



Improving Sustainability Concept in Developing Countries

Expectation towards Green lawns to enhance quality of life at workplaces

EBTESAM M. ELGIZAWY, Ph.D*

*Faculty of Fine Arts, HELWAN University
CAIRO 11311-11668, Egypt*

Abstract

During recent decades, green lawns have gradually become one of the main sources of greening in many cities in both developed and developing countries. Although, much research has received large attention to green lawns in residential places, few studies have addressed the benefits of having access to green lawns at workplaces to enhance the quality of life. More specifically, this study focused on the question of how employees view, socialize, and utilize their workplace green lawns. To provide some insight into this direction, the study was conducted in Smart Village, Egypt that uses green lawns as main form of greening.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of IEREK, International experts for Research Enrichment and Knowledge Exchange

Keywords: Green lawns; workplace; urban business areas; socio-ecological system; human well-being; quality of life.

1. Introduction

A plenty of influences affect on the productivity in workplaces. Most of them related to human factors. Such as the psychological issues which involve the performance of employees. Specifically, these factors associated to employees' motivation, job satisfaction, and well-being. Over the last decade, there has been a shift in the public health and well-being agenda towards promoting healthy lifestyle behaviors and choices. There has also been recognition of the role the nearby nature and green areas can play in enhancing quality of life and well-being.

* Corresponding author. Tel.: 002001004339227.

E-mail address: Ebtsam_elgizawy@yahoo.com

A literature review of current research has been shown the importance of the green lawns and nearby nature in human well-being, particularly in the context of hospitals, prisons, and residential setting [1], [2]. On the other hand, surprisingly little attention has been devoted to the role of nature in the context of the workplace. In spite of the fact that the quality of life is a major consideration when businesses are deciding where to locate, and green lawns and the recreational opportunities they provide are as important as low crime rates and safe streets. Skilled and educated employees consider quality of life to be as important as salaries [3]. Owners of small companies rank recreation, outdoor green lawns and open spaces as the highest priority in choosing a new location for their business to enhance decreasing the stress of their employees.

As a technology, artificial light and traffic increasingly dominate our workplaces and business areas, a nearby nature and green lawns can be an oasis of tranquility and calm that has a genuine effect on stress. Clinical evidence suggests that exposure to an outdoor green environment reduces stress faster than anything else. Simply viewing nature can produce significant recovery or restoration from stress within three to five minutes. For people experiencing anxiety or stress as employees, studies indicate that certain types of nature scenes quickly foster more positive feelings and promote beneficial changes in physiological systems for instance, blood pressure [4].

In looking at the potential role of green lawns at the workplace, this study focused on the question of how employees view, socialize, and utilize their workplace green lawns accessible to them. And to provide some insight into this direction, the study was conducted in Smart Village, Egypt an urban business area that uses green lawns as their main form of greening. And to accomplish the study's objectives the researcher was used a survey and a questionnaire. Employees along that major business area were asked about their nearby green lawn satisfactions, preferences, reactions, beliefs, and future expectations to the landscape in their workplace. These findings support existing research, urban planning, and landscape design of workplace sites to promote employees well being and enhance their quality of life to improve the social sustainability concept in business areas in developing countries.

2. Work greenery preferences

The workplace greenery is clearly a matter of importance to the employees. It is the only way to address well-being and enhance health and satisfaction. Proximity and availability of the nearby nature can foster many desired outcomes, even if the employee does not spend a great amount of time in the natural setting.

There are many types of green spaces use in workplaces starting from trees to park benches to flower gardens to green lawns and flower beds. Some previous studies have concluded that trees had a recognized functional value of improving environmental/health, aesthetic and recreational value of urban business communities [5]. Other research commented on the impact of plant areas on the micro climate showed that trees provide ample shade and protection from dust in summer, and large lawns contribute little to the recreational possibilities of the employees [6]. Despite the fact that some research shows some issues of concern about green lawns, the United States spends nearly 40 billion dollars per year on lawn care [7]. This type of expenditure underscores that perceptions of persons regarding positive greening ran the range between somewhat embarrassing to all encompassing.

Furthermore, several studies in Europe and the United States showed that students and employees preferred neat landscape besides more trees in their working and residential areas, for example a manicured lawn, clipped shrubs and colorful flowers indicate the owner's care for the community. This is consistent with earlier studies which show such preference [8], [9]. Other research in the United States suggested that although prominent, woody vegetation is only a part of the biotic environment in an urban setting, well-kept lawns and cultivated flower gardens are other features important to the employees at their workplaces [10].

