

Design of an indoor garden with an irrigation and drainage system

A THESIS BY

Md.Mhamudul Hasan Mithu (171-47-322)

Md.Ashaduzzaman Sagor (171-47-364)

Md.Sakibul Hasan Win (181-47-683)

Md.Rokon Ud-Daula (171-47-354)



A Thesis Submitted to the Department of Civil Engineering, Daffodil International University in Partial Fulfillment of the Requirements for the Degree of **Bachelor of Science in Civil Engineering.**

DESIGN OF INDOOR GARDENING AT UTTARA(SEC-11)

UNDER THE DHAKA CITY

A Project and Thesis submitted in partial fulfillment of the requirements for the

Award of Degree of

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Submitted By

Md.Mhamudul Hasan Mithu (171-47-322)

Md.AshaduzzamanSagor (171-47-364)

Md.Sakibul Hasan Win (181-47-683)

Md.Rokon Ud-Daula (171-47-354)

Supervised By:

Dr. Miah M. Hussainuzzaman

Associate Professor



Daffodil
International
University

DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING
DAFFODIL INTERNATIONAL UNIVERSITY

IN

Design Of An Indoor Garden With Irrigation And Drainage
System

Certification

The proposition titled “Design of an indoor plant with water system and seepage framework submitted by Md.Mhamudul Hasan Mithu (171-47-322,Md. Ashaduzzaman Sagor (171-47-364), Md.Sakibul Hasan Win (181-47-683), Md.Rokon Ud-Daula (171-47-354),) within the Office of Respectful Building, Daffodil International University, has been acknowledged as palatable in fractional accomplishment of the necessity for the degree of Single man of Science in Gracious Designing (Natural Designing) and affirmed as in it’s fashion and substance introduction which has been held on

I encourage certify that such offer assistance or source of data, as has been profited of amid the course of this examination has appropriately been recognized by him.

Signature of the Supervisor

M M Hussain

Dr. Miah M. Hussainuzzaman

Associate Professor

Department of Civil Engineering

Daffodil International University

Signature of the candidates

Md. Mhamudul Hasan Mithu

Md.Mhamudul Hasan Mithu

Student ID: 171-47-322

Md. Ashaduzzaman Sagor

Md. Ashaduzzaman Sagor

Student ID: 171-47-364

সাকিবুল

Md.Sakibul Hasan Win

Student ID: 181-47-683

Md. Rokon-ud-daula

Md.Rokon Ud-Daula

ID: 171-47-354

APPROVAL

The proposition titled “Design of an indoor plant with water system and seepage framework submitted by Md. Ashaduzzaman Sagor (171-47-364), Md.Sakibul Hasan Win (181-47-683), Md.Rokon Ud-Daula (171-47-354), Md.Mhamudul Hasan Mithu (171-47-322) within the Office of Respectful Building, Daffodil International University, has been acknowledged as palatable for the fractional fulfillment of the prerequisite for the degree of Single man of Science in Respectful Building and affirmed as to its fashion and contacts. The introduction was held on

Dr. Mohammed Hannan Mahmud

Head Of The Department
Department of Civil Engineering
Daffodil International University

Dr. Miah M. Hussainuzzaman

Associate Professor
Department of Civil Engineering
Daffodil International University

DECLARATION

It is thusly declared that but for the substance where specific reference has been made to the work of others, the arrange contained in this wander report is the result of a nitty-gritty arrange works out carried out by the maker underneath the supervision of Dr. Miah M. Hussainuzzaman, Relate Instructor, Office of Conscious Planning, Daffodil Around the world College. No apportion of this advancement has been to abdicate to administration or specialist any other college or other teacher establishments for a degree, affirmation, or another capability (but for distribution).

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ABSTRACT

The primary reason of the ponder was to decide the degree of appropriation of indoor planting at Uttara (sector-11). Endeavors were moreover made to portray a few chosen characteristics of the building tenants of this range. The chosen characteristics were: age, family measure, family instruction, family yearly salary, indoor planting involvement, utilize of data sources, state of mind towards indoor cultivating and information on indoor planting. One hundred respondents were arbitrarily chosen from Uttara (sector-11). The discoveries uncovered that larger part (55 percent) of the respondents had no appropriation compared to 13% and 24% had moo and medium selection of indoor cultivating separately. Out of nine chosen characteristics of the respondents, family estimate, indoor cultivating involvement, utilize of data sources, demeanor towards indoor planting and information on indoor cultivating had positive noteworthy relationship with their selection of indoor planting. Other characteristics to be a specific age, family instruction, and family yearly pay did not appear any critical relationship with the respondent's appropriation of indoor planting. The issue issue issueissue of indoor cultivation was chosen as a need of time. Most of the respondents were interested to bloom plants for their indoor cultivation.

