

River of Life – A Green Vision



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INTRODUCTION

The River of Life (RoL) is an Entry Point Project (EPP) identified in the Greater Kuala Lumpur/Klang Valley National Key Economic Area (NKEA) under the Economic Transformation Program (ETP). RoL aims to transform the Klang River into a vibrant and livable waterfront with high economic value. This transformation is divided into three components: River Cleaning, River Beautification and River Development.

OBJECTIVES

The overall aspiration of Greater Kuala Lumpur is “to be the metropolis in Asia that simultaneously achieves top-20 economic growth and to be among the global top-20 most livable cities by 2020”, under part of the EPP (Entry Point Project), the River of Life. The main objectives are:

- Enhancing, rehabilitating and preserving the river and its environment, compatible with the envisaged Greater Kuala Lumpur City status for the project area, including improving and sustaining the Klang River and its tributaries within the study area Water Quality to Class IIB (suitable for body-contact recreational usage) by year 2020.
- Providing adequate level of flood mitigation protection to the project area, in support of achieving the Greater Kuala Lumpur City status.

RIVER OF LIFE COMPONENTS

River Cleaning

River cleaning will be conducted along a 110km stretch of the main river and tributaries within the Klang River basin, covering the municipal areas of Majlis Perbandaran Selayang (MPS), Majlis Perbandaran Ampang Jaya (MPAJ) and Dewan Bandaraya Kuala Lumpur (DBKL).

