

Study on importance of floricultural crops and aesthetic components in determining designs of landscape gardens

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ABSTRACT

Design of landscape gardens are created by plotting different parameters which are in one hand made through floricultural crops and others remain directly as aesthetic components made by other than flower crops in a stretch of land. Efforts were made to study the importance of these components while one should considered before going to design a landscape garden. Hence, 42 gardens from different districts of West Bengal were purposively selected and 20 parameters were standardized (by asking questionnaire and after consulting with several expert and professional in this arena). Floricultural components were herbaceous border and shrubbery border. Aesthetic components were different garden features. Components like focal point, colour arrangement and cost involvement were produced through mingling effect of flower crops and aesthetic components. In most of the gardens herbaceous border and shrubbery border were just maintained revealing 38.1% and 52.4% of the total gardens respectively. Most of the designer preferred to install garden features 'more than six in number' reporting 61.9% of total gardens. It was reported that gardens consisting of one focal point were most acceptable. Foliage arrangement (50% of total gardens) as a garden component was followed in every where whether the garden was situated in drier tracts or hilly areas or in plains. Cost of establishment of a garden was a determining factor for designing a garden. Cost of establishment (upto Rupees ~ 10 lakhs) of a garden was recorded maximum (7.1% of total gardens) in the year of 2008 (some gardens were not completed yet).

Keywords : Aesthetic components, floricultural crops, focal point, garden parameters, landscape gardens

Landscape gardens are simply miniature form of nature. According to the Mannings, it is the term used to designate the profession that conserves, develops and creates landscape, locates and arranges artificial structures, plantations and passages there in for the convenience and pleasure of man (Roychowdhury and Misra, 2001). If design and garden components are the skeleton of a garden and body respectively in the garden then the principles followed in designing the garden would collectively be the mind. So factors responsible for planning a garden are complementary to each other. In a garden, colour, texture and form are prerequisite things to be considered. These are possessing largely in floricultural crops. It would be magnified in degree when aesthetic components are added to it (*i.e.* lusture, exquisite colour and liveliness of floricultural crops).

Several gardens (42 numbers) from different districts of West Bengal were purposively selected based on their historic importance, cultural heritage, cost involvement and easy to convenience. The study was conducted based on a set of garden parameters. Hence, 20 parameters were standardized (by asking questionnaire and after consulting with several expert and professional in this arena) and were linked with garden establishment. These parameters were garden features, shape of the component, number of focal point,

Short communication

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edges, hedge plants, topiary, herbaceous border, shrubbery border, colour arrangement, garden axis, presence of water bodies, form of layout or design *i.e.* formal, informal or intermingled effect, installation of music system, installation of lighting, use of rock/gravel, dignity, maintenance of the garden, cost of the garden, suspense and illusion. Among which six components namely garden features, number of focal point, herbaceous border, shrubbery border, colour arrangement and cost of the garden were taken as a representative sample from these garden components as because only these parameters were conspicuous in the garden through their presence or absence. The frequency and percentage of these components were recorded and tabulated. 20 number of gardens parameters were taken into consideration for assessing design of a garden. These were directly or indirectly influence on representative samples (six garden parameters).

Table 1: Frequency table of the parameter describing different gardens in respect to garden features

Number of features	Frequency	Percentage
More than six	26	61.9
Six to four	8	19.0
Four to two	4	9.5
Less than two	4	9.5

Table 2: Frequency table of the parameter describing different gardens in respect to focal point

Number of focal point	Frequency	Percentage
Zero	10	23.8
One	25	59.5
two	5	11.9
Three	1	2.4
Four	1	2.4

Garden features added value to a garden. It was recorded that 61.9% (Table 1) garden recorded with more than six features possessing larger (26) number than other three types. Focal point was the central attraction of the garden. It was reported that 25 number of gardens recorded maximum of one focal point attributing 59.5% (Table 2). It has to be mentioned here that 10 gardens were without any focal point. From bird's eye view, it is prominent to assess focal point in a garden. It would be conspicuous from the layout also.