DEDICATION TO OUR PARENTS

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1 INTRODUCTION

1.1 BACKGROUND

Planting may be a awesome pastime. The plant arranged the inside of the building is called the indoor cultivate and the action is called indoor cultivating. Dhaka is the capital of Bangladesh. Close around 10 million individuals live in this city. Buildings involve most of the arrive of this city. Numerous of the buildings are utilized for residence. There are many lands to develop vegetables, natural products, and blooms or fancy plants. But there's a extraordinary request for vegetables, natural products blossoms or fancy plants in this city. The building tenants can grow vegetables, natural products, blooms, or fancy plants in their building's inside. But in most cases, they don't develop these plants in their buildings inside. But it is exceptionally vital to moderate the environment of the city as well as deliver vegetables, natural products, and blooms or decorative plants. By planting, the nursery worker can make his wellbeing as well as his family member's wellbeing way better. On the other hand, there are a parcel of issues with indoor cultivating.

This think about endeavored to discover out the reply to the taking after investigate questions:

1. What are the respondents chosen characteristics?
2. What is the level of appropriation of indoor planting of the respondents?
3. Are there any relationship between the chosen characteristics of the respondents with their appropriation of indoor gardening?

1.2 RATIONALE FOR THE INVESTIGATE

Numerous thinks about have so distant been conducted on the appropriation of different angles of the Environment. But as it were a small inquire about has been detailed at domestic and overseas to decide the selection of the indoor cultivate by the respondents. Be that as it may, it's exceptionally much imperative to find out the appropriation of an indoor cultivate for the building occupants of Uttara. It is approximately five million people groups were live in Dhaka city. The populace of Dhaka city increments day by day. On the other hand, the number of plants in this city was diminishing day by day. For civilization, our children ought to live without a green environment that's plants. We got to live a bit like a machine with plants free environment in this city. To dodge this unjustifiable circumstance, we ought to construct up the cultivate on our house's indoor. To attain this target it is basic to attempt a program to persuade the building tenants of Dhaka city. Be that as it may, some time recently making mindfulness of the respondents almost indoor cultivating it is vital to pick up a clear-cut thought almost the display status of appropriation of indoor gardening among the respondents. Within the over circumstances, the analyst has embraced the display consider entitled "Design of an indoor cultivate with water system and seepage system".

1.3 OBJECTIVES

In see of the issues expressed over the taking after particular goals were formulated for giving the correct course to the study:

- i. To decide eight chosen characteristics of the building Occupants of Mirpur-10, Dhaka city. The characteristics were as: age, family size, family instruction, family yearly wage, roof gardening experience, utilize of data sources, demeanor toward roof planting and knowledge on roof gardening.
- ii. To decide and depict the degree of selection of roof cultivating by the building inhabitants.
- iii. To investigate the connections between the chosen characteristics of the respondents' with their appropriation of roof gardening
- iv. To recognize the issue confronted by the respondents.
- v. To identify the categories of plants within the roof cultivating.

1.4 ORGANIZATION OF THE REPORT

1.5 SURVEY OF PAST EXAMINATION DISCLOSURES

The audit was looked in Bangladesh Natural Inquire about Committee (BERC), Daffodil s College Library, and from Web looking. But there was no past work on the display subjects. As it were a book reference was found from BERC Library and two articles were found in Web looking. These are portrayed below. Krupka, B (1992) composed a book named “Indoor cultivating: utilize of plants and vegetation on buildings”. This book comprises of 20 chapters covering the history and significance of developing plants on buildings from the Natural and town arranging angles, improvements in methods of indoor planting within the final decade, the biological esteem of developing plants on buildings, environment limitations of vegetation on buildings, arranging components, avoidance of harm to buildings, planning and assurance of the living space and diverse shapes of greening. Chapters 10 to 15 cover the choice of plants for seriously and extensive' greening' of inside, dividers, and commotion lessening screens.

. Chapter16 to 17 bargain with the subjective prerequisite of seeds, plants and4ins-tant vegetation', and planting and vegetation stand concerning decay criteria. Shapes of harm, care and upkeep, and execution of indoor and fa9 ade vegetation are secured within the final 3 chapters. The comprehensive scope of the hypothetical and down to earth angles of developing vegetation on buildings, the clear graphs, and the broad list of reasonable plants make this book a important source of data. It is to be trusted that an English interpretation will be made so that the data will be more open to a more extensive readership. Islam

(2001) has distributed a piece named "Indoor planting as a technique of natural for garden security: the case of Dhaka city, Bangladesh". He has detailed that the environment within the cities of creating nations is developing quickly which too implies the number of low-income customers is expanding. Since plant frailty in these cities is expanding.

