Saudi Vision for a Happy City: Analyzing architecture students' perspective for Riyadh, Saudi Arabia

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Abstract
Launched in 2016 to bring wellbeing to its citizens through the diversification of its economy, Saudi Arabia has gained much appreciation with its Saudi Vision 2030. Among its themes, the vision includes the 'A Vibrant Society' which aims to facilitate happy and fulfilling lives through the development of livable cities. The goal is to have three cities among the top 100 livable cities in the world. Riyadh is the nation's capital and biggest city. It represents Saudi Arabia as a whole and as such, is a promising candidate to be one of Saudi's most livable cities. This article argues that the vision for Riyadh should facilitate a 'vibrant society' comprised of happy citizens. To further our understanding of 'happiness', we focused on the 'Vision for Riyadh city' in the 'Quality of Life Program', which was developed as part of the 'Vibrant Society Theme' under the Saudi Vision 2030. It was compared with design proposals by architecture students from Prince Sultan University for urban spaces in Riyadh made between 2016-2019. Our analysis clarifies the extent to which the students' vision for the city resonated with the administrative plans for Riyadh. Similarities between the visions reveal that the Saudi Vision 2030 is aligned with the students' preferences and the views of citizens, while differences indicate the need for a more collaborative approach to developing Riyadh's city vision; one in which students can play a vital role along with their professors and city administrators to ensure the development of a harmonious and 'happy' city.

Introduction

The creation of a 'City Vision' and its realisation are usually assumed to be in the hands of city administrators who tend to be beyond the reach of the general public. Including the wider public in the process of vision building has been shown, however, to yield holistic results affecting the population as a whole (Sanchez & Tyler, 2016).

The present article presents a comparative study that examines the city administration's vision for Riyadh city and the visions of a selection of architecture students from the urban design studio course, studying at Prince Sultan University between 2016 and 2018, whose projects are informed by consultation with a sub-section of the general public. Our research used the directives laid out in Saudi Vision 2030 to indicate the city administration's vision, while the architecture students' proposals, which had been developed after thorough public consultation in Riyadh, served to indicate the students' views and citizens perspectives more broadly. By comparing these two perspectives on the City Vision, the present study brings to light the shared preferences and divergent opinions of the city's administrators and the students and citizens. In addition, our research provides a basis for understanding the motivations and values that inform those views. These findings can potentially be used to facilitate better collaboration between the city administrators, architecture students and citizens throughout the visioning process for Riyadh.

Saudi Vision 2030 envisions the country's future through a collection of targets and aspirations enacted in economic, social, and physical planning policies (Arabia, 2016). These initiatives aim to shift the kingdom's focus from oil exports to areas of hidden potential such as health, education, infrastructure, recreation, and tourism. Saudi Vision 2030 is built around three clear themes: 'A Vibrant Society', 'A Thriving Economy', and 'An Ambitious Nation' (The Embassy of The Kingdom of Saudi Arabia 2022).

The present research focused on the theme of 'A Vibrant Society' which seeks to foster the happiness of the city's inhabitants. Vision 2030 officially promotes the creation of "a vibrant society where everyone enjoys a rich, happy and fulfilling life as a strong foundation for economic prosperity" (Arabia, 2016). The theme is also characterized by traditional values that stress the importance of maintaining a happy life. Though innovative, this approach is not unique as Cloutier, Jambeck, & Scott (2014) point out - happy residents are the top priority for any city.

Our study assessed the extent to which Saudi Vision's approach to designing happier cities for its citizens could be considered empathetic. City administrators' proposals made under the Quality of Life Programme (QoL) were compared with the design proposals made by the architecture students studying at Prince Sultan University. The QoL programme develops proposals that aim to enhance Saudi Arabia's appeal as a residential destination for both Saudi citizens and foreign residents, by improving the quality of life and promoting attractive new lifestyles in urban areas. The QoL programme document demonstrated how Vision 2030 was contributing to the urban design and planning of the country's major cities. The programme itself works by detailing cities' aspirations, establishing benchmarks, setting targets, and promoting lifestyle offerings in Saudi cities. Analysing this application of Vision 2030 enabled us to better understand how citizens could be made happier in tangible ways.

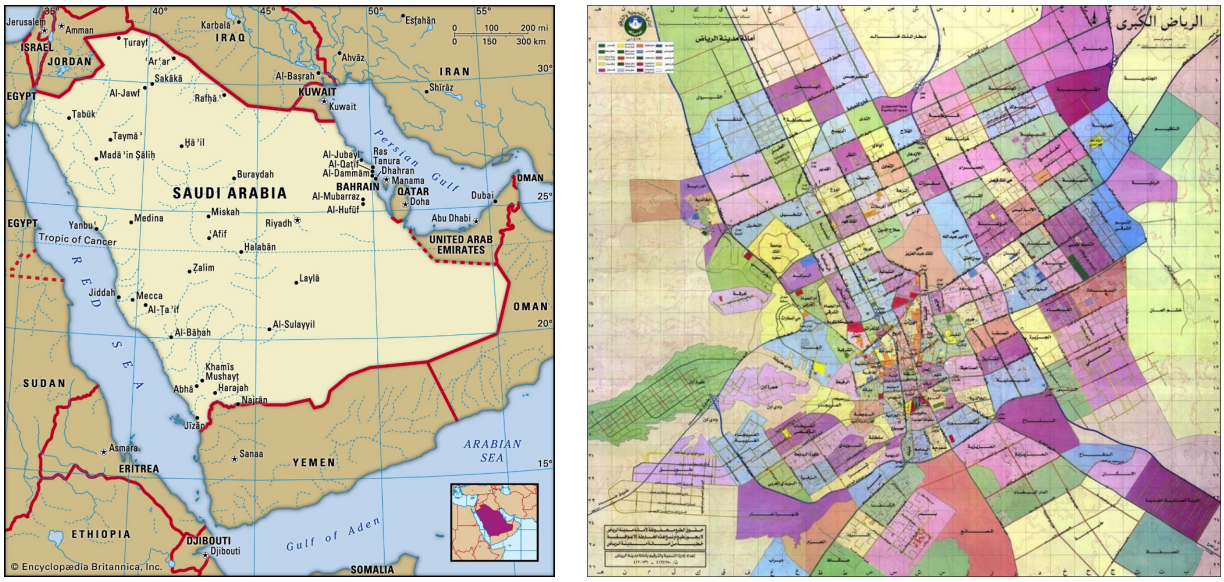

Fig. 1: Location of Riyadh City (left) and City map (right) Source: https://www.britannica.com and www.mappery.com

The vision for Riyadh city was selected as the focus of our study because Riyadh is the nation's capital, its biggest city, and an iconic place which represents Saudi Arabia as a whole. With its central location and proud history, the capital of Saudi Arabia (Fig. 1) is set to be transformed by Vision 2030, the application of which will encompass all spheres of development. Significantly, Vision 2030 aspires to have three of the country's cities placed among the top 100 livable cities in the world (Arabia, 2016). In this context, Riyadh has become a promising candidate to become one, despite its relatively poor standings in measures related to wellbeing, livability, quality of life, and happiness (Table 1 and Fig. 2). Nevertheless, although Riyadh does not feature highly in terms of quality of life, safety or livability (Fig. 2), it has been targeted for improvement. For this reason, the present study makes the argument that the vision for Riyadh should aim to make it a happier city, capable of achieving better rankings in the global measures of livability and quality of life.