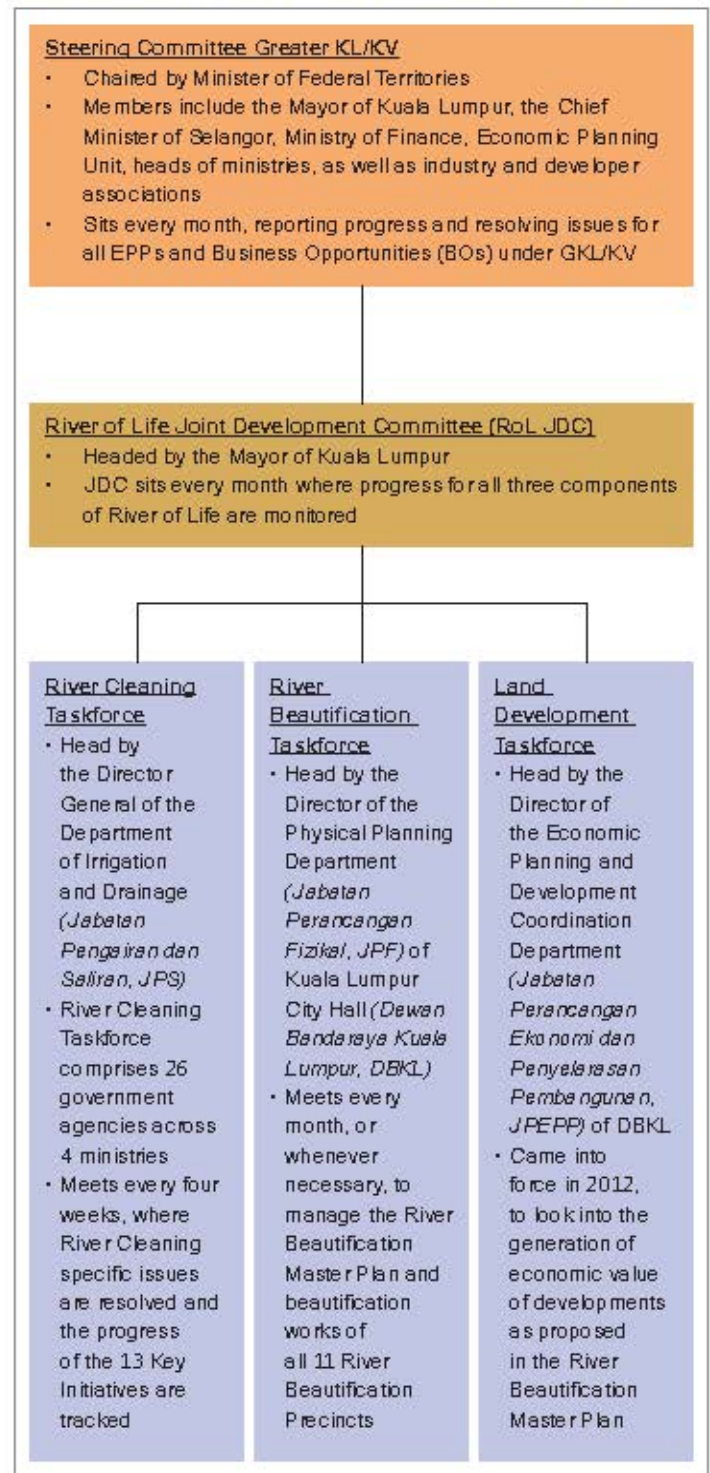
River Beautification

To increase economic viability of the area, master planning and beautification works will be carried out along a 10.7km stretch along the Klang and Gombak river corridor, starting from Puah Pond in Sentul to Mid-Valley. Significant landmarks in the area include Dataran Merdeka, Bangunan Sultan Abdul Samad and Masjid Jamek.

River Development

The master planning and beautification works will spur economic investments into the areas immediately surrounding the river corridor. To catalyse development along the corridor, potential government land will be identified and tendered out to private developers through competitive bidding.

GOVERNANCE STRUCTURE FOR RIVER OF LIFE



The Klang River Basin is the most densely populated region in the country. To accommodate the rapid increase in population, the Klang River Basin has experienced rapid development and land use change over the years. As a result, the water quality of the river has declined due to point and non-point source pollution.

Point sources include sewage treatment plants, manufacturing, agro-based industries, food premises, wet markets, abandoned land fill and animal farms. Non-point sources are defined as diffused sources such as agricultural activities and surface run offs. The main sources of pollution have been identified as:

- Sewerage effluents, both treated and untreated
- Sediment, especially from construction sites
- Solid waste, especially from squatter settlements and markets
- Industrial effluents
- Agriculture effluents

Table 1 shows the inventory of pollution sources.

Table 1: Inventory of pollution sources

No.	Data Collection	Unit		
		DBKL	MPAJ	MPS
1	Workshop	1183	25	513
2	Restaurant / Food Court / Food Stall	4380	66.4	506
3	Slaughter Spot and Live stock	4	0	3
4	Hotel / Resort	98	5	3
5	Night Market / Uptown	81	3	12
6	Wet market	37	0	7
7	Morning Market	38	2	1
8	Petrol Station	75	11	7
9	Industries (iron, chemical, fertilizer, etc)	949	99	276
10	Hospital and Clinic	112	20	1
11	Nursery	25	3	4
12	Residential types	766	128	27
13	Squatters	75	6	4
14	Shopping Complex	96	5	1
15	Shop lot / mini market	20923	5089	4928
16	Landfill / Construction	537	86	88
17	Carwash (Legal / illegal)	316	14.3	81
18	Laundry	320	15.2	6.7
19	Sewerage Treatment Plant	334	8.3	7.8
20	Water Plant	56	2.5	2.3
21	Recycling Centre	4	1	0

(Source: JPS River Cleaning K18 Study)

RIVER CLEANING

Towards achieving the River Cleaning objectives, Jabatan Pengairan dan Saliran Malaysia leads 26 government agencies and departments across 4 ministries, 2 States (Selangor and Federal Territory) and 3 municipals (Dewan Bandaraya Kuala Lumpur (DBKL), Majlis Perbandaran Selayang (MPS) and Majlis Perbandaran Ampang Jaya (MPAJ)) to execute the following 13 Key Initiatives. Figure 1 denotes the project area.

