Ain Shams University
Faculty of Engineering
Department of Architecture



Design Criteria for the Punishment & Correctional Institute Buildings Under the Umbrella of the Human Right Fundamentals

A Thesis submitted in Partial Fulfillment Of the Requirements of the Ph. D. DEGREE IN ARCHITECTURE

By Architect **Tamer Abbas Marie Abu Zied**

B.Sc. Architecture - Ain Shams University, 2000 M.Sc. Architecture - El Minia University, 2006

Supervised by

Dr. / Mohamed Ayman Ashour

Professor - Department of Architectural Faculty of Engineering – Ain Shams University

Dr. Ashraf Mohamed Abd el Mohsen

Asst. Professor - Department of Architectural Faculty of Engineering - Ain Shams University

Cairo, Egypt 2010

Statement

This dissertation is submitted to Ain Shams University – Faculty of Engineering – Architectural department for the degree of Ph.D. in Architecture.

The work included in this thesis was carried out by the author in the department of Architecture – Faculty of Engineering - Ain Shams University, from September 2006 to April 2010.

No part of the thesis has been submitted for a degree or a qualification at any other university or institute.

Date:		 	
Name:		 	
Signatu	ıre:		

Acknowledgment

First and foremost, I must thank Allah for allowing my life to embark on this path, which has led me to complete this research.

I am indebted to many people who have, directly and indirectly, influenced and inspired me throughout the different stages of this research. I highly value their guidance, enthusiasm and continuous support, which pushed forward this work to be successfully accomplished.

My supervisors; **Prof. Dr. Mohamed Ayman Ashour and Assistant Prof. Dr. Ashraf Mohamed Abd el Mohsen** were endless sources of advice and direction and I thank them for their intensive help, valuable advice, constant effort, and their continuous encouragement throughout the whole thesis. Although they cannot express my true feelings towards his special efforts and care

I cannot forget the important remarkable role that my friends and colleagues have played with me to accomplish the thesis. Their deep discussions, arguments, ideas, and assistance were so helpful. In addition, I deeply thank the instructors who participated in the questionnaire for their valuable contribution that enriches the thesis.

Finally, without my family; much of this would not have been possible. The remarkable, essential and supporting role of my mother was, and still is, the original and continuous motivator of being what I'm now. In addition, I thank my wife and my little sweet kids about what they suffered for offering me the proper time and relaxation to accomplish this thesis.

Tamer A. Marie April 2010 Cairo, Egypt

Introduction to the Research Student

Name Tamer Abbas Marie Abu Zeid

M.Sc Architectural Engineering – Faculty Of Engineering

Academic Degree El Minya University – Year 2006

Date of Birth 10-8-1977

Scientific Qualifications Police Science Diploma – Mubarak Security Academy

year 2002

Office Engineer in the General Ministry Of Interior Bureau

Current Position (In The General Projects & Financial Researches Department)

- To my dear father; I wish you always be with me.
- To my mother; I am because of You.
- To my wife; Thanks for your support.
- To my little lovely son; Because of you, I will be In Sha'a Allah.

Abstract

A research study submitted by Eng./Tamer Abbas Marie in view of obtaining the PHD Degree from the Faculty Of Engineering , Ain Shams University titled " **Design Criteria For The Punishment & Correctional Institute Buildings Under The Umbrella Of The Human Right Fundamentals** ". The dissertation aims at attaining the most important design considerations about which relies the ad hoc program for the functional requirements of the punishment institute buildings, which pertain to the population of the occupiers of these buildings and the area of these buildings. Moreover attaining the per capita share of the prison area through which it is possible to determine the prison building requirements program with the functional space areas composing these buildings through a set of objectives as follows:

First:

Recognizing the incoming of the prisons systems and their development in Egypt , prisons in the old ages (era of the Paranoiac dynasties – the Ptolemy's era – the Romans era and the police after the Islamic Fatah) . The influence of the prisons systems and their development by the French campaign , the prisons system during the period of the British occupation which had a great influence on the development of the prisons systems, and how their influence appears in the prisons system prevailing in Egypt in our present era through the different ages .