Happiness and Cities

The significance of happiness for cities can be gauged from Aristotle's long-standing theory which states that the city plays a crucial role in satisfying its residents' need for security and happiness (Mahsud, 2006). To create a successful city, civilizations should strive for happiness and satisfaction (Fookes, 2002). Ideally, having met the basic needs of food, shelter, and security, a city should work towards increasing the happiness of its citizens while decreasing the amount of hardship (Montgomery, 2013). As habitats undergo change, people adjust to their surroundings, while altering their habitat to broadly suit their needs; failing to do so leads to unhappiness (Doxiadis, 2005). This need to both adapt to one environment and to adapt it to one's needs, also reflects that fact that people have a tendency to derive happiness from the things that provide satisfaction in their immediate surroundings (Ferreira & Moro, 2010). Cities, therefore, greatly affect people's wellbeing and quality of life; which is compounded by the cohabitation of diverse populations and the interwoven nature of people and their surroundings (Durand, 2018). In addition, other factors within this interwoven context, such as income, health, and access to recreational activities have been shown to affect people's wellbeing (Dolan, Peasgood, & White, 2008).

Urbanisation has been linked to social progress. That is, as a city urbanizes and levels of comfort increase, the health of citizens also improves and the level of education is raised. Not surprisingly, then, these improvements translate into happier citizens (Gottmann, 2003). Assuming that cities are an expression of the society which inhabits them, public happiness can be assumed to be the result of appropriate urban living conditions (Bravo, 2012). Over time, happiness has come to be understood not simply as an individual private concern, but as a collective public good linked to the urban environment and the living conditions that it supports (Morrison, 2007). Happiness, therefore, has played an increasingly vital role in society and policy-making in urban planning (Thin, 2012).

Happiness has multiple definitions however. As a term, 'happiness' variously stands for satisfaction, pleasure, cheerfulness, joy or all positive emotions for which we all strive (Alharbi, Alotebii & AlMansour, 2018). It can refer to the feeling that everything is exactly as it should be (Radwan, 2014), or more conservatively, as a state in which positive emotions outweigh negative ones (Cloutier, Larson & Jambeck, 2013). It is noteworthy that 'the pursuit of happiness' is one of the inalienable rights endowed by the Creator in the United States' Declaration of Independence (Stefanovic, 2002), and that the terms 'wellbeing' and 'happiness' are often used interchangeably; indicating that citizens' sense of wellbeing cannot be separated from their 'happiness' defined as the enjoyment of their lives and the attainment of their priorities (Diener & Biswas-Diener, 2008).

Various models for measuring happiness have been proposed (Ballas, 2013). Whereas some research has studied happiness by measuring quality of life (Marans and Stimson, 2011), other studies measured a particular definition of happiness (Diener & Seligman, 2002); still others measured wellbeing (Dolan, Peasgood, & White, 2008) (Welsch, 2009), or alternatively, satisfaction (Mackerron and Mourato, 2009), or pleasure (Maddison and Rehdanz, 2010). Notwithstanding the particular definition of 'happiness' used, the close association between cities and 'happiness' is clearly evident from the literature. Moreover, as Ballas & Dorling (2013) note; urban environments are key factors that promote 'happiness' whilst providing a range of ways to measure it, according to their own definition of course.

Happy City Indicators

To study the indicators of a happy city, the world's major wellbeing indices were analyzed through a matrix of eleven indices (Table 2). Six indices were taken directly from the QoL Programme Report, namely: Economist Intelligence Unit's (EIU) Global Livability Ranking, Mercer Quality of Living, Monocle Magazine's Annual Lifestyle List, World Happiness Index, OECD (Organization for Economic Co-operation and Development) Better Life Index and AARP (which earlier stood for American Association of Retired Persons) Livability Index. Five additional indices related to happy (2), thriving (1), safe (1) and prosperous (1) cities were analysed: Happy City Index, Happy Planet Index, Thriving Place Index, Safe Cities Index and City Prosperity Index. These last five were added to the list to create a holistic list of eleven indices.

The (EIU) Global Livability Ranking measures cities both in terms of their livability and the quality of life they provide. More narrowly, the Mercer Quality of Living Survey focuses only on quality of life, while the Monocle Magazine's Annual Lifestyle List of the 25 most livable cities focuses on lifestyle. At this scale, the AARP Livability Index ranks the quality of life in American urban communities; and Happy City Index presents comparative analysis of cities' levels of happiness. Safe Cities Index evaluates cities worldwide in terms of safety. (Kiestra, Kondo, & Clague, 2019) City Prosperity Index allows the comparison among cities with similar levels of

Table 1: Riyadh City's 2019 Rankings in Wellbeing Indices

S.No	*Indices*	*Riyadh Ranking 2019*	*Total cities studied*
1.	EIU Liveability Ranking	*107*	*140 cities*
2.	Mercer Quality of Living Index	*164*	*200 cities*
3.	Monocle Quality of Life	*0*	*25 cities*
4.	World Happiness Report	*28*	*156 cities*
5.	OECD Better Life Index	*Saudi Arabia not included*	*36 countries*
6.	AARP Livability Index	*Saudi Arabia not included*	*10 cities (Only US)*
7.	*Happy City Index*	*Saudi Arabia not included*	*9 cities (Only UK)*
8.	*Happy Planet Index*	*Saudi Arabia not included*	*140 countries*
9.	*Thriving Place Index*	*Saudi Arabia not included*	150 local authorities *(Only UK)*
10.	*Safe Cities Index*	*39*	*60 cities*
11.	*City Prosperity Index*	*0*	*40 cities*

