

A WORKINGMEN CITY IN CAIRO, EGYPT

by

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
Chapter	
I. THE CITY	3
II. TYPES OF SLUMS, THEIR CAUSES AND WHAT SHOULD BE DONE	12
What Should We Do for a Treatment?	
III. RECREATION FOR EVERYONE	16
The Types and Forms of the Recreation Areas How to Get over the Existing Situation	
IV. INDUSTRY AND THE CITY.	23
Need for Zoning	
V. THE CHOICE OF THE SITE FOR THE WORKINGMEN CITY DEVELOPMENT	27
VI. THE PROGRAM	32
Requirements	
The Housing Units	
Recreation and Amusement	
Schools	
Playgrounds	
A Mosque	
Shopping Center	
Other Community Services	
Conclusion	
BIBLIOGRAPHY	45

LIST OF ILLUSTRATIONS

	Facing Page
Health Chart of Detroit Eastside	7
A Slum in the Centre of Cairo	11
Cairo - A High Income Residential Area	12
Land Use - Average Percentage in 22 American Cities	18
Two examples of housing projects in California with enough open space to provide adequate sunshine and fresh air.	22
A housing project in Los Angeles which was poorly located right next to an industrial area.	24
Cairo - Day and Night	28
A housing project in San Diego, California, taking advantage of the site overlooking the ocean.	29
Cairo - Day Hours Indicating Temperature	30
Temperature Chart in Cairo	30
Types of Units	34
Land Use	36
Examples of two bedroom units in a housing project in San Diego, California.	38
Photos showing examples of units in some housing projects in California.	38
A backyard used for drying laundry in a housing project unit in Los Angeles.	40

Facing Page

Two examples of shopping centers in Azure and Linda Vista Developments in California.	43
Medical Center, Linda Vista Development	44

INTRODUCTION

A city serves different functions, but the common function that is found needed in every city is to offer safe, efficient and comfortable shelters and homes for its inhabitants. There is no doubt that this objective has been scarcely reached, and that was the result of unproper planning.

The main objective of this study is to make a research of this problem through studying the city as a whole, and finding out how a proper solution can be identified.

This study is the basis that is going to be taken into consideration in the development of a program for a "Workingmen City" to be designed in Cairo, Egypt. This city will be a residential city for the workers in the factories in Cairo. It will be a city of 6000 units, and the necessary services. The choice of the site and the development of the requirements and the program will be an application of the conclusions and ideas that will be reached through this study.

There is one point that should be noticed, that cities are for the people, so the satisfaction of their needs is what we should plan for. This necessitates the study of the individuals for whom we are planning and through finding out

what they should have, an efficient and successful planning can be reached.

In this respect all the factors that are influencing the individuals for whom we are planning should be studied. The social, religious, climatic, financial, traditional and even historic conditions are to be considered, and only by this way can we ever be able to know what we ought to do.

CHAPTER I

THE CITY

The city serves many functions; these can be classified into the following functions:

1. Dwelling
2. Work (production)
3. Recreation
4. Transportation

This study is only concerned with the first function, and what may be needed to know about its relation to the other functions. In fact, it is this function that necessitated the three other functions, and this is the problem that has to be solved on a right basis, as it exists now in our cities, in the least satisfactory condition.

The very existence of blighted areas and slums within our cities is a proof of the inadequacy of our cities to satisfy their basic function.

It is wise to find out the existing deficiencies, how they were found and why, and that will help to identify the solution. So the first study that will be made is of "the blighted areas and slums".

What Is a Blighted Area or a Slum? "A blighted area is one on the downgrade, which has not reached the slum

stage, but which frequently exhibits at least some of the characteristics of slums."¹

"A slum is most simply defined as housing (on whatever scale) so inadequate or so deteriorated as to endanger the health, safety or morals of its inhabitants."²

To make it clearer, these slums can be marked as being characteristic of the following:

1. Inadequate living space inside the dwellings, which is the result of lack of light and sunshine, bad orientation, lack of fresh air and ventilation and lack of privacy and isolation.
2. Inadequate space outside the dwellings, as there lacks play areas, plants and trees, adequate yard space, and undue proximity of traffic.
3. The buildings themselves are usually characterized by poor heating, plumbing and toilet facilities, insanitation, hazards from fire and building collapse, lack of proper repairs and unsightliness.
4. Resultant factors as high rates of dependency, crime

¹"Can Our Cities Survive?" An ABC of Urban Problems, Their Analysis, Their Solutions, by Jose' Luis Sert. Based on the proposals formulated by the C.I.A.M.

²Edith E. Wood, Slums and Blighted Areas in the United States (Washington: United States Housing Authority, 1938), p. 3.

delinquency, illness, mortality and illiteracy.

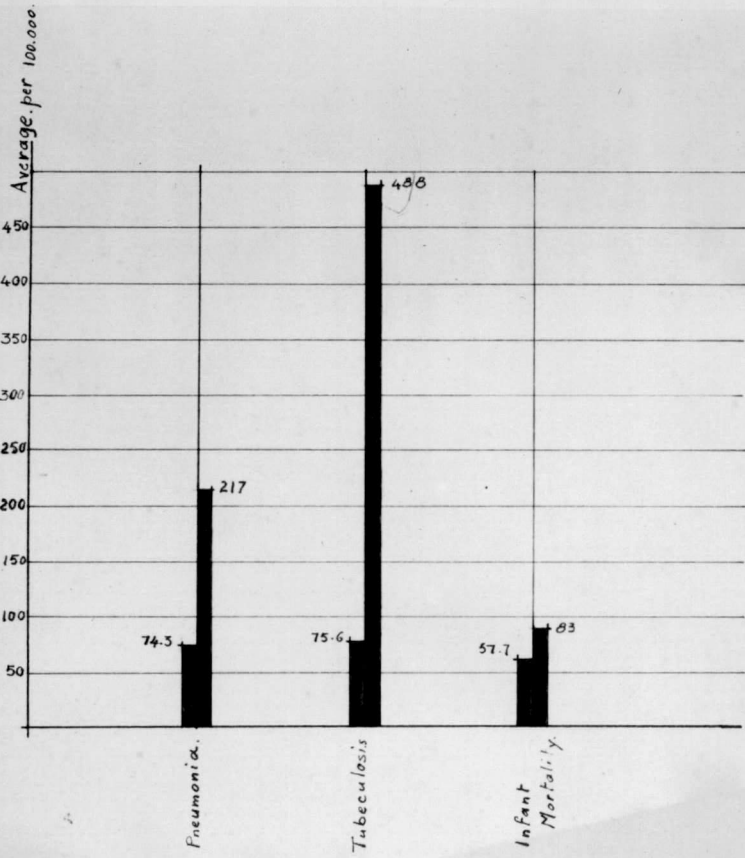
5. High density of population which reaches overcrowdedness, and in this respect it is of interest to quote the following:



Overcrowding is not only to be found in the central parts of our cities. It also occurs in the vast residential areas which developed as a consequence of the industrial growth of the past century.¹

How Does a Blighted Area or Slum Originate? When a city grows, it usually grows around a center, so usually the central districts are those of older date, and consequently their buildings are older. As they grow older and less attractive, the rent falls down. The owners hold to their property for speculation, so they remodel their houses, or add to the existing structures so that the house that was to hold one family can hold more families. The courtyards are occupied by new structures; fresh air and sunlight are prevented from penetrating into these houses. The occupants always change to lower and poorer people as the original occupants move away when conditions become worse, until the time comes when the district becomes a blighted area and a slum, with all their characteristics of bad living conditions, buildings, roads or their inhabitants.

To have an idea of the bad effects of living in these slums, we can notice that lack of sunlight and fresh air

¹"Town Planning Chart"



 City Average.
 Slum Average.