Agencies involved in River Cleaning taskforce

1. Kementerian Sumber Asli dan Alam Sekitar (KSAAS)
2. Kementerian Tenaga, Teknologi Hijau & Air (KeTTHA)
3. Kementerian Perumahan dan Kerajaan Tempatan (KPKT)
4. Kementerian Wilayah Persekutuan dan Kesejahteraan Bandar (KWPKB)
5. Jabatan Pengairan dan Saliran Malaysia (JPS Malaysia)
6. Jabatan Pengairan dan Saliran Wilayah Persekutuan (JPS WPKL)
7. Jabatan Pengairan dan Saliran Selangor (JPS Selangor)
8. Jabatan Kerja Awam dan Saliran, Dewan Bandaraya Kuala Lumpur (JKAWS DBKL)
9. Jabatan Alam Sekitar Ibu Pejabat (JAS PERSEKUTUAN)
10. Jabatan Alam Sekitar Wilayah Persekutuan Kuala Lumpur (JAS WPKL)
11. Jabatan Alam Sekitar Selangor (JAS SELANGOR)
12. Jabatan Kesihatan dan Alam Sekitar, Dewan Bandaraya Kuala Lumpur (JKAS DBKL)
13. Jabatan Pemudahcara Perniagaan dan Pengurusan Penjaja, Dewan Bandaraya Kuala Lumpur
14. Lembaga Urus Air Selangor (LUAS)
15. Jabatan Perkhidmatan Pembetungan (JPP)

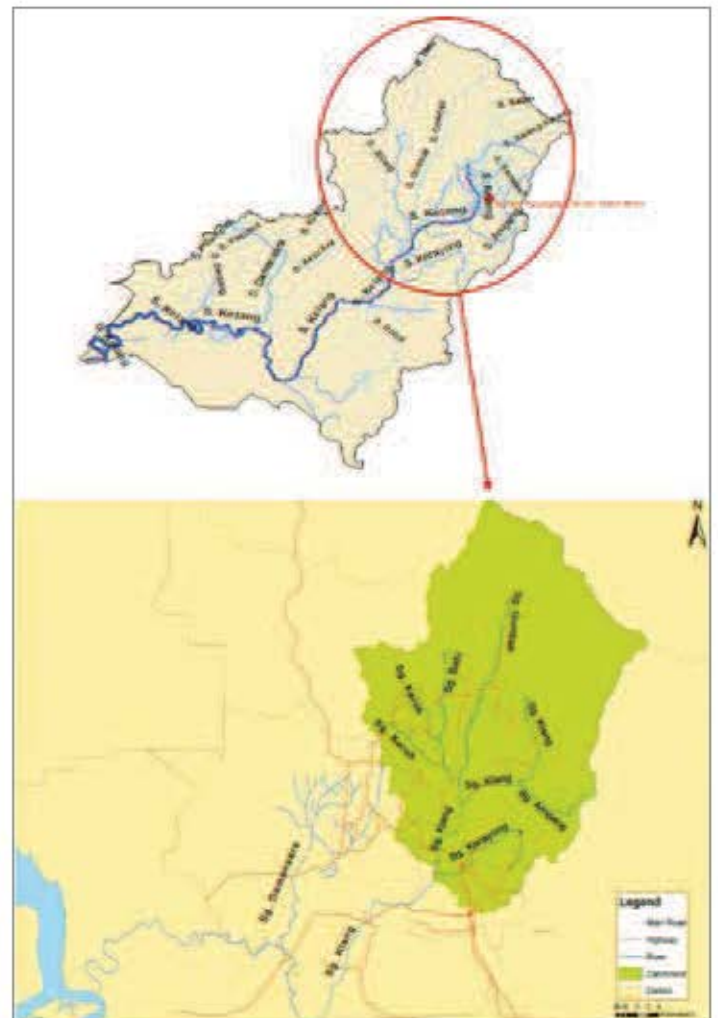


Figure 1: Project area

16. Jabatan Pengurusan Sisa Pepejal Negara (JPSPN)
17. Suruhanjaya Perkhidmatan Air Negara (SPAN)
18. Jabatan Kerajaan Tempatan (JKT)
19. Pejabat Menteri Besar Negeri Selangor
20. Unit Perancang Ekonomi Selangor (UPEN Selangor)
21. Jabatan Perancang Bandar dan Desa (JPBD)
22. Pejabat Tanah dan Galian Selangor (PTG Selangor)
23. Pejabat Daerah/Tanah Gombak (PTD Gombak)
24. Pejabat Daerah/Tanah Hulu Langat (PTD Hulu Langat)
25. Majlis Perbandaran Ampang Jaya (MPAJ)
26. Majlis Perbandaran Selayang (MPS)

KEY INITIATIVES

13 Key Initiatives have been formulated with the respective programmes to clean the river and to achieve Class IIB by year 2020. Currently, these initiatives are in various stages of implementation.