Since cultivate frailty in these cities is expanding. Indoor planting contributes to cultivate security by expanding the supply of plants and by improving the quality of perishable plants coming to indoor customers. The investigation of neighborhood socio-economic and regulation conditions that might advance and ruin indoor gardens is required to execute arrangements that successfully coordinated the environment into the urban environment. This consider points to distinguish the potential for and boundaries to with respect to indoor planting and to investigate techniques to advance plants security in Dhaka.

S. Brenneisen (2001) given a few vital data on the subject "indoor garden-How nature returns to the city within the Worldwide Conference on Urban indoor cultivating. He has detailed that taking after a limited time campaign in 1996, indoor gardens have become an imperative figure in urban arranging within the city of Basil, Switzerland. An examination based on an urban environmental appraisal demonstrated the noteworthiness of green plants for modern town-planning procedures. It showed that the degree of the region with a tall natural stack might be diminished from 19% to 2% of the full. Moreover, bio-ecological overviews underlined the require for the improvement of green indoor concepts at the scale of the town.

2 DEFINITION OF TERMS

Certain terms utilized all through the consider are characterized and deciphered underneath for clarity of understanding. Age The age of a respondent alludes to the period from his birth to the time of interviewing.

Family size:

Family estimate alludes to the whole number of individuals counting the respondent himself, his spouse, children, and other changeless dependents who live and eat together in a family unit. Family education Academic capability alludes to the improvement of alluring changes in information, abilities, and state of mind in an person through perusing, composing, and other related exercises. It was measured in terms of a long time of tutoring completed by the respondents' family individuals at the time of the interview Family yearly income The family annual income of a respondent alludes to the whole sum of cash (Taka) earned by him and other individuals of his family from administrations, businesses, natural sources, and other sources in a year for keeping up his family. Indoor planting experience It alludes to the entire number of a long time that a respondent taken an interest indoor cultivating and practiced indoor planting as calculated till the time of information collection. Use of data sources.

The utilize of data sources of an person alludes to his affiliation with different sources inside a indicated period to serve the indoor cultivate toward development. Attitude to indoor gardening Attitude is the mental inclination of an person to act in a specific way. In other words, it alludes to one's favorable or

unfavorable sentiments, convictions, and activities towards an protest and concept. Knowledge of indoor gardening Knowledge implies knowing or what one knows almost a subject, truth, individual, etc. Information, be that as it may, alludes to the number of truths or data approximately an thought, protest, or individual which a individual knows. Regarding innovative angles information happens when an person is uncovered to a technology's presence and picks up a few understanding of how it capacities (Rogers, 1983).

2.1 CONCEPTUAL SYSTEM

The conceptual system of the consider of Rosenberg and Hovland (1960) was kept in intellect whereas surrounding the basic course of action for the subordinate and autonomous factors. Appropriation of indoor cultivating of the respondents as the subordinate variable which is assumed to be impacted through connection strengths of numerous characteristics in his/her environment. It is, in this manner, essential to constrain the characteristics which incorporate age, family measure, family instruction, family yearly salary, indoor planting encounter, utilize of data sources, elevation towards indoor planting, and information of indoor planting. Based on this dialog and the audit of writing the conceptual system of this consider has been defined as appeared in figure 1.

Free variables Subordinate variable Age

Family size Family education

Family yearly income Indoor cultivating experience

Use of data source Attitude towards indoor gardening Knowledge of indoor gardening Selection on Indoor gardening

Fig. A basic conceptual system for the study

2.2 CONFINEMENTS

To conduct the inquire about in a important and reasonable way, it gets to be essential to force a few restrictions on certain perspectives of the think about. Considering the time, cash, labor, and other essential assets accessible to the analyst, the taking after impediments have been watched all through the study: i. The think about was restricted to a little region specifically Uttara ii. There were numerous respondents within the ponder region, but as it were the respondents who were building occupants were considered for this study. iii. Characteristics of the respondents were numerous and shifted but as it were eight characteristics were chosen for examination in this study. iv. For the collection of data, the analyst had to depend on the information outfitted by the respondents amid their interview.

2.3 PRESUMPTIONS

An presumption may be a supposition that an apparent truth or guideline is genuine within the light of the available prove (Goode and Malt, 1983). The taking after suspicions were within the intellect of the analyst amid concluding the study: i. The respondents included within the test was competent of outfitting legitimate reactions to the questions within the meet schedule. ii. Sees and suppositions outfitted by the respondents were Unrepresentative sees and conclusions of the study. iii. The reactions outfitted by the respondents were reliable. iv. The analyst ourselves as the questioner was able to coil the reactions of the respondents with satisfactory precision. v. The analyst who acted as an questioner was well mindful of the social and social environment of the consider zone. Consequently, the information collected by the analyst were free from predisposition and the respondents outfitted their suppositions without hesitations.