HEALTH CHART.

IN DETROIT.
EAST SIDE.

	<u>City</u> <u>Average</u>	<u>Slum</u> <u>Average</u>
Pneumonia cases per 100,000 population	74.3	217
Tuberculosis per 100,000 population	75.6	488
Infant mortality	57.7	83

All the above mentioned characteristics of blighted areas and slums are in spite of the fact that these areas comparatively cost the city governments and consequently the taxpayers more money than the other parts of the city as their upkeep includes a constant struggle against disease, crime and fires.

The following figures clearly show this fact:

Comparison of Costs to City of Boston
of Various Districts

<u>District</u>	<u>Profit or Deficit</u>	<u>Amount per net acre</u>
1. Business District	Profit	110.146
2. Industrial District	Profit	5334
3. High Rent Residential District	Profit	17154
4. Miscellaneous Residential District	Profit	4544
5. Suburban Residential District	Deficit	803
6. Low Rent Residential District	Deficit	15104

This is a very important fact that should be well known, because it leads to the conclusion that besides the fact that it is the duty of the governments to improve the conditions of living for the people within the possible, "it is also profitable for them to finance the operation of tearing down and clearing these blighted areas, and building

better healthy and efficient residential areas instead."

As an example of what existed in one of the largest cities in the United States, here are some facts about sub-standard housing in Los Angeles:

1939 Real Property Inventory¹

Out of 250,107 dwelling units in areas of Los Angeles studied, 58,709 or 24% were sub-standard as follows:

45,520 units physically sub-standard
 3,191 units overcrowded (more than 1.51 persons per room)
 6,898 units overcrowded and physically sub-standard

176,000 or 26% of the people in areas studied were living in sub-standard dwellings.

17,700 children were living in physically sub-standard units
 13,000 children were living in overcrowded units
 12,000 children were living in overcrowded and physically sub-standard units
 47.8% of all families with five or more children were living in physically sub-standard units.

87% of sub-standard dwellings were occupied by tenants.

32,198 units had no private bath or toilet facilities.

27,675 units were in need of major repairs.

5,242 units were found to be unfit for use.

7,702 people were in units with no inside toilet facilities.

¹"5th, 6th and 7th Consolidated Report," Housing Authority of the City of Los Angeles.

16,498 out of 35,000 single-person units were sub-standard.

83% of the people in areas studied were Anglo-American.
(18.3% of Anglo-Americans were living in sub-standard units comprising 65% of the total sub-standard units.)

8% of the people in areas studied were Mexican-American.
(59.6% of Mexican-Americans were living in sub-standard units, comprising 21% of the total sub-standard units.)

7% of the people in areas studied were Negro-American.
(28.6% of Negro-Americans were living in sub-standard units, comprising 9% of the total sub-standard units.)

2% of the people in areas studied were Oriental-Americans.
(47% of Oriental-Americans were living in sub-standard units, comprising 5% of the total sub-standard units.)

1940 U. S. Housing Census

58,419 or 11.8% of the total dwelling units in the city were declared physically sub-standard due to need for major repairs or lack of adequate sanitary facilities.

19,039 families were living in overcrowded units. The total of both overcrowded and physically sub-standard units is not available.

Lowest rental districts showed the highest incidence of the following sub-standard living conditions:¹

Overcrowding	Need for major repairs	No private bath
Obsolete structures	No private toilet	No running water

This gives an idea of the problems included, but it also shows how urgent and critical they are in most of the cities, especially the large ones.

¹"Its People and Its Homes," Haynes Foundation, Los Angeles.

CHAPTER II

TYPES OF SLUMS, THEIR CAUSES AND WHAT SHOULD BE DONE

The different types of slums can be summarized into the three following groups:

1. Box Towns. These are shacks built of salvaged materials of all kinds, outside the administrative limits of the city so as to escape the housing laws and taxation.

2. Housing for the Poor. These are houses originally built fifty or more years ago of bad, cheap materials "for the poor." Of course, it is understandable how such developments become blighted areas and slums.

3. Central Slums. These are the ones situated in the central part of the city, as described before, so they exist near the business center and the nucleus of the city. These are areas that became blighted and slums because of their location at the center of the city, as explained before.

What Should We Do for a Treatment?

Remodeling? Remodeling of the blighted areas and the slums is no solution for the problem; as mentioned before, it is not only the buildings themselves that are objectionable.

in a slum, it is the whole set up, the narrow streets that do not allow for fresh air and sunlight, the overcrowdedness of the whole area, the bad location in relation to the other parts of the city, etc., and as remodeling does not treat these deficiencies, it is not a proper solution.

Clearance and Rebuilding? This is not the solution either. As mentioned before one of the characteristics of blighted areas is the overcrowdedness, so if these areas are cleared and rebuilt in a better design that allows for enough open spaces, fresh air and sunlight, it will not be possible to accommodate all the original number of inhabitants of the area, so anyway new other areas are needed. That is besides the fact that the high land price of these slums due to their location near the center of the city, makes it more profitable to go to another site of cheaper price.

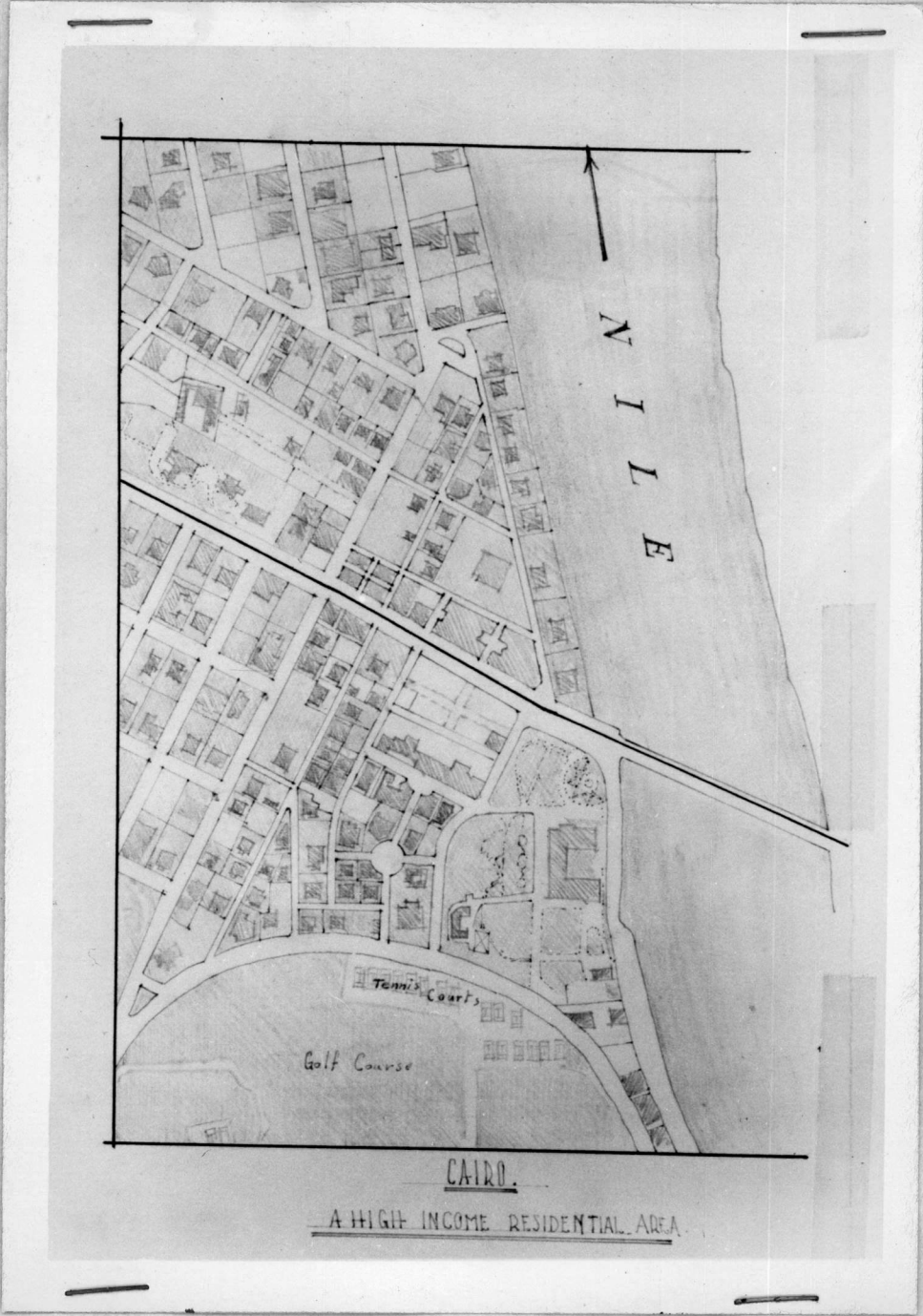
How To Choose the Site. So the solution is to build new sites where the land needed for the development with all the necessary services and open spaces is available at a low price, and which fulfills the requirements of a healthy, efficient and safe residential area.