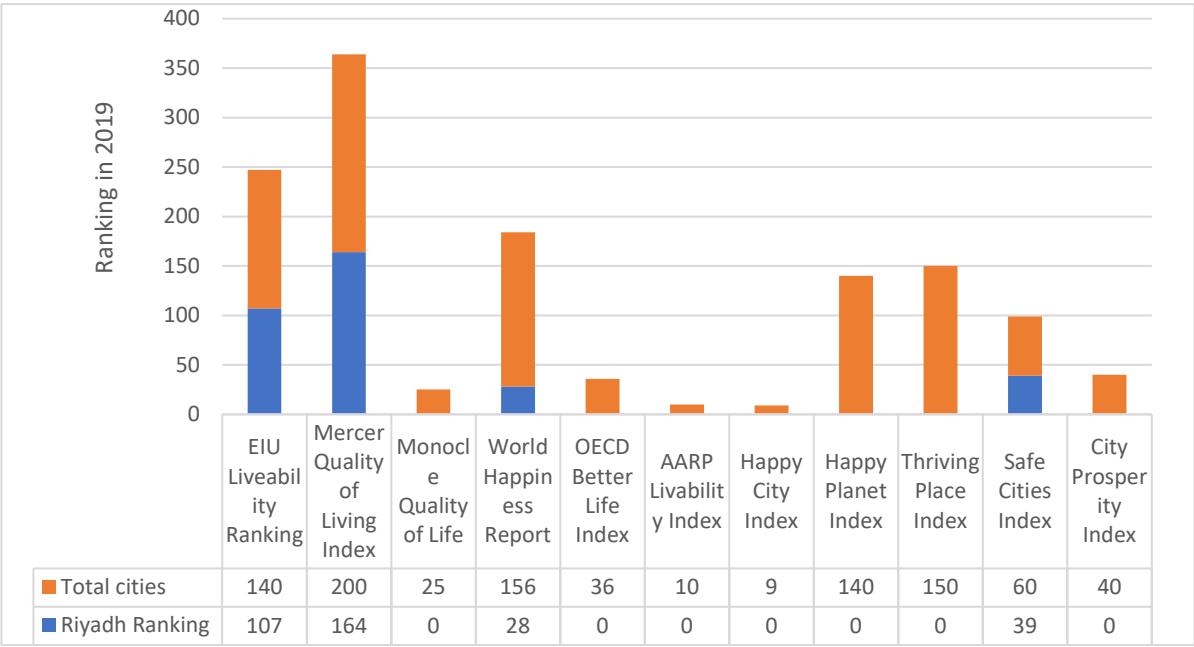

Fig. 2: Ranking of Riyadh in Wellbeing Indices 2019, Source: Compiled by Author

economic wellbeing (Abilla, 2018). Alternatively, the annual UN World Happiness Index, which is issued on World Happiness Day (March 20) and is based on happiness, ranks by country. As does the OECD Better Life Index, which compares wellness across different nations, and Happy Planet Index provides comparative data on each country's ability to provide their citizens with happy lives.

A total of eleven indices were used for the matrix in which indices were matched against the factors contributing to that particular index. The contributing factors were distributed across twelve categories, ten of which were adopted from the QoL Programme. Slight modifications were needed to settle on the following twelve categories: (i) Infrastructure and Transit, (ii) Housing, (iii) Urban Design and (iv) Environment, (v) Healthcare, (vi) Economic opportunities, (vii) Educational Opportunities, (viii) Security and Socio-environment, (ix) Entertainment, (x) Heritage, Culture and Arts, Sports, (xi) Recreation and Social Engagement. Two indicators, i.e. 'Housing, Environment and Urban Design', and 'Education and Economic' which had been grouped together in the QoL programme were separated for this paper (Table 5).

The indices are related to key factors in the following ways: Infrastructure facilitates the completion of people's daily activities with improved efficiency and productivity (Winata & Rarasati, 2017). It is used to specify a country's economic ranking (Popova, 2016). Also contributing economically is transportation, which can lead to an overall increase in the national economy by facilitating the movement of goods and labor, as well as the provision of services (Barro, 1990). Home ownership, on the other hand, impacts security (Sgoutas, 2002), neighborliness and a sense of community belonging (Chambers, Cantrell, Preston, & Peasgood, 2018). In terms of health and wellbeing, urban design can have either a negative or positive influence (Kleiner & Horton, 2016), and it has been shown that being mindful of one's health increases happiness and strengthens morale. Another factor for health and wellbeing that contributes specifically to happiness is living in close proximity to nature (Habtour, 2016). Not only do urban green spaces have social, health, and economic benefits (Chisholm, 2004), but better socio-economic development of the city also uplifts the wellbeing of its people (Dixon, 2004). Moreover, focusing on happiness seems to ensure economic, environmental and social sustainability (Paralkar, Cloutier, Nautiyal, & Mitra, 2017).

Another factor is providing opportunities for gaining knowledge and skills through education, as this enhances a citizen's quality of life. A safe city with adequate security and with a rich social environment has a positive impact for citizens who can enjoy unhindered social interaction (Goldberg, Leyden & Scotto, 2012). In the same vein, having access to the necessary leisure amenities allows citizens to participate in entertainment, and recreational activities that add life to a city (Bernini & Tampieri, 2019). Equally essential are vivid forms of art and culture that add to the vivacity and vitality of society. (Exton & Smith, 2015), as well as contributing to a city's local identity, which is also important for citizens' sense of belonging and overall wellbeing (Frick, 2006; Kent, Ma, & Mulley, 2017). Holistic participation in sports activities by citizens and residents directly impacts on their health and wellbeing (Huang & Humphreys, 2012), while developing strong bonds with people and places in a city has been shown to make its residents happier (Musa, Yacob, Abdullah, & Ishak, 2016).

The Architecture Programme's Urban Design Studio

The Urban Design Studio at PSU (Prince Sultan University), Riyadh, Saudi Arabia prepared students in their senior year (4th) to design or redesign parts of the city to improve citizens' living experience. Every semester, students were grouped together to work on a part of Riyadh city to recreate lost spaces or design new urban ones. The overall design process consisted of the following steps: Site selection, site analysis, identification of site problems and potential, concept derivation, program decision, zoning, master plan, sections, 3D visualization, details and schedules. The student proposals for this study have been derived from their submitted overall final proposal.

Methodology

The intention of this research was to analyze the similarities and differences between city administrators' and the architecture students' visions for Riyadh which would broadly represent the citizen's views. It should be noted, however, that since the study targets students and not citizens in general, the present analysis is limited in its implications. Future research targeting a broader range of citizens could provide data that would differentiate more comprehensively the city administrators' and the citizens' visions.

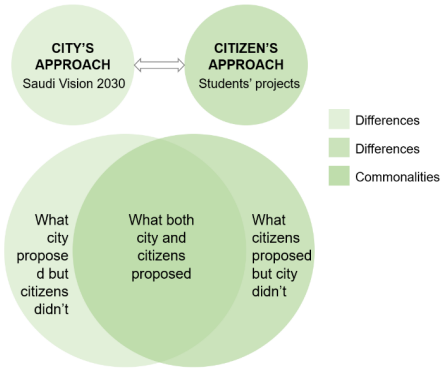

Fig. 3: Conceptual Approach

When comparing the approaches of the city (administration) and the citizens (architecture students), both commonalities and differences were identified. Commonalities were identified through examples of the Vision 2030 and students' proposals matching. Since the Vision represent the city's approach and the student's proposals represent the citizen's, the commonality in their approaches would highlight the spheres where citizens and the city share views. The differences between the two would highlight spheres in which the city envisions something beyond the scope of citizens' views, and vice versa. The Venn diagram above (Fig. 3) illustrates the concept depicting the city's and citizens' approaches, their commonalities and their differences.

The study compared Saudi Vision's documented QoL Programme (representing the city's approach) and the urban design students' proposals (representing the citizen's approach). To understand the city's and the citizens'

approaches, answers to the following three questions were elicited:

1. What urban spaces will be designed (Offerings)?
2. Where will it be designed (Potential Sites)? And
3. How it will be designed (Aspirations)?