3 DESCRIPTION OF THE PROJECT

3.1 DEVELOPMENT OBJECTIVE/ GENERAL:

Indoor cultivating is nothing more than the act of creating plants interior. This could be at a private household, interior a commerce region like an office building or restaurant, or any other encased locale. There are different sorts of indoor cultivating, counting holder cultivating, hydroponic planting, controlled environment horticulture, vertical farms, and more. Indoor planting could be a procedure utilized to develop plants inside. This can be for embellishing purposes, such as the trees and blossoms some of the time seen in shopping shopping centers, or the trailing vines in some cases utilized in eateries to supply a sense of quietness and security. Indeed office buildings can be utilized for indoor planting, and the advantageous affect that developing plants has on indoor discuss quality has long been proven. In numerous occurrences, indoor planting alludes particularly to the developing of vegetables or herbs interior an encased structure, most regularly a private domestic

3.2 LOCATION

A great thing approximately developing with indoor develop lights is that we fair do not ought to consider characteristic light once we are placing our plant. This infers that we develop does not need to be put near to a window. In fact within the occasion that we have got a window, ordinarily not continuously the driving zone for our indoor plant. Consider on the off chance that there's a draft coming from our window, or whether it can be a cooler temperature near to your window. Gardens create best in temperatures of 18 degrees to 24 degrees Celsius. Additional sunshine from a window won't hurt your plants but on the off chance that a window region subjects our plants to exceptionally cold or warm, our plant may endure. When choosing an range for our indoor plants, consider openness. We may require room to water and screen plants, as well as room to clean around our indoor plant.

3.3 DIAGRAM

The idealize indoor plant area will have: 1. A given control outlet that can handle ten amps. A supportive water source to water our plants. Gardens will customarily be watered 2-3x/week. Satisfactory space for our development (6' by 4' is adequate). 2. Sufficient ceiling clearance in case hanging the develop light from ceiling, and consistent essential encompassing (i.e: connect to the T-bar on a suspended ceiling, or to a support bar on a wooden ceiling) to hang the light 3. Adjoining, non-combustible, divider or rack space to securely mount the fan and counterweight, within the

occasion that hanging the light from the ceiling. Ordinarily because it were critical for develop version #1 because it were, and not required within the occasion of utilizing a wire racking unit. In the event that you're setting your indoor plant up in a school or working environment, note that a number of will have specific security benchmarks and range necessities. Conversation to our administrator for heading and get organization underwriting.

3.4 DESIGN CRITERIA

Whether we are seeking out for a fun end of the week venture, or we have been needing to begin cultivating but don't have the open air

space for it, presently is the idealize time to form our claim indoor plant. As long as you have got a space in our domestic that gets common daylight, we'll be able to have flavorful herbs and new, homegrown vegetables at the palm of our hands all year round. To offer assistance we get our indoor vegetable cultivate begun, we come to out to planting specialists living in Portland all the way to those living in Miami to share their cultivating ability. Here's their best counsel to assist us make an indoor plant.

Step-01: Discover The Correct SPACE FOR INDOOR GARDEN Some time recently we start planting our indoor vegetable cultivate, the primary thing to do is discover the perfect space in our home. Whether we have a complete room that able to re-purpose as your indoor cultivate, or we are as it were able to create utilize of a little zone in our kitchen, able to still have a fruitful indoor vegetable garden. Two vital things to consider is the sum of common daylight the space gets and the normal temperature of the space. Plant care is test. Be beyond any doubt that person plants or diverse cultivars can have distinctive needs depending on their science or what conditions they were in earlier to landing in our domestic. - Deby, Cornell Farm Be inventive and pay consideration to the lighting when considering

where to put our plants. And most critically, get a humidifier! - Stephanie, Beacon Cultivate Center.

Step-02: Select VEGETABLES AND HERBS THAT Flourish INDOORS

Whereas a few vegetables and herbs may flourish in a normal open air cultivate, that's not continuously the case when collecting inside. As we choosing which vegetables or herbs to plant in an indoor plant, there's a number of that cultivating specialists prescribe over others. Consider these vegetables and herbs for indoor garden: Lettuces rank tall on the list of vegetables to develop interior. Not as it were are they delicious, they're simple to begin. To effectively develop lettuce in an indoor plant, enhance preparing soil with compost and utilize a warm tangle to begin seeds rapidly. Once the seeds grow, take them off the tangle. To avoid leggy seedlings, put them beneath a fluorescent light or develop light put 3-4" over the plants. - Christine Froehlich, Cultivating With What we Have Arugula is incredible to develop inside since it germinates quickly and lean towards a cooler environment. Able to have different harvests from fair one plant on the off chance that we cut off the bigger clears out but.