The relation of this new site to the rest of the city should be our guide for the choice. That leads to the need of a Master Plan for the city, and through a zoning process, the right residential areas can be pointed out.

Of course, there are other factors that govern this



A SLUM
IN THE CENTRE OF
CAIRO.



N
I
L
E

Tennis Courts
Golf Course

CAIRO

A HIGH INCOME RESIDENTIAL AREA

choice; the topography of the land, the existing means of transportation, roads and highways, price of land, accessibility of services to the site, such as sewage disposal, electricity, drinking water, etc.

To discuss these factors on a right basis, we should find out first what are the requirements in the residential areas. As mentioned before, this should be done through the study of the individual that is going to live there, and what his needs might be.

If we consider that a family of a working father, his wife, a boy in school, and a child, can in general be almost representing all the types of individuals who live in a residential area, so the study of the needs of each of the four types of persons can determine the requirements in a residential area.

First of all, the thing that they all need is a healthy, comfortable and efficient home. This is the fact that should be taken as the basis for any further study.

Of course, the achievement of this need can only be done by knowing the different forms of families and their way of life, and only then can we be able to determine the size, location and number of buildings needed.

Taking the above-mentioned family as basis for our study, let us discuss the needs of each of its four members.

The Father. What kind of life does he lead? How does he spend his time?

Usually it can be assumed that he works, so in the morning he leaves his house to his work. The location of the work place is important, especially if we are planning for a certain type of man, workers in factories or in farms or university students for example, because in this case the location of the work place governs to a large extent our choice of the site for the residential area.

What does this man do next?

He returns back from his work, tired physically and mentally. He needs a comfortable, healthy home, with fresh air and sunshine to the degree needed; a beautiful view to look over and a quiet environment to soothe his nerves.

In the afternoons he may like to work in his garden or enjoy the breeze under a tree, or he might occasionally like to meet with his friends in a club or enjoy going with his wife for a visit or to a movie.

When he returns home, he needs a sound sleep, uninterrupted by the noise of traffic or machinery, to get up fresh in the next morning, to start another busy day life.

The Wife. Maybe she works, or maybe she does not. If she does, her life may be similar to her husband's, but in both cases she has something else to do. She prepares the

meals for the family, so she needs a nearby market to buy what she needs. She does her housecleaning, so she does not want any unnecessary pieces of furniture or rugs, as that will increase the work she has to do. She washes the laundry, so she needs a yard where she hangs it to dry.

After all that work is done she also needs comfort and quietness. She should have beautiful scenery to enjoy, and besides her social visit or need for seeing a picture or attending a lecture every now and then, she needs, at the end of her busy day, a good, sound sleep in a comfortable, healthy house.

The School Boy. In the morning he gets up, gets his breakfast and goes to school. He should be able to go to the school by walking an easy walking distance, through safe, paved roads, where he does not meet with the dangers of rapid traffic and hazardous speedy cars. His school too should be in a quiet location.

During or after the school hours he should be able to enjoy having a game of basketball or any kind of sports he likes, so he should be given enough efficient playgrounds.

He finishes his work at school and returns back home. He should find a clean, comfortable home where he may study or meet with his neighbor's friends.

He also needs a sound sleep in a healthy, clean, comfortable bed, so he should be provided with a bedroom, too.

The Child. This is the person that stays at home most of the time, playing here and there with the other children. They should be given wide lawns right in front of their homes to play in without fearing the dangers of the motor vehicles or the through traffic.

He needs fresh air, sunshine. He needs a healthy home.

Well, this may in general cover the everyday life of this family. That is, of course, besides their need for other community services which vary from one community to another.

From such a study the main elements that should be included in the area, and their relation to each other according to their functions, can be successfully determined.

The community services such as the school or the shopping center or the need for a church or a social building, all these are services that should be considered in the planning; of course, the need for these services differs according to the size and character of the community, and a study of the neighborhood maybe of advantage, as sometimes we can make use of any already existing services.

CHAPTER III

RECREATION FOR EVERYONE

This is a feature that should be considered in any planning process. "We must ultimately provide adequate park, beach and other recreation facilities for all age groups."¹

There is no doubt that most of our cities are far from achieving this need. For example, the Master Plan studies of Los Angeles indicate that in some sections of the city from 60 to 70 per cent of the people are not now served by adequate recreational facilities.

This means to every citizen²

Children playing in streets.

Congested residential areas, without adequate open spaces for light and air.

Rising rates of juvenile delinquency and crime.

Wasting of many of the natural recreational assets.

It is interesting to quote the following from the same report:

¹"Accomplishments 1946" City Planning Commission, Los Angeles, California.

²Ibid.

The most urgent need stressed by the Welfare Council Survey is for community recreation facilities located within residential areas close to the people who use them. To determine the exact need for playgrounds and parks, the entire city is being studied neighborhood by neighborhood.

The first step was the preparation of a base map showing the location of existing schools, playgrounds, parks, major traffic streets, residential and non-residential zoning, railroads, rivers and stream channels.

The second step in the study consisted of dividing the city into communities and neighborhoods of such size that each would contain a schoolground or playground located so that children are within reasonable walking distance of the facilities. Although not all schoolgrounds are now available for use as neighborhood playgrounds, it is assumed that they could be converted to such use. If no playground exists in a neighborhood, a new site is proposed.

After estimating the probable ultimate population in each neighborhood, the required size of park or playground is determined.

The final step is the preparation of a plan showing both the existing and proposed neighborhood playgrounds and parks.