Key Initiative	Description
1	Upgrading existing sewerage facilities is the most impactful and important initiative to reduce Klang river pollution
2	Existing regional sewage treatment plants must be expanded to cater for future growth
3	Waste water treatment plants need to be installed at 5 wet markets to decrease rubbish and pollutants
4	Installing additional gross pollutant traps will improve the river aesthetics and water quality
5	Utilising retention ponds to remove pollutants from sewage and sillage
6	Relocating squatters will significantly reduce sewage, sillage, and rubbish in the Klang river
7	Implementing the Drainage and Storm-water Management Master Plan to upgrade drainage systems
8	Need for systematic hydrological study and rehabilitation of the river for flow control and to identify gaps for water quality and floods
9	To promote, enforce and manage river cleanliness and health – erosion from urban development
10	To promote, enforce and manage river cleanliness and health – restaurants, workshops, and other commercial outlets
11	To promote, enforce and manage river cleanliness and health – industries that generate wastewater/effluent
12	To promote, enforce, and manage river cleanliness – general rubbish disposal
13	Intercepting sillage and additional wastewater utilising combined storm-water overflow (CSO)

RIVER BEAUTIFICATION

The River Beautification component under RoL aims to transform the Klang and Gombak Rivers into a vibrant and livable waterfront with high economic value through revitalisation of public realm along the rivers. This will be done by providing a consistent

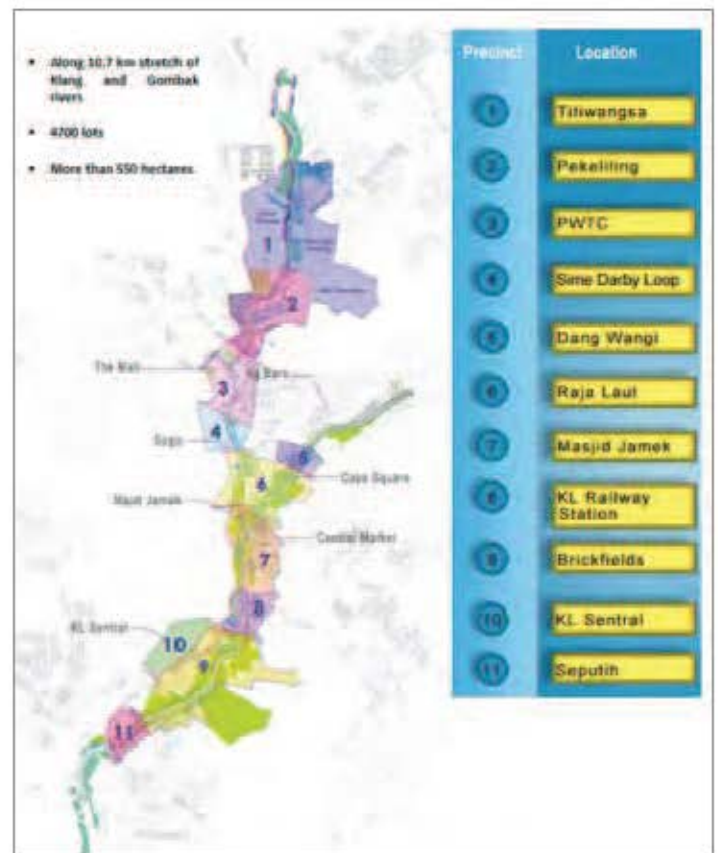


Figure 2: River Beautification Precincts (Source: DBKL Beautification Master Plan)

design signature, a brand for the city riverfront, in planning, architectural, functional and economic terms. The area concerned is demonstrated below.