Step-03: MAKE Beyond any doubt THERE'S Satisfactory SUNLIGHT

In an perfect circumstance, we'd be able to allow our indoor vegetable cultivate all the daylight it needs. Be that as it may, not everybody is planning to have a space where typically conceivable. No got to stress, in spite of the fact that. Whereas having common daylight is perfect, our vegetables and herbs can still thrive with the utilize of specialized lights, like develop lights. Morning sun is key.

If at all conceivable, put our plants close an East-facing window. - Jackie, Perpetual Nursery Co Know how much light our particular plants require so we are able take advantage of all levels of light we normally have accessible in our space. Consider swapping out our standard light bulbs for GE Develop Light 9watt Adjusted Range Driven bulbs for seeds and greens, or GE Ruddy for blooming and natural product generation. - Kate Green, Lurvey.

Step-04: WATER LESS FOR A Effective INDOOR GARDEN

Most apprentices to planting think watering plants a small bit regular is perfect way">the most perfect way to guarantee that their plants are accepting satisfactory sums of water. In any case, it's really best to water less as often as possible but more altogether. Over-watering our vegetables and herbs is the most straightforward way to set back our cultivating endeavors, and will most likely have us restarting our indoor garden. When it comes to houseplants, over watering could be a executioner. Check to see on the off chance that the soil is dry by staying our finger into it an inch and checking for dampness. On the off chance that it's dry, go ahead and water. - Bruce Allentuck, Right Plantz Every plant is distinctive and will have diverse needs -- a few plants pine for and cherish consistent watering, whereas others incline toward to have their soil dry out a bit. Making a week by week plant watering chart to allude to each week can offer assistance keep your watering on track and guarantee that we're watering each of our plants precisely as they got to be. - Megan Falet

Step-05: TAKE Legitimate CARE OF YOUR PLANTS BY Utilizing The Right SOIL

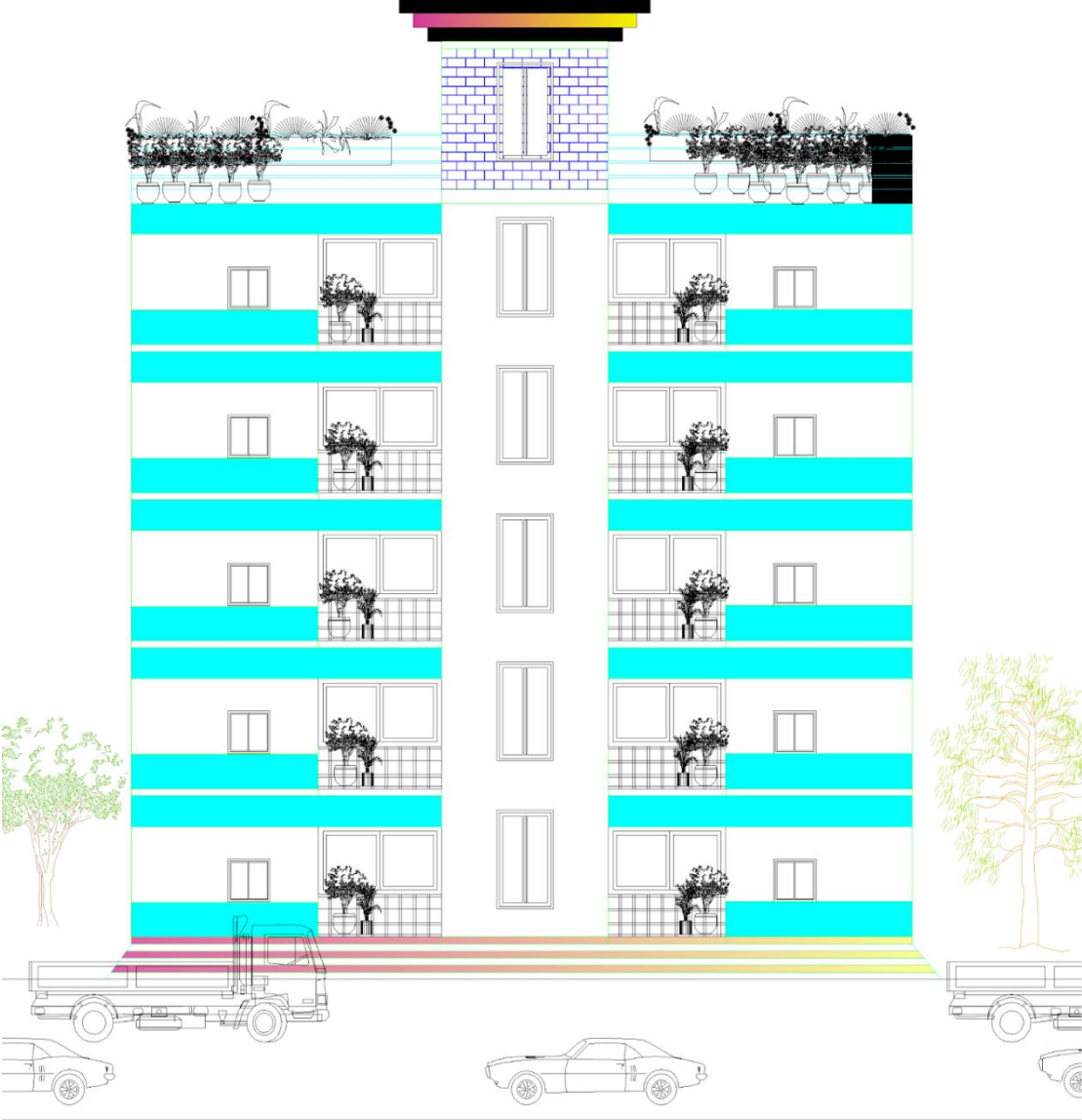
The taste of our herbs and vegetables are essentially affected by the quality and care of the soil. As you're setting up an indoor garden, make beyond any doubt that reusing the leading soil for the vegetables and herbs we choose. Create the idealize soil for distinctive sorts of vegetables by making custom mixes of vaporous preparing soil and wealthy compost. Make a lighter blend for serving of mixed greens greens, a adjusted blend for herbs, and include additional nourishment for fruiting plants. - Victoria LeBeaux, Hortiki Plants Use a tall quality preparing soil and remain absent from soil indicated for in-ground plant beds. Fluid fertilizer ought to gotten to be our unused best companion. Be arranged to utilize fluid fertilizer with water and supplement arrangement blend at slightest once a month. - Timothy Hammond, Enormous City Gardener