As a large proportion of the population spends a substantial amount of time at a place of work, the findings of recent studies confirm that people prefer neatness and smoothness green lawns and consider it as the main element of an attractive landscape [11]. This seems to confirm the findings of other research that concluded employees prefer natural looking, but managed landscape [10], [12].

Data out of many studies in the United Kingdom proved that while smoothness green lawns were among the most popular features in lots of urban areas, the features of trees did not receive the same popularity [13]. And that found proved the idea of the employees' perceptions is associated with the whole looking of the landscape rather than the individual landscape elements, and that the general public appreciate natural landscape features more than formal landscape features.

3. Green lawns value

If parks and green lawns are well satisfied with all kinds of people, research has shown that employees at workplaces use their local spaces and green lawns more, have better relationships with each other, and take some pride in the area where they work [12]. It provides workplaces with a sense of place and belonging, opportunities for recreation, health and fitness, events that reinforce social cohesion and inclusive society and offer an escape from the stresses and strains of modern urban business areas which can feel compounded by the built environment [14].

Over 50% of us visit a park at least once a week, to improve physical - and mental - health, to enhance out-closest relationships, to chill out, to interact with our communities and to have a good time [15]. Since we spent a large amount of time at a place of work, nearby nature and green lawns are an essential part of daily life; from taking a walk in the local green lawns in break times, to enjoying the fresh air, socializing with colleagues, and organizing casual business meetings with friends or colleagues at a surrounding green space with wide lawns which offer something for every employee.

While well satisfied outdoor spaces and green lawns can encourage employees, and enhance social inclusion and cohesion, poor quality spaces, scarred by the evidence of vandalism and neglect, dominated by single groups and anti-social behavior, can be blight on any workplace. So it is a measure of employees' commitment to green lawns and belief in their importance and keeping their good quality which make the most of business owners pay high priority in choosing their companies' location to valuable green outdoor environment [16].

Furthermore, the strong benefits that can accrue from a natural setting and green lawns even if one is not actively engaged with it are also noteworthy [17]. Thus, a view of green lawns and nature settings can play a significant role. Even without a view the knowledge that the opportunity is there can be beneficial [18]. From the perspective of all the above it would be reasonable to assume that the work environment is particularly likely to create mental fatigue. Permitting opportunities for micro restoration would thus be a particularly useful approach to increasing employees' well-being. While a 'break time' is a form of such opportunity, its effectiveness may depend on the degree to which the proposed properties are available. In addition, the availability of a window with a view to nature may afford even more effective recovery.

4. Study Methods

This research study mainly explored two important themes related to green lawns that could possibly be of interest and benefit to workplaces and planners facing rapid urbanization like Egypt. The two themes are: (1) the socialization patterns and utilization of green lawns; and (2) the social interaction possibilities and efficiency of green lawns.

In order to get a good grasp about the issues the researcher chose Smart Village, 6th of October as the study site, since the green lawn is the main greening form for this business area (Fig. 1). Secondly, accessibility to the green lawns was a consideration during site selection because lawns are extensively used by employees all year around. Thirdly, with a history of construction for many years, Smart Village has diverse forms of open green space, and the companies attached by green lawns also show the different varieties in three major urban outdoor areas, and lawns in functional lands of new urban outdoor areas which were largely developed under the influence of modernism concepts of urban business area and workplace planning and construction after 1990s.

Lastly, Smart Village has as its hub a university, ranked in the top 100 universities in Egypt, and thus attracts a diverse student and academic faculty body from all over Egypt. It is bringing various perspectives to the village. In addition to, the village has a sports club contains a variety of playground areas, courts, and a club house.

Hence, Smart Village was chosen as the site for this study as the data gathered from the different contexts and land uses combined with a diversity of people allowed the researchers to gather useful information that they might bring back to their own environment.



Fig. 1. Expanded green lawns in Smart Village

4.1. Data Collection

The research classified urban lawns into six categories according to urban landscaping contexts. To accomplish the study’s objectives the city’s lawns were categorized accordingly: (1) park lawns, (2) companies neighbourhood lawns, (3) lawns around public buildings, (4) lawns surrounding business buildings, (5) playground lawns and (6) lawns along roads (Fig.2).

Open-ended questionnaires were used by the researchers to obtain data and information on the use and evaluation of green lawns by participants. The study consisted of open-ended questionnaires handed out at various chosen locations around Smart Village. These questions were developed to gather data for the study. The answers were then entered into a newly created database and subsequently analyzed. The participants were asked to recall the frequency, duration of each time, types of activities, etc. of various categories of green lawns used throughout the year. Then classification of the survey results was done based on the purpose of using lawns.