RIVER DEVELOPMENT (LAND DEVELOPMENT)

Upon completion of River Cleaning and River Beautification works, the residents of Greater Kuala Lumpur / Klang Valley will benefit from a surge of economic activities and investments in the area. To further drive development along the corridor, potential government land will be identified and tendered out to private developers through competitive bidding. While the RoL project is funded solely by the Government, the government land along the 10.7km river is expected to appreciate upon completion of the River Cleaning and River Beautification projects. This appreciation in value is expected to partially fund the RoL project. The exact amount depends on the transaction value of the government land sold through competitive bidding.

ENGINEERING SOLUTIONS

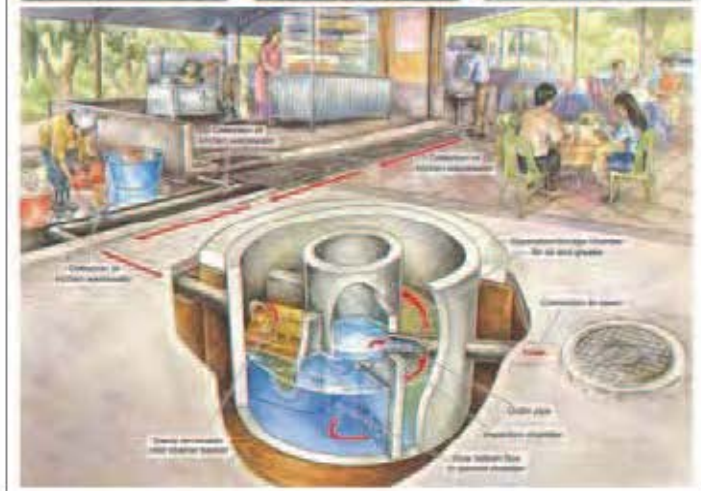
This vision cannot be turned into reality without introducing new technologies. These are the challenges that fellow engineers at DID, DBKL, MPAJ and MPS as well as consultants are facing. Sound engineering design with good quality control during the construction stage is compulsory to achieve the overall objectives.

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All RoL initiatives are allocated Key Performance Indicators (KPIs) attached to respective Ministers. Among the technologies used are:



KI 4: Gross Pollutant Trap (GPT)



KI 7: River Water Treatment Plant (RWTP)



KI 7: MSE Wall



KI 7: Natural Aerator Stone



KI 7: Floating Wetland and Solar Aerator



KI 1 & 2: Pipe Jacking for upgrading sewerage



KI 7: Hydroseeding

TECHNICAL PERSONNEL INVOLVED

The River Cleaning components involve a large number of technical employees – mainly engineers from agencies, consultants and contractors. The team consists of various engineering disciplines to manage and construct various projects for each Key Initiative. A total of more than 200 engineers and 2,000 supporting staff members make up the teamwork for river cleaning projects.

NON-ENGINEERING SOLUTIONS

River of Life Public Outreach Program known as RoL POP is introduced in the area of RoL Basin which is the sub-basin of the Klang River. The current programmes which focus in Upper Klang and Sungai Bonus areas are people-centric towards non-structural initiative where several target groups have been identified.

The programmes address river water pollution prevention exercise through educating the public on the need to care for the river and the water quality, such as dos and don'ts as well as other skills to preserve the river. It also promotes public participation and a sense of ownership towards the river system as well as initiates a long-term and sustainable paradigm shift towards river conservation.



Meetings with local community



Open Classroom Programme



Site inspection with developers in the river catchment



Creating Environmental Cultured Community

CONCLUSION

In conclusion, with the commitment from all stakeholders, together with the implementation of the structural and non-structural measures, the objective to improve water quality to Class IIB can be achieved by the year 2020.

The project also aims for a sustainable change in behaviour towards an environment-cultured society, thus escalating the overall Greater Kuala Lumpur's aspiration "to be the metropolis in Asia that simultaneously achieves top-20 economic growth and be among the global top-20 most livable cities by 2020". Nature is what wins in the end. ■

*Treat the earth well.
It was not given to you by your parents,
It was loaned to you by your children.
We do not inherit the Earth from our Ancestors,
We borrow it from our Children.
~ Ancient Indian Proverb ~*

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