Step-06: CONSIDER Employing A HYDROPONIC Framework FOR INDOOR GARDEN

Hydroponic planting could be a cultivating strategy that requires no soil. In most cases, it can be a less difficult way to gather vegetables and herbs inside and is incredible for littler spaces. In case the thought of keeping up soil for the different plants in an indoor garden seems challenging, at that point employing a hydroponic framework can be distant better;a much better;a higher;a stronger;an improved">a much better option. The advantage of our hydroponic framework is that plants grow 3x speedier and greater within the iHarvest™ than they do in soil. And, developing hydroponically makes it much simpler to develop indoor

natural products and vegetables vertically, which takes up less space within the domestic whereas giving a lovely living divider of continuously new, pesticide-free natural products and vegetables. - Dave Stevens, IGWorks Water temperatures play a gigantic calculate for indoor hydroponic gardens.

4 DESIGN OF COMPONENTS AND ESTIMATION



4.1 BASIC COMPONENTS OF INDOOR GARDENING:

MOISTURE: This is achieved simply by watering the plants. Here you need to be careful not to water too much or too little. It is not recommended to water the plants according to the calendar.

Light: This is another important factor required for plant photosynthesis.

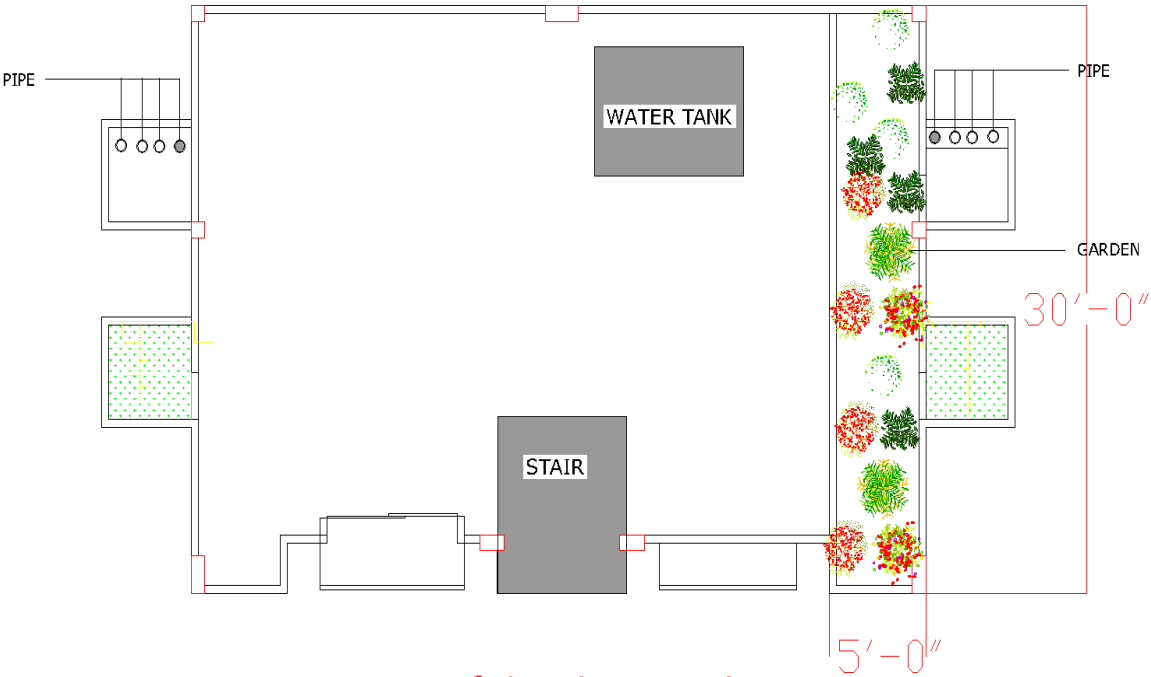
b) Plant Growth Lights - This is clearly an artificial light source for photosynthesis in plants. We'll talk about this in another detailed episode about Growth Lights.