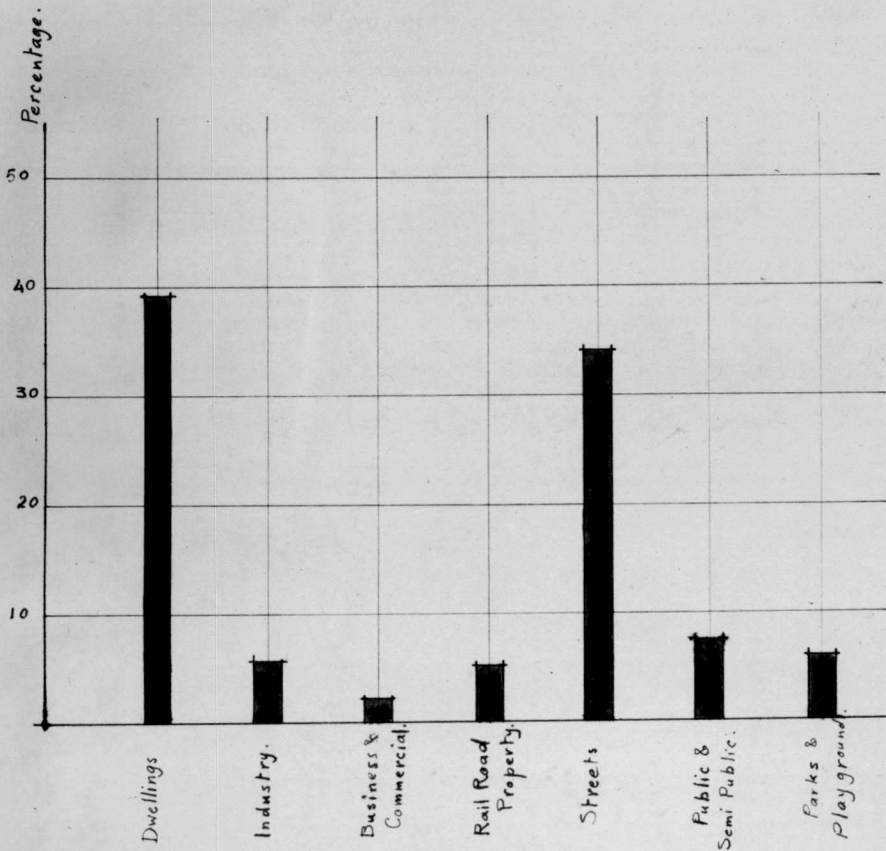
The studies and planning for district playgrounds and parks are similar to those for neighborhoods. The difference lies in the need for larger playground areas for the older youths and adults, and the greater radius of service.

When the study is completed, the final maps will constitute the Master Plan of Recreation which will serve as a guide for future acquisition of land for parks and playgrounds.¹

To get a more general idea of the problem, we should try to find out how it happened that most of our cities do not have enough recreation areas.

1

Ibid.



LAND USE
AVERAGE PERCENTAGE
IN 22 AMERICAN CITIES.

Generally a city grows and spreads out of a "center." As it grows, the location becomes more desirable, so the land value rises higher. The rent becomes higher, and that makes the owners of any vacant land build it for profit. Even if they did not build, and held it for playgrounds or recreation, that would only be in expectation of the right moment, when the land value reaches the figure that would satisfy their ambitions, and then they sell it to be built.

The following figures may help to show how ridiculous the situation now is in some cities; they are the average percentages of land use in 22 American cities, revealing the small figures devoted to parks and playgrounds:

Dwellings	39.33%
Industry	5.91%
Business and Commercial Uses	2.38%
Railroad Property	5.50%
Streets	33.61%
Public and Semi-Public Areas	7.61%
Parks and Playgrounds	6.33%

The situation in these cities is even better than in some other countries, especially in Europe, where we find that recreation areas are decreasing steadily; Paris for example lost two-thirds of its recreational areas within one hundred years!

In the United States the case has been better as there has been a movement for more recreation areas and parks within the cities, which started as early as the Brown Decades. We find that at that time Olmstead urged for the

need of parks and open spaces.

Besides the need for enough recreation areas, the right and proper distribution of recreation areas is as important.

It is even more disappointing to know that this has been going on, when the extreme opposite was what should have been done. It is a known fact that the unprecedented rapid growth of our cities during the last century has been the result of the industrial revolution (in the United States and Europe.) This meant that the people were working and living in an atmosphere stuffed with the smoke and odors of factories, which in turn increased his need for fresh air, parks and playgrounds where he can get what he lacks during his work time.

Even when the mechanization of industry took place, and the union organization took place, the work hours became less, and the people had more time to enjoy the fresh air and nature, if available.

In 1900 the working hours were 60 hours a week while they are now 40! Does not that indicate more need for recreation areas? But what do we find? Men do not find recreation areas within their easy reach, so they go on idling in the streets of the unhealthy cities; boys and children try to play in the streets, on the pavements, or in the backyards that are full of dirt and refuse! That in itself is a practical proof of our innate need for recreation

areas and playgrounds.

The Types and Forms of the Recreation Areas

As mentioned before, recreation facilities should be provided for everyone and every age. What is needed for a child is different from what a boy of 17 or a man of 40 would need.

That means that a thorough investigation of the different ages and sexes and their percentage in the community should be done and the results reached taken as a basis for the determination of the sizes and kinds of the playgrounds and recreation areas needed. Of course, the customs, habits, traditions and even the religion have also direct effect on the kind of recreation needed.

It is interesting to quote here the recreation standards which have been set by the City Planning Commission of Los Angeles. The figures shown are the minimum standards for public recreation areas.

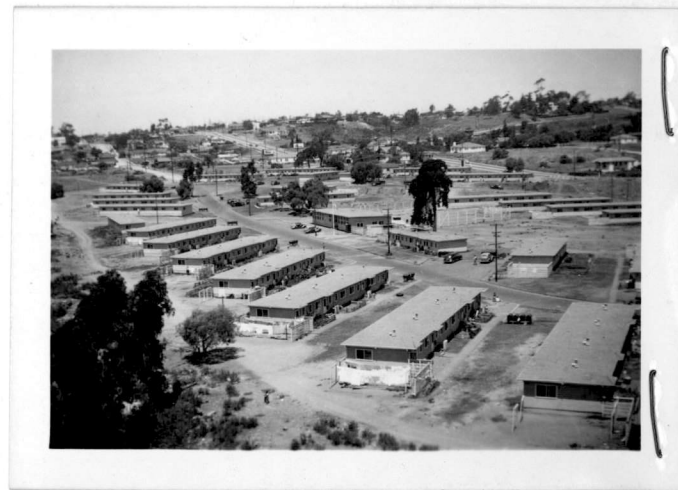
MINIMUM STANDARDS FOR PUBLIC RECREATIONAL AREAS
CITY PLANNING DEPARTMENT - LOS ANGELES, CALIFORNIA
OCTOBER, 1946

NATURE OF RECREATION	OPERATIONAL AGENCY	AGES SERVED	MINIMUM ACRES	SERVICE RADIUS	1 ACRE SERVES	1 SITE SERVES	DESIRABLE FEATURES MINIMUM FACILITIES	EXAMPLE IN LOS ANGELES
1 PLAYLOT	Group Housing	Pre-school	1/8	1 Block	-	136 Totals	Housing Projects Only	Estrada Courts
2 NEIGHBORHOOD PLAYGROUND WITH PARK FACILITIES	Elementary or Jr. High Sc. or Recreation Department	5 to 14 & Aged Persons	Active Area--3 Passive Area--2	1/4 to 3/8 mi. Same	218 Children 2000 Tot. Pop.	600-800 Children 3000-10,000 Tot. Pop.	Space for Juvenile Tag & Athletic Games, Crafts Bldg., Table Games, Rest Area & Boundary Planting	Queen Anne Playground
3 DISTRICT PLAYGROUND AND PARK	Sr. High Sc. or Recreation Dept. & Park Dept.	15 - 20 and Adults	Active Area-10 Passive Area--5	3/4 to 1 1/2 mi. Same	290 Youth 2000 to 6000 Pop.	1000-4000 Youth 10,000 to 50,000 Pop.	Swimming Pool, Athletic Field, All Purpose Building. Facilities for Large Group Activities	North Hollywood Park
4 SPORTS CENTER	Recreation Department	Youth & Adults	30	5-10 Miles	Variable	500,000 Pop.	Multiple Facilities for Field Games, Field House	Rancho Cienega Stadium & Ath. C.
5 CAMP	Recreation Department or School Board	Various	20	No Limit	Variable	Variable	Isolated Location in Primitive Area	Griffith Park Girls Camp
6 URBAN PARK	Park Dept.	All	30	5 Miles	2000 Tot. Pop.	50,000 to 100,000 Pop.	Shade, Lawn and Water	MacArthur Park
7 REGIONAL PARK	Park Dept.	All	No Limit	No Limit	Variable	Variable	Outstanding Scenic or Recr'l Attractions	Griffith Park
8 BEACH	Rec. Dept.	All	No Limit	No Limit	Variable	Variable	Multiple Recreation Facilities	Cabrillo Beach
9 SPECIALIZED PARK	Park Dept.	Various	No Limit	No Limit	Variable	Variable	Golf Course, or other Special Uses	Rancho Golf Course
10 CULTURAL SITE	Semi-Public or Public	All	No Limit	No Limit	Variable	Variable	Historical, Scientific or Educational Interest	Campo De Cahuenga Exposition Park
11 MISCELLANEOUS OPEN SPACES	Any Govern't Agency	All	No Limit	Local	Variable	Variable	Planted Strips, Squares Public Bldg. Grounds	City Hall Park