Table 3: Frequency table of the parameter describing different gardens in respect to herbaceous border

Form of existence	Frequency	Percentage
Attractive	13	31.0
Just maintained	16	38.1
Not maintained	13	31.0

Table 4: Frequency table of the parameter describing different gardens in respect to shrubbery border

Form of existence	Frequency	Percentage
Attractive	7	16.7
Just maintained	22	52.4
Not maintained	13	31.0

Ornaments of the gardens, herbaceous border was attractive in 13 gardens (Table 3) consisting of 31% where as shrubbery border recorded attractive of 7 in numbers estimated about 16.7% (Table 4) of total gardens. Most of the shrubbery border (22) were just maintained and recorded higher than herbaceous border (16). A considerable number of gardens were lack of these borders. These concepts were derived from English type of garden design. In drier tract, these were not maintained due to seasonal responsiveness, environment prevailing, scarcity of frequent application of water etc. But organic form of fertilizer was used in crop production and this trend was eco-friendly (Manjunatha *et al.*, 2013). This trend was being followed in crop production of most of the gardens.

Table 5: Frequency table of the parameter describing different gardens in respect to colour arrangement

Types	Frequency	Percentage
Exquisite Colour	12	28.6
Foliage arrangement	21	50.0
No arrangement	9	21.4

Colour should be placed in proper manner in the gardens so as to maintain colour harmony. Foliage trees were always planted as the backdrop of flowering ornamentals. It was found that 50% (Table 5) of the gardens were maintained with 'foliage form of trees' (21) over 'Exquisite colourful arrangement' (12). Colour arrangement without colour harmony through out the garden was recorded in 21.4% of total gardens.

Cost involvement to establish a garden is tabulated in table 6. Gardens were expensive due to installment of artificial structure, collection of exotic plants, molting of land, maintenance of gardens etc. It was reported that maximum cost involvement for establishing gardens was 'upto Rs. 10 lakhs' (7.1% of total gardens). Cost of land was a prerequisite factor for establishing a garden in urban areas. Also, installation of modern technology *e.g.* ropeway, boating complex *etc.* in urban gardens enhanced its expenditure and maintenance cost.

Table 6: Frequency table of the parameter describing different gardens in respect to cost of the garden

Cost in Rs.(million)	Frequency	Percentage
0.1	1	2.4
0.2	1	2.4
0.3	1	2.4
0.5	2	4.8
1	3	7.1
1.5	2	4.8
2.0	1	2.4
2.5	1	2.4
3.0	2	4.8
5.0	2	4.8
10.0	2	4.8
12.0	1	2.4
15.0	1	2.4

Primarily principles of gardens such as scale, balance, suspense, illusion, rhythm, harmony etc. were maintained through using these garden components. Now it would be investigated how each parameter influences in garden design. Garden features such as statue, fountain, caricature etc. were complementary part of the garden. Live features exemplified as aviary,

aquarium, snake garden etc. were used to provide mobility to the garden. This was the principle called as 'Suspense'. Shape and size of the components did matter in garden designs. Formal shape had an appeal and dignified a garden. The principle such as balance and scale were maintained according to the size of the components. Focal point was the attraction point of a garden from where attraction did divergent to the other parts. One focal point remained in a small size garden. Too large size garden possessed more than one focal point. Edges and hedge plants were key primary components for formulating a garden design. Form, texture and compactness of these plants played an important role in characterizing 'Dignity' of the garden. Topiary was maintained through pruning and trimming of live plants. It expressed artistic sense and at the same time provide attraction to the visitors. These were judiciously maintained in proper place of a garden otherwise natural look would be hampered. Passages in the garden acted as garden axis. These were in different form geometric to conceptual design (such as radiating, divergent, convergent *etc.*). Presence of water bodies had a historic background. This was an inseparable component of Moghul garden. Flowing nature added liveliness to the garden. Lay out of the gardens were various shaped. These were according to the land, cost involvement and according to gardener's opinion.

Installation of sound and music system and lighting were provided to enhance unity of the components. Rock and gravels are key features of Japanese style of garden. So using of these simply added essence of Japanese school of thought. Maintenance of the garden was an important part of the garden. It was revealed that the design and installation of artificial components would not be too complicated. Obviously at last but not the least cost of establishment and maintenance of a garden played one of the key role in designing a garden.

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