Park lawns



Companies neighbourhood lawns



Public green lawns



Surrounding business building lawns



Playground lawns



Lawns along roads

Fig. 2. Classification of green lawns

Questionnaires with a self-addressed envelope and paid postage were handed out by the researchers, during the period of April- August 2015, to employees in three companies (Vodafone, Huawei, and Ericsson), and to students via e-mail. A total of 120 questionnaires was distributed and received 82 answers by email. The survey response was approximately 62%.

The questionnaire began with discussions on usage in any of the six types of green lawns. The participants were asked to recall the frequency, duration of each time, types of activities, etc. of various categories of lawns used throughout the year. Next the questionnaire addressed issues related to the social attributes of the six types of green lawns. Open-ended questions as a data collection tool was used and asked the following: “What’s your overall view on each of the six types of green lawns in Smart Village”, “Where do you use green lawns frequently”, “Where is your favourite green lawn”, “How far is the green lawn where you go most”,. Then the participants were asked to give more details about their gender, occupation, commuting, and other data were collected. The table (Table. 1) below demonstrates the type of information gathered:

Table 1. Characteristics of the sample.

	Student	Employee	Total
Number	51	31	82
Gender (female/male)	31/20	11/20	42/40
Nationality (Egyptian/others)	45/6	19/12	64/18
Commuting tools (public transport/others)	39/12	21/10	60/22
Occupation (leading position/others)	3/48	15/16	18/64

5. Results

5.1. People practices in the green lawns at the workplace

The study’s first objective involved identification of activities engaged in while being at green lawns. The data reported that functional substitutes, social interaction, relaxation, and exercise were the primary activities undertaken while using urban lawns by study participants.

Functional substitutes were the most frequent reason given by participants in this study for using green lawns. And that was happening because most of the participants are students and employees. Yet the functional substitutes recognize that lawns provide opportunity for employees and students to replace some activities that usually occur inside buildings such as meeting halls, libraries, restaurants, or offices from indoor to outdoor spaces. Social interaction was the second type of activity reportedly engaged in while at green lawns.

The most common forms of it, was hanging out with friends. Relaxation, or the opportunity to escape the work bustle, temporarily unwind and possibly contemplate or enjoy the time in natural setting were placed third among the activities followed by Exercise.

The percentage in (Table. 2) shows what was discussed above and refers to the proportion of respondents to all participants.

Study findings identified a significant difference in the use of green lawns between students and working people. The study showed that the proportion of student participants on each type of activities is higher than working participants. The results of the study’s data comparing students with working participants can be found in (Fig.3).

Table 2. The social function of the green lawns at workplace.

Activity Types	Activities and practices	percentages
Functional Substitutes	Discussing work or study	11%
	Pass through waiting friend or bus	6%
	Having lunch or breakfast	15%
	Organizing casual meetings	8%
Total		40%
Social Interaction	Hanging out with friends	12%
	Organizing festival celebration	8%
	Watching people around	4%
	Other organized activities	6%
Total		30%
Relaxation	Take a break	7%
	Reading	6.5%
	Listening music	2%
	Get fresh air & enjoy green atmosphere	4.5%
Total		20%
Exercise	Walking	4%
	Jogging or Running	1.5%
	Playing football or other ball games	3.5%
	Cycling	1%
Total		10%

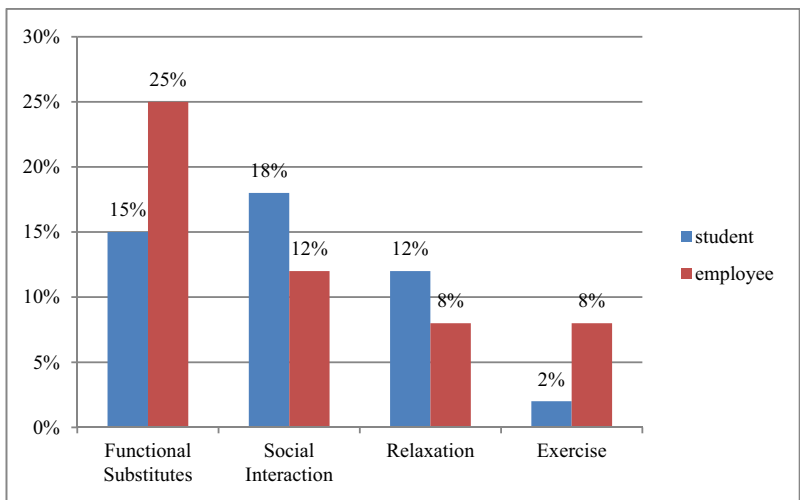


Fig. 3. Activities proportion of participants on green lawns

The social efficiency of the green lawns is mainly reflected in the general atmosphere of the work environment. Green lawns provide a very effective means of promoting health and well-being, as well as a mechanism for increasing work community and employees’ involvement in over timing. Many of the benefits provided by green lawns give a general sense of satisfaction with where people work. Clearly, it assures well-being in the workplace which enhances workplace productivity and job contentment.