NOTE: Figures for Population Served are Based on Studies for the Los Angeles Master Plan.
Off-street Parking Provided at all Parks and Playgrounds.
Facilities for unsupervised Play in 6 & 7. Picnic Facilities in all Parks.



Two examples of housing projects in California with enough open space to provide adequate sunshine and fresh air.



How to Get over the Existing Situation

As mentioned before, the centers of our cities are the least parts of the cities in having any playgrounds or recreation areas within easy reach, so if any slums or blighted areas within the center of the city are cleared, it would be completely wrong to rebuild the cleared area; it should be left for recreation use and playgrounds.

This will be a profitable action for the government, or the city, because by doing so, the land value in the surrounding areas rises, and the taxes paid to the government accordingly increase.

Another thing should be noted in this respect also. The people keep on moving out of the overcrowded center of city city where they do not find any recreation facilities, and into the outskirts or suburbs where they are nearer to nature. This costs the city money to extend the different services into the new built areas. This can be stopped by providing recreation areas near the center of the city where most needed.

Of course, this is a slow process, but it is the only way to treat the existing problem. There is no excuse for repeating the same mistakes again in any new development, and this side by side of providing the city with recreation areas is our hope for a better city and better living.

CHAPTER IV

INDUSTRY AND THE CITY

There are many factors that affect the choice of the industry location. These general factors can be summarized under the following headings:

1. Availability of raw materials
2. Availability of labor
3. Cheapness of land
4. Transportation facilities
5. Nearness to markets
6. Economic facilities

1. Availability of Raw Materials. The different types of industry are in need of raw materials for manufacturing, so it is, of course, profitable and wise to build the factories or plants near to where they are available.

2. Availability of Labor. This has always been one of the most important factors in the choice of the site, though it has begun to lose its major importance since the mechanization of industry has decreased to a certain extent the need for large masses of labor. Yet, even these machines still need workingmen to make them work.

In some regions or countries where no "labor union standards" are established for the wages, the cheapness of



A housing project in Los Angeles which was poorly located right next to an industrial area. The factories show at the far end of the picture.

labor becomes a decisive factor also.

There are some cases where the contrary has happened; that is to say, industry was established first and then labor was attracted, but in these cases, there must be other factors that were found stronger and taken into consideration.

3. Cheapness of Land. There is no doubt that this is one of the points taken into consideration in the choice of the site for industry, though, of course, it has to be considered in an overall consideration of all the economic factors involved.

4. Transportation Facilities. Raw materials are brought into the factories to be manufactured and then delivered into the markets. In both processes, adequate transportation facilities are needed.

The same thing applies to the workingmen also, especially when there has been any consideration of provision of homes for them within walking distances from the factories, as it is the case in most of the big cities. That is why we find that factories have been usually following railroad tracks. Sometimes the existence of a river, a canal, or sea transportation may be the governing factor in that respect according to the type of industry, the location of the raw materials and the markets.

5. Nearness to Markets. That in some cases has been the governing factor in the choice of the location of industry.

In such cases, as in London or Cairo, the population of the city represents a large portion of the consumers, and so we find that the industry starts near to the city.

6. Economic Factors. These are other general factors that would suggest a certain site, like the existence of cheap natural resources that are needed for the manufacturing, such as electricity power.

Other factors like the climate have been mastered now by the man-made mechanical inventories.

Need for Zoning to Protect the City
Against the Menace of Industry

This is a short study of the factors that governed the location of the industry, and from it we can see that the relation of industry to the city has never been taken into consideration except from the industry's point of view, whether it was for the benefit of the city or for its misfortune.

Industry has been located everywhere. That is what resulted into the present confusion. We find factories built in the center of the city, filling the air with smoke, built where trees and parks are most needed to provide the fresh air needed for a decent home, but instead it menaces the whole surroundings with its dangerous fumes and smoke.

It is even more disappointing to notice that up until

now the new factories are built on the borders of the city, for the comparative low land price, and this means endangering all the new residential areas which extend towards the city limits.

Zoning is the only solution for this confusion, and then industry can only spread where it should without badly affecting the rest of the city.

This is a general study of the city, its functions and how they should be related to each other; the problem of furnishing decent, comfortable homes for the people has been always sought.

In Egypt this is one of the major problems as the standard of living is comparatively low, and accordingly the result was that most of the low-paid people, especially the industry workers, had to live in sub-standard houses.

My problem is the choice of the site and planning of 6000 units for these workingmen. All the conclusions reached in this study will be taken into consideration when dealing with the problem.

CHAPTER V

THE CHOICE OF THE SITE FOR THE WORKINGMEN CITY DEVELOPMENT

Giziret El Warrak

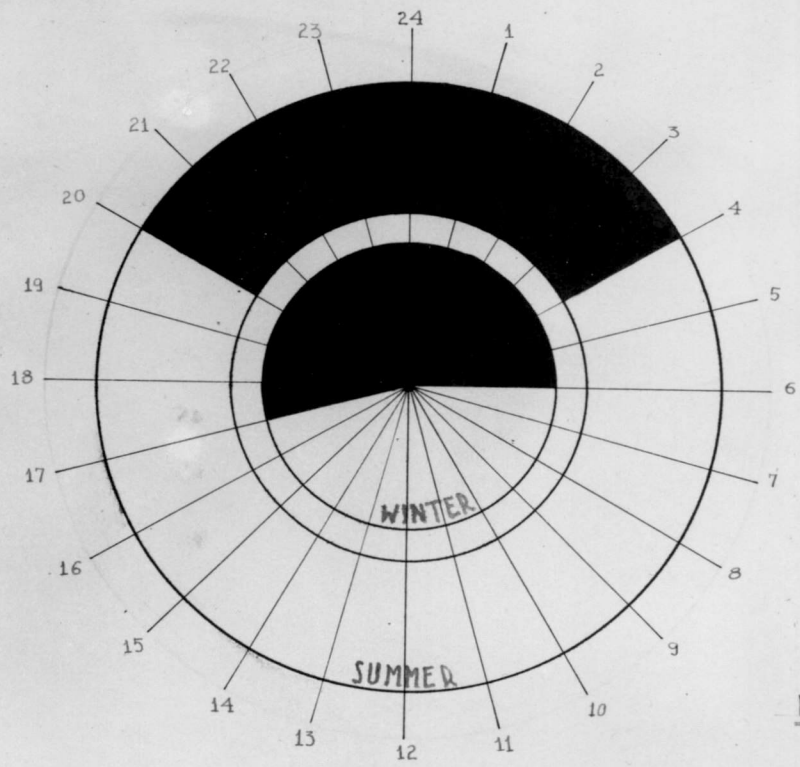
This is the site I chose for my project. This choice is based on the preceding studies, and the conclusions I arrived at.

