

CENTRE OF STUDIES FOR LANDSCAPE ARCHITECTURE FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

RESUSCITATING SUNGAI ALUR ILMU AS A VIBRANT CAMPUS COMMUNITY SPACE AT UNIVERSITI KEBANGSAAN MALAYSIA, BANGI, SELANGOR

NUR AMALINA BINTI ELIAS 2013776185

BACHELOR OF LANDSCAPE ARCHITECTURE (HONS.)

JANUARY 2018

RESUSCITATING SUNGAI ALUR ILMU AS A VIBRANT CAMPUS COMMUNITY SPACE AT UNIVERSITI KEBANGSAAN MALAYSIA, BANGI, SELANGOR.

ABSTRACT

As an important subsystem of the built environment, river within campus offers many kinds of ecological services which benefit the campus community. However, with the acceleration of urbanization and human activities, the river pollution problem are becoming more and more critical. This project proposal described the resuscitation of Sungai Alur Ilmu located at Universiti Kebangsaan Malaysia, Bangi, Selangor. It summarized the research on river pollution control and remediation. The aim of the project is towards resuscitating Sungai Alur Ilmu as a vibrant campus community space through the implementation of the ecological approach. The main concern about this project is the impact of urban development and human activities on the river's health. Through several processes that have been discussed in this paper, Sungai Alur Ilmu can be revolutionized into a vibrant campus recreational and educational space. From the data analysis, the main conflict of Sungai Alur Ilmu can be concluded into two major challenges which are the environmental and social aspect; degradation of the water quality and static atmosphere that reduced the human quality of life within the campus. With Sungai Alur Ilmu as the main subject of the project interest, the vision and strategy made are focusing on the campus user and the river's ecology. Based on the advances of river remediation, this paper concluded the approaches to alleviate the river pollution problem that the biological-ecological remediation should be utilized as the primary technique. While improving the river's health, the potential spaces along the river are enhanced according to campus community needs complimenting the identity of surrounding Sungai Alur Ilmu as an institution.

Keywords: River within campus, river resuscitating, campus design, public space, ecological design, Sungai Alur Ilmu, campus community

TABLE OF CONTENT

CONTENT	PAGE NO.
ACKNOWLEDGEMENT	i
ABSTRACT	ii
LIST OF FIGURES	ix – x
LIST OF PLANS	xi - xii
LIST OF ILLUSTRATIONS	xiii
LIST OF TABLES	xiv
LIST OF GRAPHS	xiv

CHAPTER 1: INTRODUCTION TO TOPIC

1.1 Introduction		
1.2 Prevalent Issues		
1.2.1 Environmental Issues	3	
1.2.2 Physical Issues	3	
1.2.3 Social Issues	3	
1.3 Aim and Objectives	4	
1.3.1 Aim of Study	4	
1.3.2 Objectives of Study	4	
1.4 Definition of Terminology	4	
1.4.1 River Resuscitating	4	
1.4.2 Public Space	5	
1.4.3 Ecological Approach	5	

RESUSCITATING SUNGAI ALUR ILMU AS A VIBRANT CAMPUS COMMUNITY SPACE AT UNIVERSITI KEBANGSAAN MALAYSIA, BANGI, SELANGOR.

1.5 Significance of Study			
1.6 Research Methodology			
1.6.1 Collecting Data	6		
1.6.1.1 Primary Data	6		
1.6.1.2 Secondary Data	6		
1.6.2 Design Development	6		
1.7 Chapter Summary	7		

CHAPTER 2: LITERATURE REVIEW AND REFERENCE CASES

2.1 Introduction		
2.2 Diversified Approaches in Resuscitating River Within Campus		
2.2.1 Ecological Approach	9	
2.2.2 Bank Stabilization	10	
2.2.3 Ecological Landscape Design	13	
2.2.4 Public Space	13	
2.2.5 Campus Community Space	15	
2.2.6 Green Campus Spatial Design	16	
2.3 Vibrant Campus Community		
2.4 Reference Cases		
2.4.1 Reference Case Study 1: River Engineering and Urban	19	
Drainage Research Centre (REDAC), Universiti Sains Malaysia		
2.4.1.1 Background of study area	19	
2.4.1.2 Location of study area	19	
2.4.1.3 Issues and Problems	20	

RESUSCITATING SUNGAI ALUR ILMU AS A VIBRANT CAMPUS COMMUNITY SPACE AT UNIVERSITI KEBANGSAAN MALAYSIA, BANGI, SELANGOR.

	2.4.1.4 Design Approaches and Solutions		
	2.4.1.5 Significant Contribution of BIOECODS in Responding	26	
	to Campus Recreational Needs		
2.4.2	Reference Case Study 2: The Fez River, Morocco	27	
	2.4.2.1 Background of study area	27	
	2.4.2.2 Location of study area	27	
	2.4.2.3 Issues and Problems	28	
	2.4.2.4 Design Approaches and Solutions	29	
	2.4.2.5 Analytical Comparison of Reference Cases	33	
2.5 Chapter Summary		34	

CHAPTER 3: INVENTORY AND ANALYSIS

3.1 Introduction			35
3.2 Background of the case study Sungai Alur Ilmu			35
	3.2.1	Background of Bandar Baru Bangi and Bandar Kajang	35
	3.2.2	History of Universiti Kebangsaan Malaysia	35
	3.2.3	History of Sungai Alur Ilmu	36
	3.2.4	Site Location	37
3.3 Relevance of study		39	
3.4 Physical Attributes		40	
	3.4.1	Land Use	40
		3.4.1.1 Land Use and Buildings Classification	44
		3.4.1.2 Analysis of Land Uses	48
	3.4.2	Circulation and Accessibility	48
	3.4.3	Existing Parking and Pedestrian Circulation	53