Social activities on the green lawns reduce stress faster than anything else. Furthermore, it helps in strengthening links and relations between people at work. Simply, spending time in nature can produce significant recovery and promote health, well-being, and quality of life.

5.2. The Impact of green lawns land uses in the social function

The social efficiency of the green lawns is reflected through usage frequency by participants. The data shows the difference of usage level of all categories of green lawns from the participants is significant. Functional substitutes, in the form of ‘having lunch or breakfast’, were the most frequent reason given by participants in this study for using public green lawns.

The most common forms of social interaction in favorable weather, was hanging out with friends on companies neighborhood lawns surrounding business buildings. Park lawns and playground lawns are used mainly for social interaction, relaxation and exercise. Lawns surrounding business building are similar to companies’ neighborhood lawns as they provide respite for employees’ work break and casual meetings. These findings are illustrated in (Table. 3).

Table 3. Social activities on different categories of green laws.

Activity types	Park lawns	Companies neighborhood lawns	Public green lawns	Surrounding business buildings lawns	Playground lawns	Lawns along roads
Functional Substitutes	17%	15%	35%	20%	10%	3%
Social interactions	17%	38.5%	15.5%	21%	8%	0%
Relaxation	36.5%	24%	16%	15.5%	8%	0%
Exercise	30%	0%	7%	9%	50%	4%

5.3. Expectation towards green lawns

Visual service and open space become more important for employee preferences indicate that more light into the firms is desirable. This “visual service” gives the effect of a second meeting room and attracted employees inside their homes to participate in outdoor activities such as take a break, relaxing, walking, playing outdoor games, and talking to friends. Recent work has shown that people have good perceived and/or actual access to green space they are more likely to be physically active [19].

The visual function of green lawns around business buildings is aimed at giving another insight into the attitudes and perceptions of people that utilize them. Compared with other categories of lawns, the main function of these located around business buildings is somewhat unique in that it improves the layout of urban outdoor space visually and provides open space for a particular use such as having lunch or taking a break between classes or during working time.

The study also looked at certain features of lawns to see what kind of influence they may have, if any, on participants’. Data shows that the most significant function of park lawns, compared with other categories, is to provide the employees with expanded outdoor meeting and activity places. With the existence of lawns, people gather together and have increased opportunities, chances to have social interaction with each other. Answers provided by respondents revealed a personal connection and satisfaction with green lawns and persons using them.

Location and maintenance are strong factors and have some influence on the functional use and efficiency of lawns. Participants were asked their opinion about what aspects of lawns/lawn design located in Smart Village needed improvement. The survey highlighted that “planting collocation” and “having service facilities around” significantly impacted use of green lawns. Service facilities mainly refer to rest seats, trash cans, toilet, sink, small shops, etc.

6. Discussion

The focus of this study was to examine green lawns, their efficiency and the possibilities they provide as well as the influence they have on work life and the people that interact with them. By interacting it means the way employees and students utilize green lawns, or perceive them as places to socialize, recreate and participate in physical activity or see as something desirable or not.

The study, surveyed the use of green lawns by employees on a business area, and explored their attitudes about the utilization of green lawns in this area. The study was conducted in Smart Village, Egypt, which has a big picture of using green lawns as the main form of greening and where accessibility was not an issue. The researcher was optimistic that any lessons learned might be important and useful to planners and landscape designers in their ongoing and future workplaces landscaping projects.

As the most accessible form of green space, lawns provide strong leisure functions due to their open nature. Mowed lawns may be used for active outdoor activities such as playing football, doing exercise and playing other ball games, and passive activities such as sitting, reading, watching people around, etc. [20].

For lawns with a lower use level, such as lawns along roads, their social functions mainly are impacted by a variety of issues. Thus, concerns about safety, visual accessibility, sense of direction or purpose were cited as key considerations resulting in their limited use. On the premise of keeping the visual service functions, that kind of green lawns may need to be reconfigured and replaced by pastures, meadows, or other rural vegetation with higher ecological value.