In the choice of the site for a residential area for an existing industrial area, the following points were involved.

The Location of the Site in Relation to the Existing Industrial Area. From the previous studies, I found out that the location of the residential area for workers in an industrial area should be governed by the fact that the house should be within easy reach from the work place.

This easy reach can be by having easy and efficient means of transportation, or by being within a walking distance from the work place.

In our case, the first condition is not available; and the workers cannot afford to have private means of transportation like a car or a motor cycle. So the second condition should be fulfilled in the choice of the site. A distance as long as one-half mile to one mile is a reasonable walking distance. The workingman can go or come back from his work by walking fifteen or twenty minutes.



CAIRO
DAY & NIGHT

This is not a long distance to walk, and it should be noticed that by proper planning he will walk through efficient and safe roads, which will be prohibited for any rapid traffic.

From the diagram showing this area within which my site should be located we can see that the El Warrak island satisfies this point perfectly.

Availability of Land Needed. To this point, the chosen site is perfectly satisfactory. This island has almost no buildings at all on it at the present. All the island is cultivated, and it turns a poor quantity of crops that is of no importance to consider. The soil of the island is similar to the lower quality of land in the cultivated land in Egypt, due to the fact that the upper layer is mud mixed with sand.

Regarding the quality of the soil, the land in this island is better for housing than for cultivation. The fact that the island does not have many buildings on it at present offers a very good chance of having all the land needed ready at hand without any clearing expenses to spend. This applies also for any future development if any will be needed, and if we look to the map we will find that industry is spreading northward alongside the railroad and the highway. We see that the island will fulfill most of the points of consideration mentioned for the future development of the



A housing project in
San Diego, California,
taking advantage of
the site overlooking
the ocean.

project as a residential area for the workers.

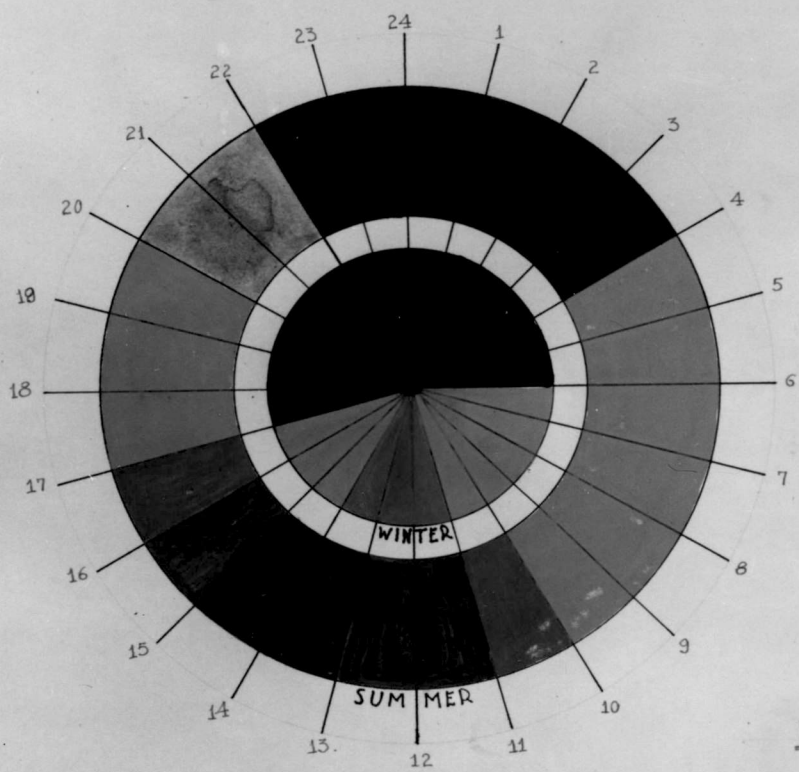
Cheapness of Land. The land price on this island is comparatively cheap as a result of being a poor agricultural land. This is true especially if we compare it with the other land that lies to the east of the railroad.

This factor of land price is one that should be taken into consideration; the difference in the price can be used in building more units, especially when dealing with low-rent units, and when the funds are limited.

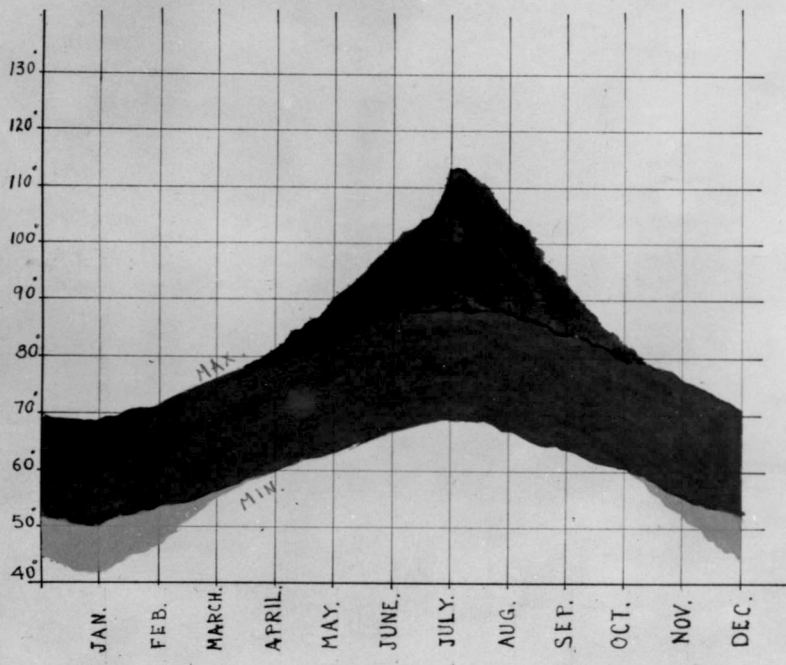
Away from Through Traffic. Being an island in its present condition, it is unnecessary to alter any of the already existing roads, highways, or railroad tracks in order to avoid having heavy through traffic within the project area. This means that I shall be completely free in developing my plans.

The Natural Beauty of the Site. The natural beauty of the site of a residential area is essential, especially when building for factory workers who are closed in from nature's beauty all of their work hours.

The chosen island offers a magnificent chance to have this beauty right at hand; the mere fact that it is an island in the middle of the Nile makes it unique in this point. The long beach all around the island offers a magnificent chance to enable almost every house to overlook the most attractive scenery in the country.



CAIRO
 DAY HOURS.
 INDICATING TEMPERATURE.



■ Possible Max.
 ■ Ordinary Temp.
 ■ Possible Min.

TEMPERATURE CHART.
 IN CAIRO.

The Climate. The climate of the region in the Cairo area is characteristic for its dryness and warmth, especially in the summer. From the chart we can see that the temperature reaches as high as 116° , especially in the summer. This is a very important factor that should be taken into consideration.

The choice of the island is very favorable in this respect. Being an island in the middle of the river it has the chance of getting the cool breeze off the river. This point grows in importance when we know, as is shown on the chart, that the warm temperature exists almost nine months a year; even in winter it is never very cold.

Factory Smoke and Chemical Fumes. Industry in Egypt uses coal and oil as fuel. Electricity is not much used because of its high cost. So from the industrial area, there flows the smoke and chemical fumes out of the factory chimneys.

With the help of the prevailing winds which blow from the north and northwest, this smoke flows towards the south and southeast. So if we look to the map, we will find again that the area to the east of the railroad is all menaced by the bad effect of the smoke.

I think that this point is very important in the choice of the site, especially when we have different sites to choose from as in this case. The island that I am choosing

for my site is the best in the whole area from which I am choosing. Besides the fact that the smoke flowing from the factories does not affect the island at all, it has another advantage.

