

# Assessment of availability of sport facilities and recreational resources in a state of Penang



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## INTRODUCTION

The association between the build environment and the sport engagement is showed to be promising on maintaining general and optimal general health outcomes for all populations.

## OBJECTIVE

To assess the pattern and availability of sport facilities and recreational resources based on districts in a state of Penang.

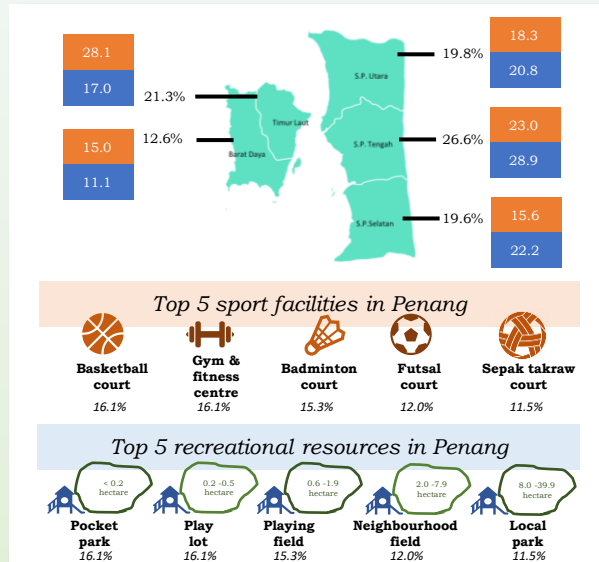
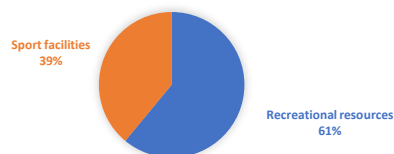
## METHODOLOGY

Sport facilities and recreational resources in Penang were collected remotely, mainly using Google Maps and Google Street View, and recreational resources were classified according to the area measured in QGIS.

The relationship between the availability of sport and recreational resources, and population size were determined using SPSS software.

## RESULTS & DISCUSSION

### A) General characteristics of the study



### B) Distribution of public and private-based sport facilities and recreational resources



About 88.6% of total facilities and resources were considered as public-based, whereas about 11.4% were owned by private-based organizations. Sport and recreational facilities in public setting tended to be 8 times higher compared to private-owned facilities, with ratio of 8:1.

### C) Distribution of sport facilities and recreational resources based on geographic location



Urban was defined as mukim with a minimum population of 10,000 people, whereas rural was defined as the mukim with a total population of less than 10,000 people.

### D) Service population ratio

	SPT	SPU	SPS	TL	BD
Service population ratio of total resources	1:848	1:905	1:527	1:149	1:971
				0	

The service population ratio was calculated according to the population size of each district studied in Penang, in which one facility served for 527 to 1490 individual. In general, the service population for the private-based facilities was found to be higher than that of the public based facilities.

### E) Relationship between sports facilities and recreational resources, and population sizes in Penang

	Sport facilities	Recreational resources
	Adjusted r <sup>a</sup>	
Central Seberang Perai	0.816**	0.682**
Northern Seberang Perai	0.890**	0.772**
Southern Seberang Perai	0.914**	0.579*
Northeast Penang Island	0.946**	0.946**
Southwest Penang Island	0.545**	0.517*
Penang <sup>b</sup>	0.802**	0.756**

A significant and positive association between the total numbers of both sport facilities and recreational resources, and total population size in Penang as indicated by Spearman Correlation, r values of 0.802 (P<0.01) and 0.756 (P<0.01) for sport facilities and recreational resources, respectively was found in present study. This results suggest that availability of these sport facilities and recreational resources were significantly and proportionately related to the total residents in Penang.

## CONCLUSION

The availability of sport facilities and recreational resources were significantly and proportionately related to the total residents in Penang, but the types of sport facilities available varies across five districts in Penang.