7. Conclusion

Green lawns provide employees at workplace opportunities to interact with each other, to connect with nature, and to engage in activity, thus encouraging a shift from staying indoors to taking the activity to an outside venue. This in turn leads to developing a sense of satisfaction and raising awareness of the unique role of green outdoor areas in reducing stress and enhance quality of life and well-being.

An employee worldwide expresses a desire for contact with nature and others [21]. This study revealed that green lawns embedded in urban green open spaces have the ability, not to provide employees with the opportunity to stay outdoors and connect with nature like trees, woodlands, water body and other natural features, but to provide them the opportunity to socially interact with each other. The study also showed that these social opportunities are driven and can be maximized by two key aspects: land use, and service facilities.

Landscape designers and urban planners need to recognize that people's limited outdoor activities now are not necessarily related to their long-term lifestyle choices. In an effort to increase social interaction, increased practical thought should be given to the efficiency and social function of any designed green lawn. Research of green lawns from the economic perspective, such as investment and maintenance will be a significant research direction in the future.

References

1. Moore, E.O. A prison environment's effect on health care service demands. *J. Environ, Syst.*, 1981; 11: 17-34.
2. Kaplan, R. Nature at the doorstep: Residential satisfaction and the nearby environment. *J. Archit. Plann. Res.*, 1985; 2: 115-127.
3. Patterson, D. Can a company evaluate the cost/benefits of its wellness efforts? *Compensation Benefits Rev.*, 1987; 19: 63-68.
4. Ulrich, R.S. Simons, R.F. Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 1991; 11 (3):201-230.
5. Attwell, K. Urban land resources and urban planting-case studies from Denmark. *Landscape and Urban Planning*, 2000; 52(2-3): 145- 163.
6. Givoni, B. Impact of planted areas on urban environmental quality: a review. *Atmospheric Environment*, 1991; 25(3):289-299.
7. Robbins, P., Birkenholtz, T. Turf grass revolution: measuring the expansion of the American lawn. *Land Use Policy*, 2003; 20(2): 181- 194.
8. Gentin, S. Outdoor recreation and ethnicity in Europe-A review. *Urban Forestry & Urban Greening*, 2011; 10(3): 153-161.
9. Zheng, B., Zhang, Y., Chen, J. Preference to home landscape: wildness or neatness? *Landscape and Urban Planning*, 2011; 99 (1):1-8.
10. Kaplan, R., Kaplan, S., Brown, T. Environmental preference: A comparison of four domains of predictors. *Environment and Behaviour*, 1989; 21(5):509-530.
11. Nassauer, J.I. Messy ecosystems, orderly frames. *Landscape Journal*, 1995; 14 (2): 161-170.
12. Kaplan, R. Employees' reactions to nearby nature at their workplace: The wild and the tame. *Landscape and Urban Planning*, 2007; 82(1 -2): 17-24.

13. Schroeder, U.W. Preference and meaning of arboretum landscapes: combining quantitative and qualitative data, In: Sinha, A., Ed, *Landscape Perception*, Readings in Environmental Psychology. Academic Press, New York, 1985.
14. Matsuoka, Rodney H., Kaplan, R. People needs in the urban landscape: Analysis of Landscape and Urban Planning contributions. *Landscape and Urban Planning*, 2008; 84(1):7-19.
15. Ulrich, R.S., Parsons, R. Influences of passive experiences with plants on individual well-being and health. In: D. Re If, Ed., *The role of Horticulture in human well-being and social development*, Chapter 15, Portland, OR: Timber Press, 1992.
16. Crompton, I., Moore, E. Characteristics of companies that considered recreation/open space to be important in (re)location decisions. *Journal of Park and Recreation Administration*, 1997; 15 (1): 37-58.
17. Mitchell, R., Popham F. Effect of exposure to natural environment on health inequalities: an observational population study. *The Lancet*, 2008; 372(9650): 1655-1660.
18. Olmsted, F.L., Crompton, J.L. The role of the proximate principle in the emergence of urban parks in the United Kingdom and the United States, *Leisure Studies*, 2007; 26(2):213-234.
19. Ulrich, R. S. Effects of gardens on health outcomes: Theory and research. In C. Cooper-Marcus & M. Barnes (Eds.), *Healing Gardens: Therapeutic Benefits and Design Recommendations*, New York: John Wiley, 1999; 27-86.
20. Zipper, Wayne, C., Zipper, Constance, E. Vegetation responses to change in design and management of an urban park, *Landscape and Urban Planning*, 1992; 22(1):1-10.
21. Robbins, P., Sharp, Julie, T. Producing and consuming chemicals: the moral economy of the American lawn, *Economic Geography*, 2003; 79(4):425-451.