastructures. This indicates how much we are not able to observe the inner potential we have in the city, that can be used for our day-to-day activity in providing services in all aspects of economy, social, and environment. Because it is not fair to talk about the scarcity of land, lack of green areas and parks, playing areas, public recreational spaces, unemployment, crime, and efficiency of land, in particular, being occupied with spaces that can be functional.

Though most studies explained the potentials of urban leftover spaces by directly targeting uses. The study found the arti-

cle by Gilberto Corso Pereira, 2008, suitable because it starts from the determining factors first that make it easy to identify and understand the potential of the spaces based on the given criteria that can potentially characterize and determine the fact about the spaces and used as a stepping stone for their next process in allocating them with functions. The study seems limited to only the central part of the city. Because the more the study is at the center the more leftover spaces are not found and the more the spaces are not in the center it is difficult to find these spaces, and the more challenging the study becomes but it is found, it can be taken as a sample that can easily applicable at any other parts of the city. It is this fact that forces the study to be conducted in the central part of the city. As a result, it is not even as it was assumed, over nineteen spots were found to be leftover with great potential within a single Churchill Avenue corridor that has a maximum score by any criteria settled for land to evaluate. This shows that if it were conducted at the periphery it is obvious that the spaces will have functions related to the surrounding environment not as such in a variety of functions like the center. Because here every spot can have its function depending on the size and the condition of the site it is found. The spaces can even have a potential for the open-air theatre and also for Ethiopian cultural coffee shops, which make the study differences in the process of identifying the potentials of leftover spaces in the city.

Realizing the potential of urban leftover spaces should not be a one-time phenomenon for a city if planning is there, leftover spaces are there too, what is important here is, and as the purpose, the study is not only to understand the potential but primarily to minimize the rate of formation of leftover spaces as they have been produced before but in the process of city-making, these spaces are also there and it is important to identify their potential first and make them part of the development because they will have positive consequences in all environmental, economical, and social aspects. They are the main components that can compose a community, if we understand the potential of these urban leftover spaces and make them contribute in all aspects, in the end, the study significantly will contribute to the community in terms of thinking crime and waste dumping sites for a better function that can build healthy society, income safe community, green rich environment with parks and recreational centers. Overall the study will help to understand how neglected spaces can potentially be used in another dimension which is a positive way from their current existence where they can contribute to the existing environment. If we can deeply observe, read, and try to understand them. And it is clear that every inch of urban land has the potential seeing it in terms of use, the study emphasizes it too but the use will depend on the size, location, and environmental factors, as a result, the spots which included in the study as a case might have a better potential than it is discussed in the result section when they get the chance to be transformed each site will probably independently studied and allocated with a better function. And further study re-

garding potential in terms of "how much spaces are being wasted" in the city is open and highly advised in future studies.

5. Conclusion

The outcome confirms that the process of understanding the inner potentials of urban space is a fundamental aspect for cities targeting development, growth, and for being vibrant competitive cities through efficient use of land as one input for addressing their social, environmental, and economical targets where they want to be. In analyzing and identifications of this whole process it is also important to have a deep observation on how to read, understand, and incorporate them with the dynamic situations of a given community as one goal and developing the attitude of changing them to something useful and functional that is completely different from their existing situation, on the other hand, is vital.

Because urban spaces especially in cities like Addis Ababa are unaffordable, inaccessible, and have a tight chance to be found, they are expected to be kept active, functional, and needs to generate income for that matter the paper identified a lot of potentials that could depend on the size, location, and conditions they are in.

Reference

- From void to opportunity, Lopez Garcia, Esmeralda, 2016
Gilberte Corso Pereira, 2008 in the article called urban voids; mapping, and classification of urban land
Opportunity in Leftover Spaces: Activities under the flyovers of Kuala Lumpur Nurulhusna Qamaruz-Zaman, Zalina Samadi, Nik Farhanah Nik Azhari, 2012
Huda Maatouk, Marwan Halabi, Hiba Mohsen, and Maged Youssef EXPLORING POTENTIALS OF LEFTOVER spaces USING URBAN METAMORPHOSIS, August 2021
GREENING AS AN URBAN DESIGN METAPHOR: LOOKING FOR THE CITY'S SOUL IN LEFTOVER SPACES Structurist 2009/2010, pp. 30-35