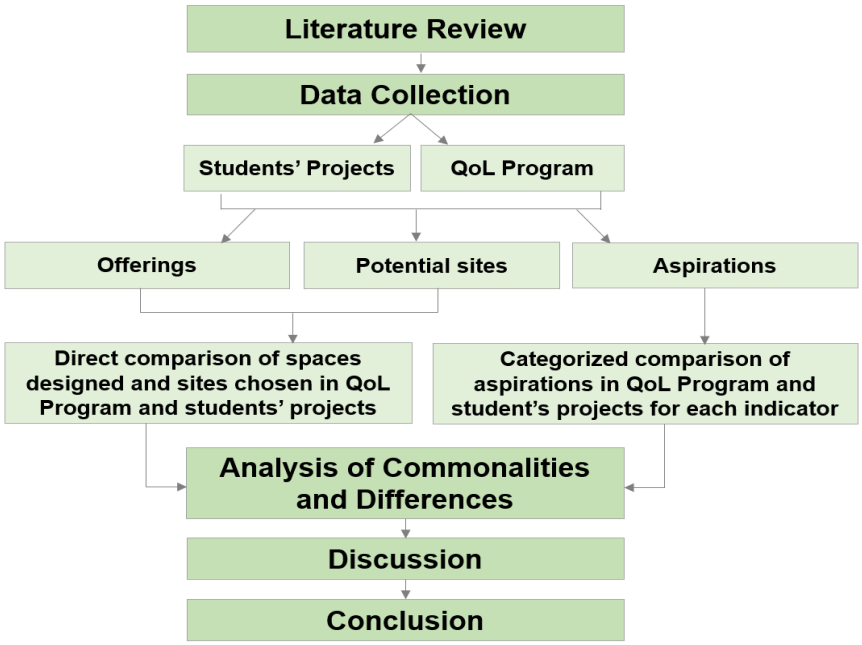

Fig. 4: Methodology

To answer the above questions, three focal areas were selected:

a) Offerings in Riyadh
b) Potential sites for Riyadh
c) Future aspirations for Riyadh.

Offerings (as quoted in the QoL programme) stand for actual spaces or designated 'activity areas' like cinemas, museums, parks, stadiums and the like. Next, 'potential sites' refer to strategic sites in Riyadh where urban intervention is encouraged. Finally, 'aspirations' refer to the policies or ambitions to be fulfilled. The flow chart above (Fig.4) depicts the methodology followed in this research.

Firstly, purposive sampling was used to select the student projects. Twelve projects were selected from six semesters between 2016 and 2019. Secondly, the offerings in the QoL Programme were mapped against the spaces designed by students in their proposals in a matrix (Table 4). To do so, direct comparison mapping was employed. The offerings were categorized under the seven categories adopted from QoL Programme: (i) Themed Attractions, (ii) Performance arts, (iii) Culture & Arts, (iv) Nature, (v) Sightseeing, (vi) Digital Entertainment and (vii) Sports. The student projects were then mapped against these offering categories in a matrix by color coding the cells where the offering from the QoL matched the student design proposal and where the non-matching cells were left blank (Table 4). Thirdly, the potential sites quoted in the QoL Programme were also mapped against the sites chosen by students in their design proposals in a matrix (Table 5). For this direct comparison mapping was employed. Vision 2030 has highlighted the top fourteen landmarks of Riyadh city as potential sites for guided tours. These fourteen sites were matched against the sites chosen by students in their proposals in a matrix. The cells where the site of student projects matched with the quoted landmarks from QoL Program were coded with a color and non-matching ones were left blank (Table 5). Fourthly, the aspirations outlined in the QoL Programme were compared with the design intentions of the students by analysing their proposals. To do so, a categorized comparison was conducted. For each of the categories of indicators generated in the matrix (Table 2), the QoL Programme mentions aspirations for Riyadh city (Table 6). In categorized comparison, students' proposals were studied in-depth, the components which resonated with the QoL Programme aspirations and those that did not were analysed. Here, QoL Programme aspirations were directly adopted from the document whereas the students' aspirations could be gauged from their design intentions and design choices. Finally, all the offerings, sites, and aspirations were qualitatively analysed to find the commonalities and differences between the two approaches (See Discussion). The gap between the two approaches was then examined to establish what the differences were, why they occurred, and how they could be reduced or negated. (See Conclusion)

Table 2 Wellbeing Indices Matrix for Happy City Indicators, Source: QoL Programme and

S. #	Name of the Indices	Infrastructure & Transit	Housing	Urban Design & Environment	Healthcare	Economic	Education	Security & Socio-environment	Sports	Heritage, Culture and Arts	Entertainment	Recreation	Social Engagement
1	**EIU Liveability Ranking**	Infrastructure, *Transport*		Environment	*Healthcare*		*Education*	*Stability*	*Sporting Availability*	*Culture availability*		F&B and Consumer goods	
2	**Mercer Quality of Living Index**	Transport	Housing	Natural Environment	Health		Schools & Education	Public Service, Security &Socio environment	Sports		Media AvailabilityTheaters& Cinemas	Consumer Goods, Restaurants & Leisure	
3	**Monocle Quality of Life**	Public Transport, International Connectivity		Design quality Environment & Nature	Medical Care	Business Conditions		Safety/ Crime		Culture	Restaurants		Tolerance, Pro- active Policy
4	**World Happiness Report**				Life expectancy	GDP per capita		Corruption, Freedom of Choice					Social Support, Generosity
5	**OECD Better Life Index**		Housing	Environment	Health	income, jobs & a-life balance	Education	Safety					Life Satisfaction, community
6	**AARP Livability Index**	Transport	Housing	Neighbourhood , Environment	Health			Opportunity					Social/Civic Engagement
7	***Happy City Index***			*Place*	*Health*	*Work*	*Education*						*Community*
8	***Happy Planet Index***			*Ecological Footprint*	*Life Expectancy*			*Inequality of outcomes*					*Wellbeing*
9	***Thriving Place Index***			*Place and Environment*	*Mental and Physical Health*	*Work and Local Economy*	*Education and Learning*	*Equality Sustainability*					*People and Community*
10	***Safe Cities Index***	*Infrastructure Security*			*Health Security*			*Digital &Personal Security*					
11	***City Prosperity Index***	*Infrastructure*		*Environmental Sustainability*		*Productivity*		*Equity and social inclusion*					*Quality of life Governance Legislation*

Table 3 Typology of student projects

S. #	Name of Project	Type
1.	Heritage Walk Boulevard	Pedestrian Boulevard
2.	Wadi Namr Extension	Waterfront
3.	Al Batha Boulevard	Commercial Boulevard
4.	Muthmera	Pedestrian Boulevard
5.	Al Daho	Heritage Quarter Revival
6.	Taiba Owais Markets	Commercial District
7.	Al Olaya Loop	Commercial Pedestrian Loop
8.	Reviving Zoo	Eco-reserve
9.	Albujairi	Historical District
10.	Faisaliya Centre	Central Business District
11.	Kingdom Tower Area	Central Business District
12.	King Fahad Library	Public Plaza

Table 4: Spaces Designed by Students Mapped Against Saudi Vison's Offerings, Source: QoL Program and Author