Soil: In order for foliage plants to breed indoors, special attention must be paid to the type of soil in which they are planted. The soil used for foliage plants is different from the natural soil in which the plants normally breed outdoors.

Fertilizer: Natural plants grown outdoors receive nutrients from the soil. Containers: Other than using the right size for a particular plant, choosing the right container for an indoor garden is not so important.

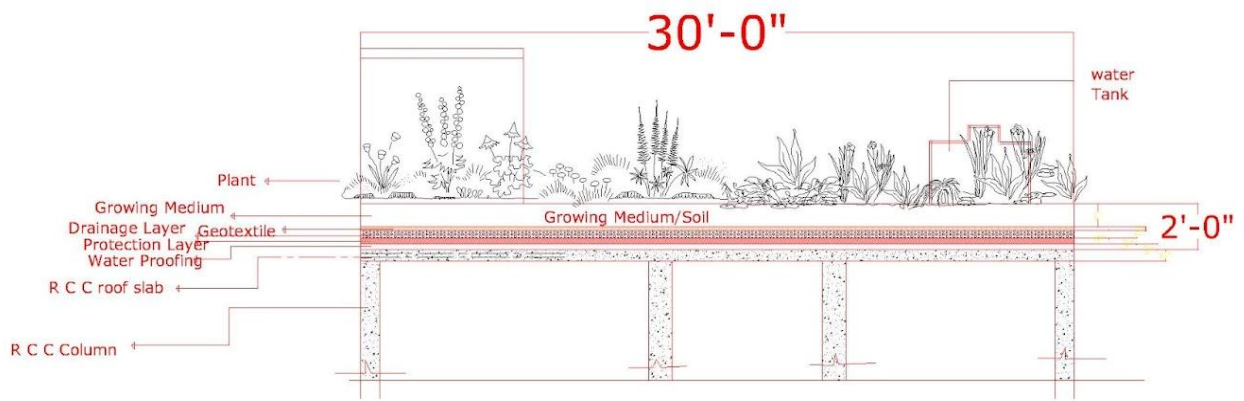
Plastic, cement, ceramic and even wooden containers can be used for indoor planting.

4.2 ESTIMATION OF TREE



Roof Gardening plan

4.3 ESTIMATION OF MATERIALS



Roof Garden Section

4.4 FORMULA For Tree Calculation

Total garden Area: (5×30)= 150 sft

Plant Spacing= 2 feet

$$\text{Plant per row} = \frac{\text{Length}}{\text{Plant Spacing}}$$

$$\text{Plant Per column} = \frac{\text{width}}{\text{Plant Spacing}}$$

$$\text{Total Number of plants: } \frac{\text{Area of Garden}}{\text{Plant Spacing}^2}$$

Row spacing= $\text{Plant Spacing} \times 0.866$

$$\text{Plant Number(o)} = \frac{\text{Length}}{\text{Plant Spacing}}$$

$$\text{PlantNumber(E)} = \frac{\text{Length} - \text{Plant Spacing} \times 0.5}{\text{Plant spacing}}$$

$$\text{Totalrows} = \frac{(\text{Width} - \text{Plant Spacing})}{\text{row Spacing}} + 1$$

$$\text{Rows(E)} = \frac{\text{Total number of rows}}{2}$$

Rows(o)= $\text{Total rows} - \text{row(E)}$

Total Number of Plants= $\{\text{PlantNumber(E)} \times \text{Rows(E)}\} + \{\text{Plant Number(o)} \times \text{Rows(o)}\}$