As an island it is quite open to the north-northwest wind which is cooled by the water.

Of course, the site I chose is not the only site that has these advantages, but it is the one that I found to satisfy all of them, which makes it unique in this respect, and that is why I recommend Giziret El Warrak to be the residential area for the existing factories, and for future development when it will be needed.

CHAPTER VI

THE PROGRAM

The Density of Population and Land Use

From the study I made for different housing projects and developments, I am going to choose the following figures as a basis for my calculations.

In the Aliso Mission Gardens, Los Angeles, development the proposed land use percentages were as follows:

Residential	54.9%)	
Streets	12.8%)	<u>Population</u>
Commerce	17.6%)	<u>Density:</u>
Industry	None)	51.6% <u>per</u>
School, Church, Park	14.7%)	<u>net residential acre.</u>

In the Pacoima Development, Los Angeles, the following figures were proposed:

Residential	66.8%)	<u>Population</u>
Streets	14.2%)	<u>Density:</u>
Commerce	1.6%)	26% <u>per net</u>
Industry	10.6%)	<u>residential acre.</u>
School, Church, Park	6.8%)	

The difference in density is not reflected to any extent in the net cost of land or even in the gross acquisition cost. These if amortized over 99 years would add very little to the rent, even when low density is used.

In the Aliso Village the large blocks were cheaper to build per unit and the demand for units was high, while in Pacoima the unrestricted land area available together

with a relatively low demand for units made possible a low density. Anyway the assessed value per net acre in each case was \$11,640 in the first case and \$707 in the second.

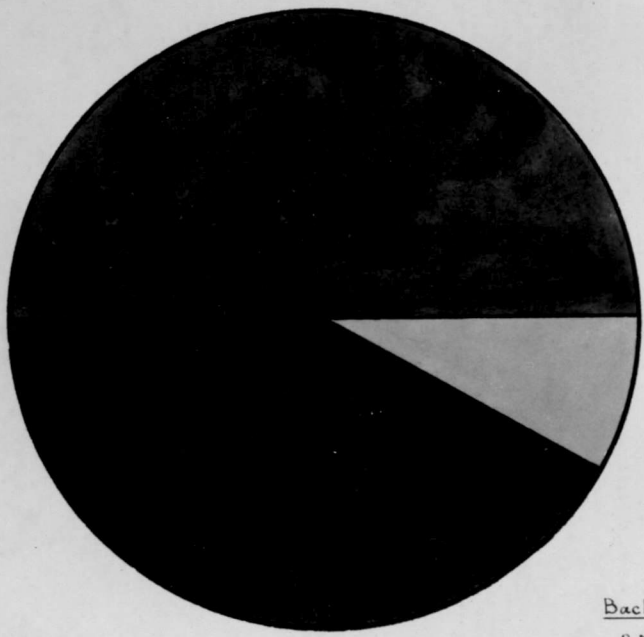
Of course, these figures were the figures reached by the planning that was found to be best in each case, but it can give us an approximate basis for my design. So taking them, and the conditions that exist in Egypt, I am going to follow the following figures in my design. I think more area should be devoted for the playgrounds.

The density (round figure) that I think would be reasonable, is about fifty persons per net residential acre. The project is going to include 6000 units and the necessary services.

These units are going to be divided into the following types:

1. "Bachelor dwellings"
2. "Married-Couple units" 1 bedroom
3. "Married-Couple with one or two children" 2 bedrooms
4. "Family House" (for families of five or more) 3 bedrooms

The percentage of each of these types of units to the total number of units should correspond with the percentages of family types as indicated.



TYPES OF UNITS.

<u>Bachelors</u>	—	50%
<u>1 B.R. App.</u>	—	25%
<u>2 B.R. App.</u>	—	16.6%
<u>3 B.R. App.</u>	—	8.4%

These percentages go as follows:

1. Bachelors	50%
2. Couples without children	25%
3. Couples with one or two children	16.5%
4. Couples with three or more children	8.5%
	<u>100.0%</u>

The total number of population can be calculated from these figures:

$$1. \text{ Bachelors} = \frac{6000}{2} = \underline{\underline{3000}} \text{ persons}$$

$$2. \text{ Couples} = 2 \times 6000 \times \frac{25}{100} = 2 \times 1500 \text{ persons} =$$

3000 persons

$$3. \text{ Couples with one or two children} = 3.5 \times 6000 \times \frac{16.5}{100} = \underline{\underline{3465}} \text{ persons}$$

$$4. \text{ Couples with three or more children} = 5.5 \times 6000 \times \frac{8.5}{100} = \underline{\underline{2805}} \text{ persons}$$

Total 12,260 persons

The land use percentages I am going to use as a basis for my planning are the following:

Residential	60%
Recreation, Schools, Community Services	25%
Streets	12.5%
Shopping Center	2.5%
	<u>100.0%</u>

To calculate the necessary area for the new development, following the above mentioned standards, there are two ways of approach.

1. Direct calculation from the total population figure and the population density established.

When the needed area should be:

$$\frac{12260}{350} \times \frac{100}{60} = \underline{408.6} \text{ acres (gross area)}$$

2. Calculation from the number of units of each type per acre.

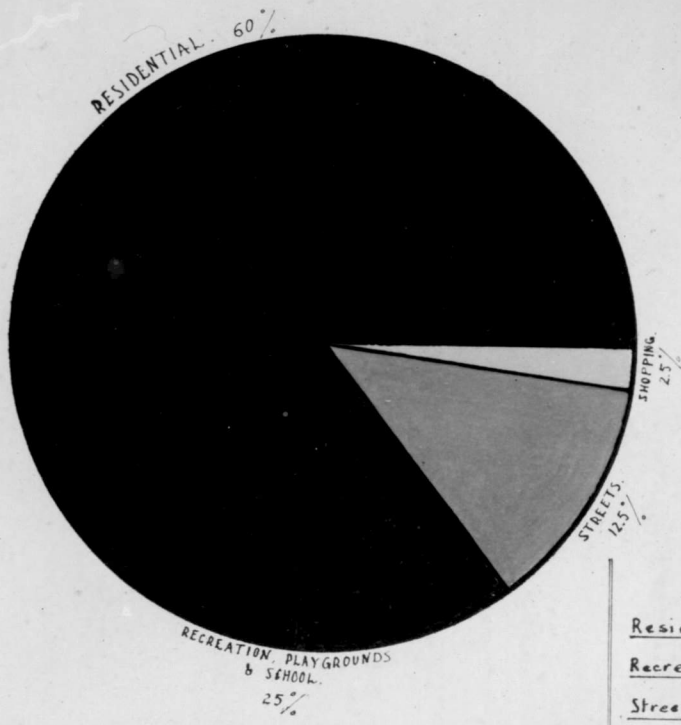
1. Bachelor units	3000	30 units / acre
2. One bedroom units	1500	20 units / acre
3. Two bedroom units	990	7 units / acre
4. Three bedroom units	510	5 units / acre

$$\begin{aligned} \text{The total area then} &= \frac{3000}{30} \text{ plus } \frac{1500}{20} \text{ plus } \frac{990}{7} \text{ plus } \frac{510}{5} \\ &= 100 \text{ plus } 75 \text{ plus } 141.5 \text{ plus } 102 \\ &= \underline{418.5} \text{ acres} \end{aligned}$$

Both ways of calculation lead to almost the same result. So a round figure of 400 to 425 acres can be taken as a basis for needed area for the project.

Requirements

From the studies I went through before, and from considering the type and character of individuals I am planning the development for, I can decide on the following requirements for my



LAND USE.