Offerings in QoL →			**Themed attractions**				**Shows/ Performance arts**		**Culture and arts**		**Nature**		**Sightseeing**		**Digital Entertainment**		**Sports**	
S. No	**Name of Projects ↓**		**Theme Parks**	**Water Parks**	**Family Entertainment**	**Cinema**	**Theatres / (Outdoor theatre)**	**Live Events**	**Museums**	**Exhibitions/ (bazaar)**	**Nature Reserves**	**Zoos Aqua and**	**Urban Parks & Play grounds**	**Guided Tours**	**e-Sports**	**Competitive Sports**	**Recrteational Sports**	**Adventure Sports**
1.	**Heritage Walk Boulevard**				x		x	x	x	x			x	x			x	
2	**Wadi Namr Extension**			x	x						x	x	x				x	x
3	**Al Batha Boulevard**								x	x							x	
4	**Muthmera**				x		x	x		x		x	x	x			x	
5	**Al Daho**				x		x	x	x	x			x	x			x	
6	**Al-Uwais &Taibah Markets**				x		x	x		x			x				x	
7	**Al Olaya Loop**				x							x	x				x	
8	**Reviving Zoo**		x		x				x	x	x	x	x	x				
9	**Al-Bujairi**				x			x	x	x	x		x	x				x
10	**Faisaliya Tower**				x			x		x			x				x	
11	**Kingdom Tower**							x					x					
12.	**King Fahad Library**				x		x	x		x			x				x	

Table 5: **Student project sites mapped against Saudi Vison's Sites, Source: QoL Programme and Author**

Potential Sites in QoL → / Student Project Name ↓	Kingdom Centre Tower	Masmak Citadel	Al Faisaliyah Center	Al Rajhi Grand Mosque	Old Dir'aiyah	King Khalid Grand Mosque	Imam Turki Bin Abdullah Grand Mosque	WadiNamr	Othman IbnAffan Mosque	Heet Cave	Princess LatifaBint Sultan Bin	World Sights Park	Underground Gallery	King Fahad Cultural Centre
Heritage Walk Boulevard		x					x							
WadiNamr Extension								x						
Al Batha Boulevard														
Muthmera														
Al Daho		x					x							
TaibaOwais Markets														
Al Olaya Loop	x													
Reviving Zoo														
Albujairi					x									
Faisaliya			x											
Kingdom	x													
King Fahad Library														

Table 6 Aspirations owned by the QoL Program 2020,
Source: Directly adopted from QoL Programme Saudi Vision 2030, (Arabia, 2016)

Indicator	Aspirations by QoL Program
Sports	Increase participation in sports by mobilizing KSA population to exercise on a weekly basis
	Become regional leaders in Summer Olympic participation
	Reach accessible sports infrastructure offering levels of most liveable countries
Heritage, Culture and Arts	Match international engagement levels for culture and arts
	Aspire for city cultural and artistic activities to compare to the top 10 worldwide culture hubs
	Make the Kingdom a regional hub for culture and arts through infrastructure development
Entertainment	Reach levels of population engagement in entertainment of most liveable countries
	Provide entertainment offering comparable to most liveable countries
	Make the Kingdom a global hub for entertainment by building pioneering venues
Recreation	Maintain expenditure levels on food and beverages
	Become a global reference point for food and beverage with leading, high-quality offerings
Infrastructure and Transportation	Drive public transport use to reach most the top 5 most liveable countries
	Reduce traffic deaths to reach the top 5 most liveable countries
	Follow the evolution of connectivity to reach double the average global per capita share of connected devices
Housing, Urban Design & Environment	Achieve home ownership equal to top 5 of most liveable countries
	Achieve WHO minimum for suggested available green space
	Enhance people's walking habits to reach the top 5 most liveable countries
Healthcare	Accomplish equivalent life expectancy to the top among top 5 most liveable countries
	Reduce diabetes prevalence at par with the average of the top 5 most liveable countries
	Install enough hospital beds reach top 5 most liveable countries
Economic and Education Opportunities	Reduce unemployment to reach top 5 most liveable countries
	Encourage female employment to close the gap with most liveable countries
	Achieve Program for International Student Assessment (PISA) reading scores to reach top 5 most liveable countries
Security and Socio-Environment	Increase offering of e-government to reach top 3 of most liveable nations
	Increase gender equality to become top performer among countries in subsequent liveable bracket
Social Engagement	Mobilize volunteers to drastically increase KSA volunteer base
	Increase number of NGOs to surpass countries in subsequent liveable bracket (i.e. with cities that fall) in the EIU Liveability ranking 100-between 80
	Achieve a 20x increase in interaction with the community and neighbourhood clubs

Fig. 5: Masmak Citadel site chosen in a students' proposal, Source: Student Project

Data Collection

Twelve student samples were selected using purposive sampling and listed according to type. Every semester, students were given a different urban category to design, such as boulevards, pedestrian loops, public squares or a neighborhood. However, the choice of site and their design were entirely the students'. Table 3 shows the types of project chosen for this research. They ranged from pedestrian or commercial loops to commercial districts, from public squares to waterfronts, from historical districts to business ones and from heritage quarters to regional eco reserves.

The projects chosen were intended to be different in terms of site type and design brief, giving the students a well-rounded approach experience that required an holistic outlook. Similar projects were avoided and efforts were made to select at least one project from each semester. Students were advised to refer to Vision 2030 for their overall design approach at the beginning of the semester informally (verbal) for the first four semesters and formally (written) in the last two semesters. In the next step, the offerings, sites and aspirations of the QoL Programme would be compared with the students' projects.

Analysis

As seen in Table 4, mapping the offerings from the QoL Programme against the spaces designed by the students in their projects highlighted that most of the offerings matched with the students' projects. It shows that eleven out of twelve student projects incorporated 'Urban parks & playgrounds', closely followed by 'Family entertainment centres' which was incorporated in ten projects. Next were 'Exhibitions/ bazaars and 'Recreational sports' which were included by nine out of twelve projects. Finally, 'Live events' were included by eight out of twelve projects. Museums, guided tours', 'Zoos/aqua/flora' and 'Nature reserves' were included by five, five, four and three student projects respectively. The mapping highlighted that none of the student teams thought to incorporate 'E-sports', 'Competitive sports' and 'Cinemas' in their designs. The next to follow (which were also rare) were 'Adventure sports', 'Theme parks' and 'Water parks.'

The clear preference of students for designing family areas like parks, playgrounds, and family entertainment centres is likely due to a strong family system tradition in the Arab region (Young & Shami, 1997). The inclusion of exhibitions, recreational sports, and live events can be in a way credited to its increasing trend in the Kingdom (Desk, 2019). The evident hesitation from the students' end in proposing cinemas in the selected projects could be from short sightedness in reimagining Riyadh, due to its existing image as a conservative societal set-up being firmly established in the public imagination (Alghenaim, 2014). Students and the citizens they interviewed were probably not ready for a major cultural shift and hence were unable to think in broader terms. (Dege, 2018). Novel sport options such as E-sports could not find a place in students' projects either. This was probably because of the newness of its nature as the term 'e-sports' was little known in the Kingdom prior to 2017 (Atallah, 2019). It could also be due to the general indifference of Saudis towards sports as a recreation option (Alghenaim, 2014). Lastly, there is a general tendency to avoid physical activity among Saudi males (Al-Refaee & Al-Hazzaa, 2001) and Saudi females (Albawardi, Jradi & Al-Hazzaa, 2016) that could have contributed to this result.