Second:

Recognizing the prisons system prevailing in Egypt with all its details, characteristics and divisions (types of punishments – places of executing these punishments ... etc.). The actual functional requirements necessary to those existent in the punishment institute buildings and linkage between the functional requirements and the space needs necessary to be available to perform the required function. An architectural analysis of the status for some existent examples of the local punishment institute buildings. Moreover, defining the most important architectural problems encountered by those buildings.

Third:

An analytical study of a set of global examples (3 examples of punishment institute buildings in different countries each of which having been designed to serve definite populations), in which avails the ideal standards which suit the occupational requirements necessary in this type of buildings. Moreover, defining a definitive style for analysis and study relying on several points (this style shall be used as well in analyzing and studying the local examples) by which it is possible to attain an integrated design program updating the space requirements definite for each case.

Fourth:

An analytical study of a set of existent local models (3 existent local models of punishment institute buildings), upon which the same style of analysis and study will be applied as followed in chapter three to attain also a design program for the space needs definite for each existent local case.

The research concludes to the use of the third and fourth chapter results through reviewing a group of tables that combine between the design programs for each standard case with its local counterpart. Thus, appear the design variations, as well as elucidating the average share of used space of the prison building in each case. Eventually a design program can be derived definite for each case comprising standard parameters and simultaneously including all the requirements of the local prison building , this being through merging the design programs for the similar cases (deserving the cancellation of all that doesn't suit the social , climatic , administrative ... etc.) pertaining to Egypt .

List of Contents

	List of Contents
	List of Figures Error! Bookmark not defined.
	List of Tablesxiv
Intro	ductionError! Bookmark not defined.
	1- Architectural , Punishment Buildings & Human Rights :2
	2- Thesis Problem:
	3- Thesis Assumptions :4
	4- Thesis Aim and Objectives :4
	5- Thesis Scope of Work:5
	6- Thesis Methodology:5
	7- Thesis Structure
Part	One: History of Prisons & Standard Design Criteria for Punishment Buildings
Book	kmark not defined.
1- Cl	hapter One: Prisons History Error! Bookmark not defined.
	1- Accompaniment of the development of the Prison concept: Error! Bookmark not defined. 1-1- In the Old Ages: Error! Bookmark not defined. 1-2- In the Medieval Ages: Error! Bookmark not defined. 1-3- In the Modern Ages (Revolution on torturing & revenge means): Error! Bookmark not defined.
	2- Prisons disadvantages:
	3- Correctional Movement:
	4- The Stand of Islamic Legislation from the Prison Penalty:24 4-1- Era of the Second Caliph Omar Ibn El Khatab:25 4-2- The Prisons System in the Era of the Abbassy Caliph Haroun El Rashid:27
	5- Definition of the Crime – The Criminal – The Punishment:

apter Two: Lo	ocal & Global Prison Systems	
First: Local P	Prisons Systems :40	
Introduction:	40	
1- Developme	ent of the Prisons systems in Egypt41	
•	1-1- Types of Punishment Institutes In Egypt:	41
	1-2- Types of Punishments:	
	1-3- Life Imprisonment / Intensified Imprisonment Punishment:	43
	1-4- The Place Of The Punishments In Egypt:	44
2- The Diversit	fication of the Prisoners according to the prisoners classification45	
	2-1- Kinds of Classifications:	45
	2-2- The Importance of Classifications:	46
	2-3- The Standards and stages of classifications:	
	2-4- Classification based on profession:	
	2-5- The stages of classification:	
3- The Problem	ns of the execution of the modern Punishment policy:50	
	3-1- The End of the Sup positive Age of the Most Buildings of the Prisons:	51
	3-2- The Prisons that its sup positive age was ended and it's Areas:	
	3-3- The Prison estimated capacity and the actual occupation volume:	
	3-4- Bad Conditions of Prisons Halls:	
	3-5- Security Problems of the Prisons:	
	4-1- The Main Structure of the Local Prisons at Egypt:	
Second: Glob	pal Prisons Systems :65	
Introduction:	65	
1- English Pri	sons66	
	1-1- Springboard for the future - 1945-1958:	
	1-2- The Experience of the architects of the prisons of her majesty at England:	68
2- Formation	Types used in Global International Prisons69	
3- The Period	Out of control (1954-1984)71	
4- New direct	ions - 1984-April 199074	
	4-1- English examples for prisons taking different formation and arrangements 4-2- Building for growth - 1990 onwards	
5- American F	Prisons79	
	5-1- American examples for prisons taking different formation	80
6- The Main S	Structure of the Global International Prisons81	
nton Thesas I	Eunational Iail Components 40	
pier riffee: I	Functional Jail Components40	