4.5 EXAMPLE

$$\text{Total garden Area: } (5 \times 30) = 150 \text{ sft}$$

$$\text{Plant Spacing} = 2 \text{ feet}$$

$$\begin{aligned} \text{Plant per row} &= \frac{30}{2} \\ &= 15 \end{aligned}$$

$$\begin{aligned} \text{Plant Per column} &= \frac{5}{2} \\ &= 2.5 \end{aligned}$$

$$\begin{aligned} \text{Total Number of plants} &= \frac{150}{2^2} \\ &= 37.50 \end{aligned}$$

$$\begin{aligned} \text{Row spacing} &= 2 \times 0.866 \\ &= 1.73 \end{aligned}$$

$$\begin{aligned} \text{Plant Number(o)} &= \frac{30}{2} \\ &= 15 \end{aligned}$$

$$\begin{aligned} \text{Plant Number(E)} &= \frac{[(30-2) \times 0.5]}{2} \\ &= 7 \end{aligned}$$

$$\begin{aligned} \text{Total Rows} &= \frac{5-2}{1.73} + 1 \\ &= 2.73 \end{aligned}$$

$$\begin{aligned} \text{Rows(E)} &= \frac{2.73}{2} \\ &= 1.36 \end{aligned}$$

$$\begin{aligned} \text{Rows(o)} &= 2.36 - 1.36 \\ &= 1 \end{aligned}$$

$$\begin{aligned} \text{Total Number of Plants} &= [(15 \times 1) + (15 \times 1)] \\ &= 30 \text{ PCS TREE NEEDED} \end{aligned}$$

4.6 TOTAL ESTIMATION WITH MATRRIAL COST:

ESTIMATE FOR ROOF GARDENING AND IRRIGATION SYSTEM [ROOF]

Sl. no,	Item description	Amount	Unit	Rate (Tk)	Total Tk
1	Dripping Irrigation System for Greenhouse (30'-0" X 5' -0")	150	sft	15	2250
2	Dimpled Plastic Drain Sheet Drainage Board	150	sft	55	8250
3	Waterproof Styrofoam Sheets Sound Thermal Insulation Tile Backer XPS Foam Board	150	sft	100	15000
4	UPVC Garden Hose Set (FM-GR1133)	2	set	450	900
5	Dimpled Plastic Drainage Board Earthwork PVC Draining Sheet	150	sft	50	7540
6	16mm Diameter Irrigation Tape Agricultural Drip Irrigation Pipe	200	ft	5	2000
7	Soil (30'-0"X5'X2') = 300 cft [Per cft 150tk]	300	cft	150	45000
8	16mm Diameter Irrigation Tape Agricultural Drip Irrigation Pipe	100	ft	4	400
9	Plant (30Pcs) [per plant 130tk]	30	pc	130	3900
10	Plant with Vase 40 pcs [per plant with vase 200tk]	40	pc	200	8000
11	Labour Cost	2	Man-day	1000	2000
12	Tap 20pcs	20	pc	150	3000
13	Auto Irrigation Machine	2	Set	4000	8000
14	valve 4pcs [per valve =250tk]	4	pc	250	1000
	TOTAL TAKA				107240

Note: Cost Collection held on the based of an online website. please check it online.

5 CONCLUSION

5.1 TEN ISSUES WERE RECOGNIZED FOR ROOF PLANTING.

1.Lack of time was the foremost vital issue.

2.Another imperative issue was “ Roof planting is laborious” and the 3rd imperative issue was need of information around roof garden.

3.The last problem was troublesome to form roof cultivate for a occupant, troublesome to supply fundamental supplement components, seedling harm, robbery of seedling, blossom, natural products etc by their zero advantage in roof planting, need of water system, need of sun sparkle due to side building individually.

4.The larger part parcel of the respondents get vital data approximately roof planting from nursery proprietor. Companions and relatives were the another most elevated critical sources of data. Neighbors, Tv, building inhabitants.

5.To investigate the connections between the chosen characteristics of the respondents with their appropriation of roof gardening iv. To recognize the issue confronted by the respondents.

6.To distinguish the categories of plants within the roof planting.

6 RECOMMENDATION

Daffodil Worldwide College arranged at north side of Dhaka city. So this college or other inquire about organizations can organize preparing courses on “Roof gardening” and supply fundamental materials to the respondents. At that point they will be able to form cultivate on their roof. Steps ought to be taken to overcome the issues of roof cultivating in Uttara Sec-11 zone beneath Dhaka city. Steps ought to be taken to create the advances to develop blossom and decorative plants like herbs and bushes and vegetables and natural products on roof garden. Steps ought to be taken to supply fundamental data by Daffodil Worldwide College, office of Civil Building. Since time constraint for developed as the most issue for roof gardening following measures be taken to address this issue.

- i) Analysts and organizers got to come up with less difficult, less time devouring and clients neighborly roof planting plan and strategies.
- ii) Dhaka city organization, DAE and other benefit supplier ought to energize city individuals to put aside a few save of time for roof cultivating in spite of their active life.
- iii) A arrangement of workshops entitled ‘Roof planting for cheerful and sound living 4 may well be organized for nearby communities, respectful social orders and other stake holders organized/ supported by Dhaka city enterprise or other organization

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