Mapping potential sites from the QoL Programme against the sites chosen by students in their project in Table 5 shows six out of fourteen sites used by students as a site for their projects. The chosen sites were of Kingdom Tower, Masmak citadel, Al Faisaliyah Center, Old Diriyah, Imam Turki Bin Abdullah Grand Mosque and Wadi Nmar. The inclination towards these sites could be attributable to their prominence as an iconic part of Riyadh's skyline. While Kingdom and Faisaliyah Tower are the architectural symbols of the city, Masmak, Diriyah and

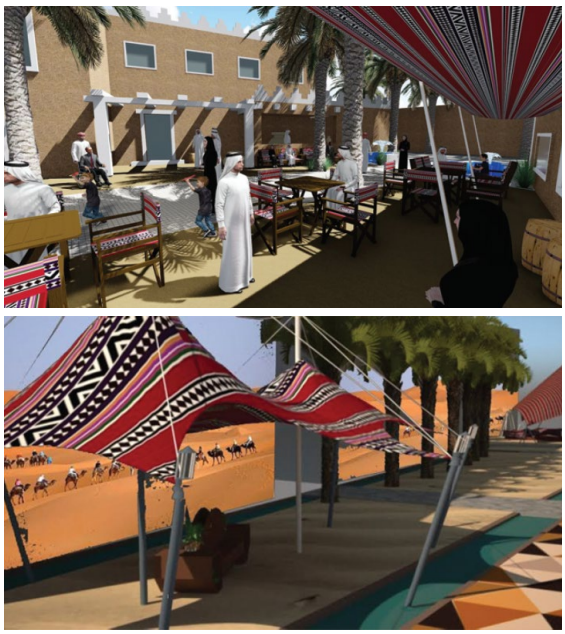

Fig. 6: Student Proposals showing traditional tents using tribal fabric, Source: Student Project

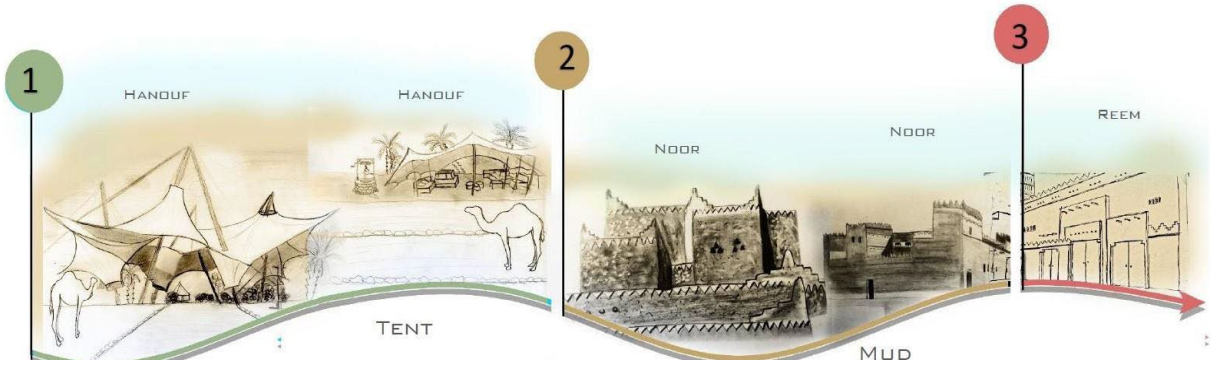

Fig. 7: Student proposal showing heritage walk from Arab past to present, Source: Students' Project

Grand Mosque constitute the heritage icons of Riyadh's glorious past (Fig. 5). Wadi Namr, which has the potential to offer a waterfront to the dry Riyadh landscape, also became a promising site for student projects.

The eight untapped sites included mosques such as Al Rajhi Grand Mosque, Othman Ibn Affan Mosque and Princess Latifa Bint Sultan Bin Abdulaziz Mosque, hidden treasures like Heet Cave and Underground Gallery, and tourist spots like King Fahad Cultural Centre and World Sights Park. A likely assumption of students not choosing mosques, parks or cultural centres could possibly be because of the decent quality of their existing design. The possible reason behind not choosing rare cave and underground gallery sites could be the ignorance of such spaces or fear of dealing with an unusual site. It should be noted here that the reasons for students choosing some sites over others is only assumed in this research, while the actual reasons still need to be investigated. The design decisions of students remain a topic for future research.

Next, the comparison was made between aspirations in QoL Programme and the students' design intentions in their projects. The QoL Programme lists aspirations for Riyadh city for each category of factors affecting happiness in cities (Table 6). The ten categories adopted from the QoL Programme were the following: (i) Sports, (ii) Heritage, Culture and Arts, (iii) Entertainment, (iv) Recreation, (v) Infrastructure and Transportation, (vi) Housing, (vii) Urban Design & Environment, (viii) Healthcare, (ix) Economic and Education Opportunities, (x) Security, Socio-Environment and Social Engagement. For each of the above-mentioned categories, the students' design intentions were analysed, producing descriptions that highlight where the students' proposal supported the QoL Programme aspirations and where it did not. A detailed analysis was done for each category and is supported by illustrations from student proposals wherever necessary.

(i) Sports

In Riyadh, 'Sports' was not a famous recreation option until recently. Analysing students' projects revealed, however, that student proposals intended to encourage people to exercise within their community by proposing an outdoor gym in their neighborhood, district, and in regional parks / plazas. Also, attractive bicycle lanes designed using a tactical urbanism approach were proposed to encourage citizens to bike to their favourite neighborhood amenities such as parks, banks, or grocery stores, encouraging the KSA population to exercise on a daily basis. Students were creative, offering out-of-the-box sports infrastructure like a dedicated skating park for men and women, unusual terrace courts in residential areas. In commercial areas, in addition to the all too familiar basketball courts, a sports facility for office workers provided football grounds and badminton courts. However, student projects did not focus on competitive sports which could help citizens in Olympics.

(ii) Heritage, Culture and Arts

Despite having a rich heritage, Saudi Arabia's past remains largely unexplored in major city design. After thorough analysis of student projects, it was clear that students aspired to boost cultural and artistic activities in the city, by introducing cultural centres, heritage museums, bazaars, art galleries, and interactive urban art installations. Students intended to match international engagement levels for culture and arts by designing living heritage workshops and kiosks where endangered culture could be relived and kept alive. Students envisioned Kingdom as a regional hub for culture and arts through the design of spaces for traditional games, areas dedicated for auctions like in olden times, the recreation of camel ride zones, and the use of tribal tents and traditional majlis for seating (Fig. 6). In addition, heritage walks were proposed to take citizens through a path depicting the cultural heritage from the past to the present (Fig. 7). Students used traditional building styles from prominent regions such as Najd, Hijaz and Asir and incorporated traditional triangular-cut windows and geometrical patterns in the building façades and street furniture.

(iii) Entertainment

To reduce oil dependence, the Saudi economy is shifting to entertainment. Evaluation of the students' projects revealed that the students intended to provide entertainment options by proposing infrastructure for shows and events. Students aimed to make the Kingdom a global hub for entertainment by building various entertainment facilities like open air theatres, outdoor performance stages, multi-purpose atriums and plazas. However, students did not incorporate broader entertainment options such as opera houses, music concert halls, theme parks, and cinemas as mentioned in Vision 2030 Programmes.