3-2- The Main Architectural and Analytical studies of the prison:226

Part One: Hist	tory of Prisons Systems and Standard Design Criteria for Punishme Chapter One: History of Prisons	ent Buildings
3-4- 3-5-	A Comparative study of the prison components areas:	230 243
4- Conclusion of t	he Chapter Four248	
	Average Main data for the Local prison cases	248
	Average Main Items of the Local prison cases	
	Average area of Items at the Local prison cases:	
4-4-	Average area per person for the Local prison cases	252
4-5-	Relationships diagrams:	253
5- Chapter Five: Glob	al Prisons Cases	
1 Einst Coss . Dei	con Codo (001)	
	son Code (001)	257
	The Main Items of the Public Prison code (001):	
	A Comparative study of the prison Items areas:	
	Review of the Architectural drawing of the prison Items :	
	The Graphical & analytical studies of the prison areas:	
	Relationships diagrams:	
10	Total on only Gragians .	203
2- Second Case: 1	Prison Code (002)265	
	The Main Items of the Public Prison code (002):	265
	The Main Architectural and Analytical studies of the prison:	
	A Comparative study of the prison Items areas:	
	Review of the Architectural drawing of the prison Items :	
	The Graphical & analytical studies of the prison areas:	
	Relationships diagrams:	
	ison Code (003)281	
	The Main Components of the Public Prison code (003):	
	The Main Architectural and Analytical studies of the prison:	
	A Comparative study of the prison Items areas:	
	Review of the Architectural drawing of the prison Items :	
	The Graphical & analytical studies of the prison areas:	
3-6-	Relationships diagrams:	293
4. Conclusion of t	he Chapter Five292	
	Average main data for the Local prison cases	292
	Average main Items of the Local prison cases	
	Average area of Items at the Local prison cases:	
	Average area per person for the Local prison cases	
	Relationships diagrams:	
8- Conclusions, Recon	nmendations and Further Studies	
	Results , Functions and Calculations:	300