<u>Residential</u>	60%	■
<u>Recreation & School</u>	25%	■
<u>Streets</u>	12.5%	■
<u>Shopping</u>	2.5%	■

program:

1. 6000 Housing Units Divided as follows:
 - a. 3000 Bachelor Units
 - b. 1500 1 Bedroom Units
 - c. 1000 2 Bedroom Units
 - d. 500 3 Bedroom Units
2. Recreation and amusement facilities
3. Elementary schools and a high school
4. Playgrounds
5. A Mosque
6. A shopping center
7. Other services as fire station, police station, telegram and telephone office, etc.

The Housing Units

The Bachelor Units. These units shall be in multiple structures of three stories each, with several units on each floor. The limitation of the number of floors is due to the fact that though the building of higher buildings may be cheaper, there are the following points to consider.

1. For a larger number of floors there will be needed lifts. These cost money and the running expenses will be high as electricity is expensive as mentioned before. This will necessitate the raising of the rent, which I am trying to make as low as possible.

2. When the buildings become very large, it will be more difficult to maintain the privacy that is necessary for each person.

3. As I am intending to provide each of these multiple

buildings with a social and recreation hall, so if the number of persons living in the building is too large, it will be hard to attain that requirement in a satisfactory way except by having a large center, which I prefer to be in a separate building and large enough to serve the whole community.

So, on the ground floor, a lounge large enough to be efficient for the number of residents in the building, will be required, besides two or three gamerooms (billiard, ping-pong, etc.)

No cooking privilege is to be allowed. Instead, a cafeteria or number of cafeterias will be provided, where the bachelors can get their meals.

These cafeterias then are going to serve at least 3000 persons.

In each of the buildings, there will be the necessary lavatory facilities and laundry-washing room, one or two telephone booths, and a small management office.

There are certain points that must be taken into consideration in the design of these "Bachelor Units":

1. The cross-ventilation is most essential, especially in the warm climate of Cairo.
2. As the number of units on each floor will be considerably high, there should be provided adequate staircases, and as mentioned before, no lifts are necessary.



Photos showing
examples of units
in some housing
projects in
California.



Examples of two bedroom
units in a housing
project in San Diego,
California.

3. The area for each unit should be large enough to furnish a comfortable living space for a bachelor: a bed, one or two easy chairs, a desk, a dresser, (or a closet) and a wash basin.

4. Proper orientation of the building is essential. The north-northwest wind is very desirable. The sun moves from the southeast to the southwest. In summer the sun at noon is exactly overhead. These factors besides the fact that we should take advantage of the natural beauty of the scenery, should be taken into consideration in deciding the proper orientation of the building.

One Bedroom Units. These units are for the married couples with no children. They can be either designed as multiple units or separate ones. Being low-rent units, it is advisable to design them as multiple units.

Each unit will be larger than the bachelors' units. They will accommodate a bedroom, a living room, a small kitchenette and dining space. A bathroom will be provided in each unit.

As the unit itself is larger than a Bachelor Unit, the number of units in each building should be less, especially that here privacy is even more necessary.

Two Bedroom Units. These units are for couples with one or two children.

One bedroom will be for the man and his wife, and the second room is for the children. Of course, a living room is needed; a dining space and a kitchen are to be provided, too, besides a bathroom.

These houses can be separate or in multiple buildings. For low-rent units, it will be more economical to have them in multiple buildings, though complete privacy must be attained through complete separation of the units. A backyard is also to be provided for each unit, and a private entrance.

As for the relation of these units to the rest of the project, it must be remembered that children live in these units. No through traffic should be allowed within the area of these units. It should be near to the elementary school and the playgrounds.

Intermediate courts or lawns where the children can play near their homes is desirable.

Three Bedroom Units. This type of dwelling is for large families of five or more persons.

That kind of a family needs privacy and a large space. So these units must be separate units. They also should be of two floors. On the first floor there will be a large living room, a kitchen, a dining room, and a small storage space.



A backyard used for
drying laundry in a
housing project unit
in Los Angeles.

On the second floor there will be the three bedrooms and a bathroom.

For such a house a backyard is needed; also, a small private garden which can even be used for raising some vegetables.

As mentioned about the two bedroom units, intermediate courts or lawns should be arranged for here also.

Recreation and Amusement

For a community of more than 12,000 persons, there should be provided the necessary recreation and light amusement which is local. The inhabitants of the development should have these amusements near to where they live.

A theatre that would hold 400 or 500 persons will be a necessity. It should be noticed that this theatre may be used for giving lectures when needed.

One of the most popular means of amusement in Egypt is the "Cafe". This word is a little misleading, for it is applied to a place different in character from the "cafe" in America.

In Egypt this place is some sort of a public club. Anybody can go there, have a cup of coffee or some refreshments, where he can meet with his friends, and enjoy playing billiards, dominoes, trick-track, chess, or sometimes cards. One or two or more of these cafe's are necessary in such a community.

A "sandwich-shop" which is some sort of a fountain, except that there sandwiches and refreshments are served. No stools or tables are necessary. This is as popular in Egypt as the fountains are in the United States.

Schools

The children in elementary school constitute about ten per cent of the total number of the population. So for the population of this development which is about 12,000 persons, there will be about 1200 children in need of elementary schools. As mentioned before, these schools should be within walking distance from their homes. That means that schools to satisfy the needs of the community should be built within the development area.

For that number of students, there are needed three elementary schools, as 400 students is an average number of students in an elementary school in Egypt.

As for the high school age group, which is not compulsory education in Egypt, it will constitute forty or fifty per cent of the number of those of elementary school age. That means that the high school education will be needed for 500 to 600 students. This is a number that can support one high school.

The location of this school should be with consideration to the future development.

These schools will have their own playgrounds which will serve all the students.

Playgrounds

The provision of playgrounds, large enough to serve the whole community must be satisfied. These playgrounds should serve every age. That is why they can be divided into passive and active playgrounds and parks.

For the active playgrounds, there should be accommodations for a soccer field, which is the most popular game in Egypt, a basketball field and several tennis courts. It should be noticed that there should be provided places for playing some of the indoor games like ping-pong and billiards. To complete the requirements of the playgrounds, there should be provided the necessary toilets, showers and dressing places.

A swimming pool will be essential as in the warm days of the summer this is very much needed. The river is not fit for swimming as the waters are dirty with the mud they carry. It is even unhealthy to swim in it.

As for the passive part, that is where the older people can enjoy sitting in the shade, smelling the breeze and enjoy being close to nature.



Two examples of
shopping centers
in Azure and Linda
Vista Developments
in California.



A Mosque

To satisfy the religious needs of the community, one or two mosques should be provided as the mosque is needed for prayers. The type of individual I am planning for is, for the most part, much devoted to his religion. It should be located within walking distance. It should also be in a somewhat secluded spot.

Shopping Center

There is needed a shopping center in every community. The size and character of it varies according to the size and character of the community it serves.

In our case, the community served is 12,000 persons. For such a number the shopping center should be large enough to satisfy most of their needs as that large number will be able to support it. So there will be needed one or more markets, a drugstore, one or two barbershops, a shoe-repair shop, one or two laundries (which are small scale) and maybe a fountain.

It should be that there will be needed other small markets in the farther parts of the project to serve the immediate local needs of the surrounding units.

Other Community Services

To make the city efficient within itself, there are other



Medical Center
Linda Vista Project
San Diego

general public services that should be provided within the development area.

A community center that will serve as administrative center, a meeting hall, and offices for the civic public services is needed. A police station, a fire station, a post office, a telegram and telephone office are also needed.

All these different public services should be located in a central position of the development as they will be equally needed in every part of the project.

Conclusion

Thus we can see that the project will attain the character of a small city which is mainly residential, but which includes also the necessary elements to make it efficient within itself, though it is a part of a greater city, Cairo.

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