(iv) Recreation

Recreation is usually a family affair in Saudi Arabia and picnics are one of the most widely practiced pass times. It was

Fig. 8: Student proposals showing outdoor dining, (Source: Students' Project)

Fig. 9: Student proposals showing pedestrian and bicycle lanes, (Source: Students' Project)

found that in their projects, students emphasised designing a great variety of dining options, including outdoor cafes, open air food courts, food bazaars and food truck dedicated areas to encourage the trend of eating out with friends or family. Also, students contributed to the creation of active and passive recreation by designing interesting spaces such as waterfront promenades, historical gardens, plazas, bird watching parks, pedestrian boulevards, green corridors, resident gardens, and floral gardens to name but a few (Fig. 8). Overall, students focused predominantly on urban spaces, with eating being one of the featured activities. In contrast, the Vision 2030 focuses its recreation on increasing expenditure on food and beverages.

(v) Infrastructure and Transportation

Though quite advanced in transportation and infrastructure, non-motorised transport (and especially walking options) are largely underdeveloped in Riyadh (Ledraa, 2015). Public transport is highly anticipated as the Metro project is all set to be used by the public. It was found that the students encouraged the use of public transport by encouraging transit-oriented development around proposed metro and bus lanes. Metro stations were given priority when choosing strategic urban design interventions. Bus stop location was carefully studied from the proposed bus route plans for Riyadh to design user-friendly bus stops and connect them to nearby amenities. In addition to developing public spaces around bus stops to create a happy waiting atmosphere, students also tried to reduce traffic deaths through the creation of extensive bicycle and pedestrian lanes connecting residential areas to all district amenities.

Students also suggested buffer zones between vehicular and pedestrian zones to create safety for pedestrians. Bicycle lanes or on-street parking were also used to create a buffer within the street system (Fig. 9). While students encouraged public

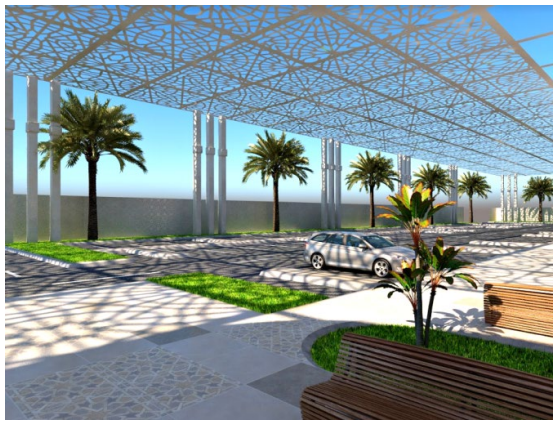

Fig. 10: Student Proposal showing shaded Parking inspired from arabesque lattice, (Source: Students'

transport and a reduction in traffic deaths, there were little contributions made to enhancing connectivity of devices. Shaded parking was also designed incorporating Saudi tradition patterns on horizontal shading. (Fig. 10)

(vi) Housing

Riyadh usually accommodates high-end housing and affordable housing is both rare and needed. Students incorporated social housing into their projects by using principles of affordable housing. Student projects dealt with designing urban space, hence there were no major housing schemes proposed by students.

(vii) Urban Design and Environment

There is a growing concern for city and environment in Saudi government and amongst the public. Students' projects showed that there was enough sensitivity towards the need to increase the number and size of green spaces in their designs. A variety of green spaces were designed such as parks, playgrounds, buffer strips, floral gardens, tree lined avenues, and protected green reserves (Fig. 11).

Students advocated strongly for walkability in their design (Fig. 12). The public spaces were designed to enhance people's activity by creating meaningful pathways and active destinations. Such pathways are needed as the trend of walking is increasingly popular in the Kingdom (Parashar & Bnayan, 2020). Additionally, activities inside public squares or plazas were designed for all ages and both genders, while pedestrian paths were designed from residential areas to all nearby amenities, including transit stops. The pathways themselves were often installed with pedestrian lights, trash bins, planters, and seating. Street furniture and accessories were well designed to suit the climatic and cultural conditions of Riyadh. Also provided were intermittent praying and ablution areas, public toilets, drinking water stations and innovative ideas like kinetic pavements lighting up floors at night or using swings for waiting to light up areas at night.

(viii) Healthcare

In mapping related world indices, health was found to be the most rated indicator of a happy and liveable city. Riyadh has a superior health infrastructure but lacks health initiatives in city design. Students were keen to contribute to a healthier lifestyle for citizens, so they proposed citizen-friendly pedestrian and bicycle lanes, interactive path designs and walkable neighbourhoods to achieve a healthier lifestyle. They also proposed hospitals, clinics or first aid centres according to the needs of the design. Students considered mental health and were sensitive to the capacity for urban design features such as proportion, layout, and colour scheme to boost citizens' mental health. However, not many efforts were put into proposing hospitals, increasing life expectancy, or reducing diabetes. Although such aims were proposed in the Vision 2030, such issues were beyond the scope of the urban design studio course.

(ix) Economic Opportunities

With diversification of the Saudi economy into various fields other than oil, many other industries were targeted. Students' projects aimed to enhance economic activities through the promotion of bazaars or markets, proposing dedicated areas for selling home-made items, designing prototypes of kiosks or pop-up shops, as well as designing exhibition areas that could be used for different handicrafts. Amenities, such as toilets, food courts, prayer areas, first aid arrangement, play area for kids were provided for, along with ample seating for customers in the commercial areas, keeping the public happy and allowing them to stay longer (Fig. 13). Nevertheless, student projects did not feature unemployment among their primary concerns.

Fig. 11: Student proposals showing green infrastructure in parks, pathways and plazas, (Source: Students' Project)

(x) Educational opportunities

Fig. 12: Student proposal showing walkability study for an urban area from two metro stations, (Source: Students' Project)

Fig. 13: Students' proposal showing a bazaar having heritage elements in facade and pavement, (Source: Students' Project)

Although education infrastructure is well woven into the city, students aspired to reducing unemployment through the revival of cultural training centres to teach living heritage skills. Apart from this initiative, no other educational program was introduced. As in the previous section, it should be noted that this issue was not a part of the urban design course.

(xi) Security and Socio-Environment

Saudi cities are usually considered to be segregated and unsafe, especially for women. The students' projects demonstrated that they felt the need to design more women-friendly urban spaces to increase women's engagement in cities. They proposed amenities with features for women, including 'natural surveillance' and 'eyes on the street' in their designs. There were, however, no efforts made to encourage e-government apart from proposing smart helpdesk kiosks.

(xii) Social Engagement

Arab social structure is tightly knit. Students were encouraged to do exhaustive research on their site, extensive analysis, and to prepare detailed proposals by consulting with the various users of their context. This enhanced citizens' engagement in the design process. In their projects, students placed much emphasis on proposing community centres, neighbourhood parks, shared gardens and societal clubs that would encourage community interaction. Even so, schemes for encouraging volunteers or increasing NGOs did not feature in the students' projects.