2- Recommendations: 323

 List of Figures

Part One
Chapter One
Fig 1 .Plan of the Bastille, Paris
Fig 2 Section through a Mediaeval keeps (Campbell Castle. Scotland).
Fig.3 One of the reconstructions of the Marne tine prison. Rome.
Fig.4 Section through a Moghal keep (Lahore Fort)
Fig.5 House of Correction, Milan
Fig.6 Part plan and section of the House of Correction, Milan.
Fig.7 Prison at Bath, England, by John Attwood-congregate rooms arranged round central court
Fig.8 Plan and section of St. Michael's
Fig.9 Missouri State Prison,
Fig . 10 Original plan of Illinois Penitentiary at Statesville
Fig. 11 Photos shows the history of the Egyptian prisons
Fig. 12 Photos shows the history of the Egyptian prisons (10)
Chapter Two
Fig.(13) Photos for Cairo Prison of resumption
Fig.(14) Drawings of Shbin El Kom Prison
Fig.(15) Drawings of El Mansoura Prison
Fig.(16) Drawings of Tanta Prison
Fig.(17) Drawings of EL Minia Prison
Fig.(18) Drawings of Asyut Prison
Fig.(19) Drawings of EL Sharkia Prison
Fig.(20). Bar Graph shows the difference between the designed capacity and the actual capacity for Egyptian prisons
Fig. (21) Shows the Radial arrangement of the housing area shaped in wings
Fig. (22) Shows the Triangular arrangement of the housing area shaped in triangle
Fig. (23) Shows the Cruciform arrangement of the housing area
Fig. (24)Shows the Rectangular arrangement of the housing area
Fig. (25)Shows the Rectangular arrangement of the housing area
Fig. (26) Shows the Storey Tower cluster block, Self contained units
Fig. (27) Shows the Segregation containment zones
Figure (28) Blundeston prison design model
Fig.(29) Armly Leeds Prison at England . Radial formation for the wings of the housing of inmates
Fig.(30) Donkster Prison at England . Triangular formation for the wings of the housing of inmates and a photo
of double furnished cell
Fig.(31) Prison at England . A photo for the entrance elevation of the prison that takes a tower shape
Fig.(32) Prison at England (Her majesty prisons) ideal double and Single furnished cells
Fig.(33) Miklinperg Prison at U.S.A

Fig.(64) Small group living expressed by this design for a metropolitan correctional centre

Fig.(65) Shows plan of Dormitories and all its services

Fig.(66) different shapes for cells clusters Fig.(67) Cell Skeleton and glass areas

	6
	_

List of Figures
Chapter Three
Fig.(68) Dining tables for handicapped inmates
Fig. (69) Shows the Bubble diagram and Zoning Plan for the General Housing area
Fig.(70) Beds at the Dormitories separated by partions
Fig.(71) The relation between the housing area and control area
Fig.(72) Cell for handicapped inmates
Fig. (73) Shows the Bubble diagram and Zoning Plan for the General Housing area (Handicapped cell)
Fig. (74) Shows the Bubble diagram and Zoning Plan for the General Housing area (Dormitories)
Fig.(75) Different shapes of examination rooms
Fig.(76) Photo for the Visiting Stations
Fig. (77) Shows the Bubble diagram and Zoning Plan for the Visiting Centre
Fig.(78) The relation between the Housing area and the Exercise area
Fig. (79) Shows the Bubble diagram and Zoning Plan for the Exercise area
Fig. (80). a Photo for the educational area
Fig.(81) Matrix diagram for the items of the correctional Program Services
Fig.(82) The place for praying
Fig.(83) Library component utilizing individual reading study area located remote from distraction of
entry circulation – active usage area near entry for ease of access
Fig.(84) Educational component providing range of spaces in five sizes to offer choice of space
appropriate to particular staff – inmate or inmate activity.
Fig.(85) Teaching components include a multi-use instructional support unit, a mobile audio-visual unit
and a modular carrel unit for individual study
Fig. (86) Shows the Bubble diagram and Zoning Plan for the correctional program services
Fig.(87) a Commissary component with adjacent storage room for stock, corridor located for easy access
Fig. (88) Shows the Bubble diagram and Zoning Plan for the Inmates Commissary
Fig.(89) Area specified for kitchen and dining
Fig.(90) Circulation inside the prison kitchen
Fig.(91) Plan of the prison kitchen
Fig. (92) Shows the Bubble diagram and Zoning Plan for the Food service area
Fig. (93) Shows the Bubble diagram and Zoning Plan for Prison laundry
Fig. (94) Shows the Bubble diagram and Zoning Plan for administration area
Fig.(95) shows the relation between the control room and housing units
Fig. (96) Shows the Bubble diagram and Zoning Plan for Staff area
Fig. (97) Shows the Bubble diagram and Zoning Plan for Storage area
Fig.(98) Bar graph shows the difference between the prison services at prison life cycle

Fig.(99) Bar graphic shows the differences between the areas of the prison items

Fig.(101) a Column chart explains the different relationships in the previous table

Fig.(100) A Pie chart explains the previous table & shows the rate of used area in the prison