Findings

When comparing the Offerings, Sites and Aspirations, it was found that most of the Saudi Visions resonated with the students' proposals. Among the deliverables which were found to be strikingly similar, were those related to the introduction of green open spaces, spaces featuring water, plazas, open air theatres, markets, exhibitions, playgrounds, and dedicated tours. Both the city administrators and citizens proposed the creation of parks and green spaces, as well as encouraging environment-friendly urban landscaping. Both envisioned increasing walkability and introducing active routines into the lives of citizens. Both encouraged dependence on public transport, a decrease in private car usage, and a reduction in traffic deaths through bus and metro use (Arabia, 2016).

However, there were many examples where student proposals did not match with the city's approach. While Saudi Vision envisions high-end entertainment options for their citizens, proposing 'Opera Houses and Cinemas' (Arabia, 2016), none of the students' projects included it in their proposals. Also, Saudi Vision is looking ahead to digital, competitive, and professional sports. It aims to develop them in the city, however, apart from a few adventure sports students only suggested designs in the sphere of recreational sports or playgrounds. Though the Vision 2030 document stresses that investment in 'theme parks' can be beneficial (Arabia, 2016), very few student projects included 'theme parks' in their proposals. In contrast, the students' projects proposed 'open air theatres' for live shows with regular visitors as spectators and did not exclusively feature designs for musical concerts or live shows as envisioned by Saudi Vision.

There were other spheres where the students' intentions did not correspond to those detailed in the QoL Programme. The first example is cycling infrastructure. Virtually all students in their projects introduced cycle lanes, stands, and stops at some scale or other. They connected residential areas to nearby amenities using bright coloured cycling tracks and often separated them from the main traffic with a buffer strip or bollard lights. Cycling encourages exercise, provides greater access than walking, and reduces road accidents. However, in the Vision 2030 targeting healthier lifestyles and reducing traffic deaths, there was no mention of cycling infrastructure or bicycle lanes. The second example is the reduction of private car usage. The Vision 2030 strongly advocates promoting public transport and have designed an excellent metro and integrated bus system to achieve this. And yet, there is no mention of para-transit options to stimulate public transit usage. Students, by contrast, proposed para-transit options connecting metro stations and bus stops to residential areas. Their options included non-motorized transport (NMT) options like pedestrian paths and cycle lanes, as well as strategies such as carpooling and using shuttles.

Discussion

The comparative study of the Vision 2030 and the student proposals suggests that the government's initiatives are well ahead of their time and resonating with the urban design students' aspirations. The overlap between the two demonstrates that the commonalities between them outnumber their differences, reflecting a type of harmony between the processes of student design and the government's policy making.

A small disparity between the two approaches, however, indicates spheres where harmony could be improved. According to our analysis, the key players capable of shaping the vision of a city are not only students and city administrators, but also educators. Each of these three can play a role in the realisation of the city's vision. This paper thus highlights a new approach to studying a city's vision; one that recognises the role educators can play in shaping the future urban landscape.

Due to their ability to influence the viewpoint of budding urban designers, the educator's role is the most important. The contribution an educator can make is therefore capable of effectively bridging the gap between the vision of the citizens and students, and that of the city's administrators. As a mentor, an educator should try to reduce the students' hesitation when designing, encouraging them to trust their judgement and imagine all possible alternatives. Accordingly, the desk appraisals should be intentionally varied and include influences from other cultural geographies. The fear of experimentation must also be overcome. By appreciating students who try thinking outside of the box, mentors can encourage innovation and foster a learning environment that supports risk-taking and experimentation.

In the university setting, and focusing on the context of this research, the design studio instructors can embed Vision 2030 into the design briefs as a mandatory or optional component. Instructors should also ensure that they have a thorough understanding of the various documents under Vision 2030 as they are responsible for introducing students to the database best suited to their project. Lastly, instructors should encourage student interest in the inclusion of Saudi Vision 2030 in their designs by adding related criteria to the grading rubric.

On the flipside, the students can improve their contribution to realising Vision 2030's goals by doing holistic research. Globally, urban design students are conducting extensive surveys and citizen observation to arrive at their proposals. While conducting research on people's thoughts about the city, they can increase their sample size to accommodate people of all cultures, genders, classes, religions, nationalities, and age groups. Diverse case studies from different parts of the world can be created to understand how international urban designers bring out city-scale solutions. Having a wider vision for their design would broaden their horizons, reduce their hesitation, and alleviate fears of experimentation. Assimilating other cultures would reduce the major cultural shift they experienced in their design, while working in teams can encourage participatory design processes which often produce harmonising results. Students can thus play a crucial role in connecting citizens, city administrators and other cultures. This approach, it should be noted, can be facilitated by Ekistics, the study of human settlements and their problems, which has developed a comprehensive grid that can be used to compare and classify case studies across similar scales of development and theme.

Finally, city administrators have a role to play in bridging the gap between the two approaches by actively involving students and educators in participatory planning processes; for example, a city's urban projects can be trialed among architecture students as design briefs and competitions,

students can be regularly guided by educators and city administrators to achieve desired outcomes, while the winning projects can be adapted to the city's realization plans and published. Through such activities, students can develop hands-on experience in the city administration, and administrators can involve citizens in regular meetups for friendly participatory design events.

Conclusion

This study identified a new perspective in city vision building by studying students' work and comparing it with city vision documents. This approach, which compares students' work in a particular field with city policy documents relating to the same field proposes a means for the similarities between city visions to be identified and their differences to be bridged. The related visions of students and city administrators brought into view both the role of citizens in informing the students' proposals, and the role that educators play as mentors in the university context. It is therefore recommended that a conscious effort from each of the contributors (citizens, students, educators, and adminstrators) should be made to better achieve Vision 2030. That is, educators, students, city administrators and citizens can collaborate to make a city embodying their dreams, what Ekistics describes as 'entopia', an ideal yet buildable city (Doxiadis, 1975). Within this collaborative process, our study has advocated for the role of the educator in fulfilling a city's vision, maintaining that their small contribution can play a bigger role in building a city's vision. Indeed, educators and city administrators should act as catalysts, encouraging students to embrace their role as a key player in vision realisation. Significantly, this collaborative approach can be studied, experimented with, and shaped to suit different streams of education. In this study, we have dealt with architecture students, however the same approach could be used for students of law, science, design, technology or indeed, any field.

In terms of future research, if students can adopt a systematic approach to data collection, canvassing public views and the reasons for their daily lifestyle choices, research could more holistically and accurately represent the general population. This role aligns the approach that practitioners of Ekistics has developed since the 1950's. Moreover, such an approach highlights the role educators can play as role-models, conducting systematic research, presenting their rationale for their designs, and providing reasons to help make research more intriguing and far-reaching. On the whole, it is clear that Vision 2030 represents a step forward towards diversifying the Saudi economy and introducing facilities which were beyond the students' city visions. While sometimes limited by the brief, students nevertheless presented sensitive and vital ideas that would not have been out of place within the city administrator's proposals developed under Vision 2030. Therefore, we may conclude that a unique collaboration between the two will definitely help Riyadh achieve its position in the top livable and happy cities of the world.

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