Developing GIS to Identify High Risk Areas of Substance Abuse

INTRODUCTION

The purpose of this research is to map the locations with the occurrence of drug cases recorded in the high risk areas in the country. Hence, a Geographical information system (GIS) has been designed to capture, store, manipulate, analyse, manage, and present all types of spatial or geographical data of drugs abuse instantly based on various demographic factors. It is a time saver and effective management tool for drugs abuse prevention for relevant authorities.
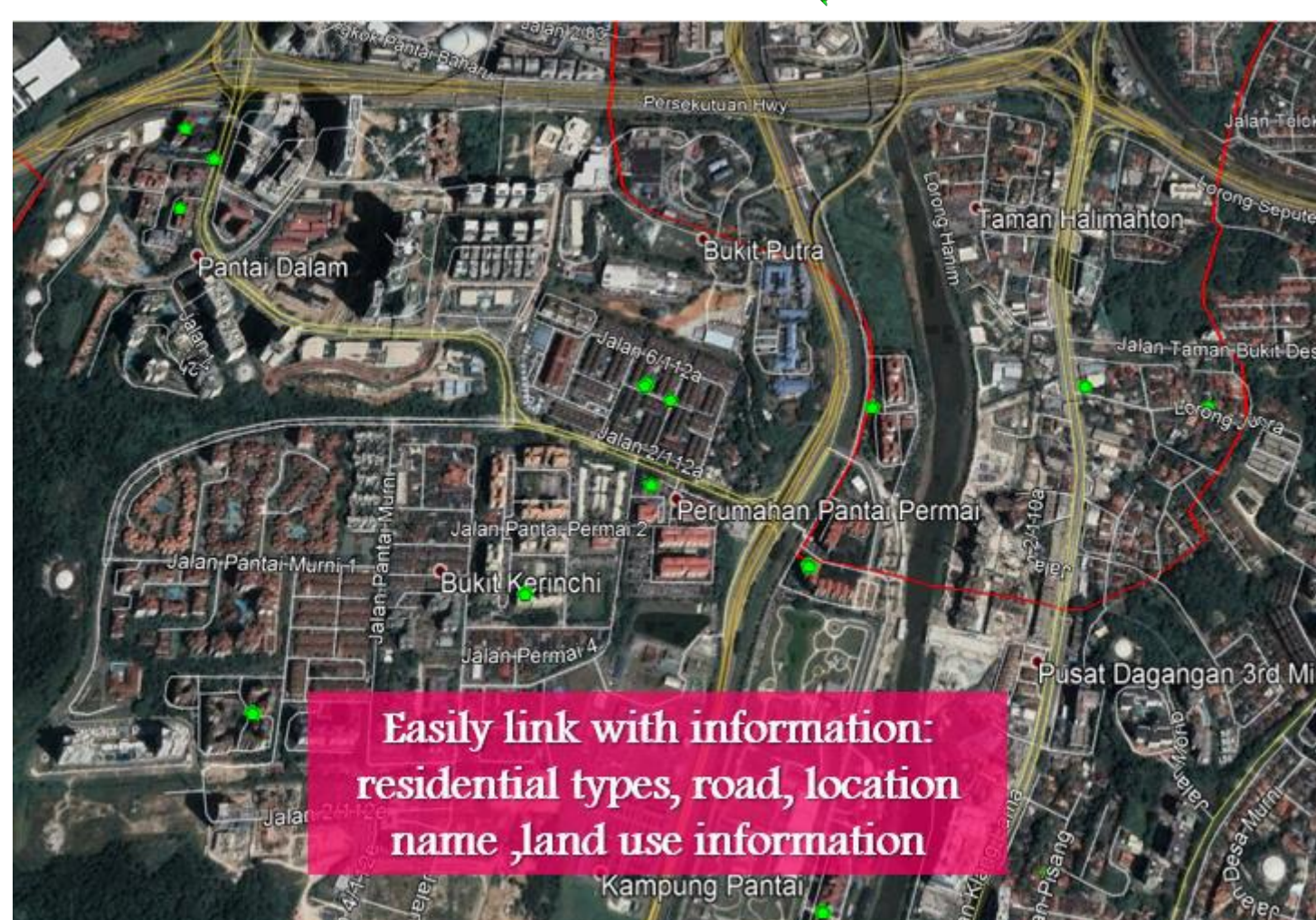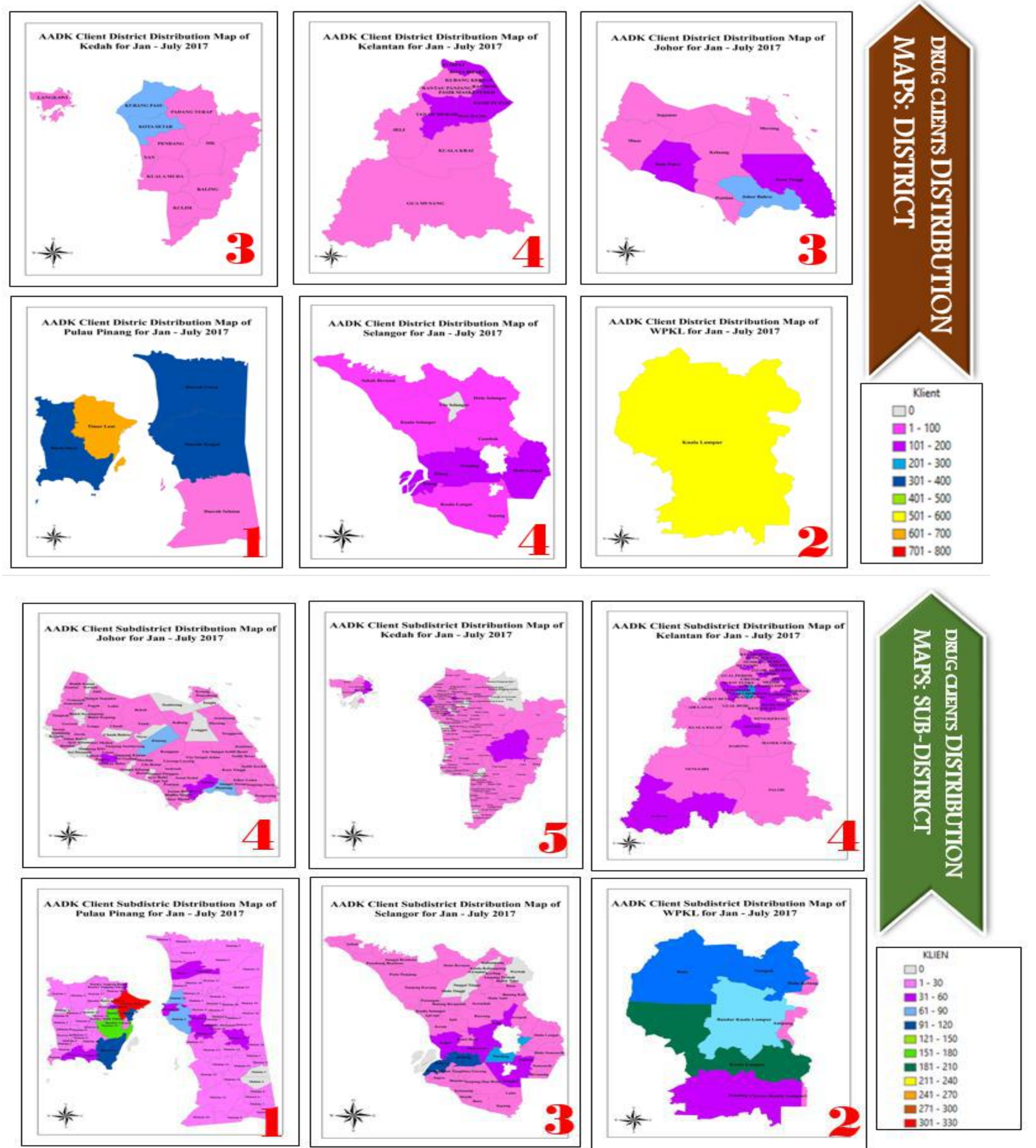
RESEARCH METHODOLOGY

The methodology of this study consists of three main parts which are creation of the spatial distribution and interpolation analysis, hot spot map and spatial drug abuse risk map. This study will start with the collection of the data, then proceed, with the processing of the data and the last step is the analysis of the data using three component systems known as Global Positioning System (GPS), Geographical Information System (GIS) and remote sensing as illustrated in the figure below.
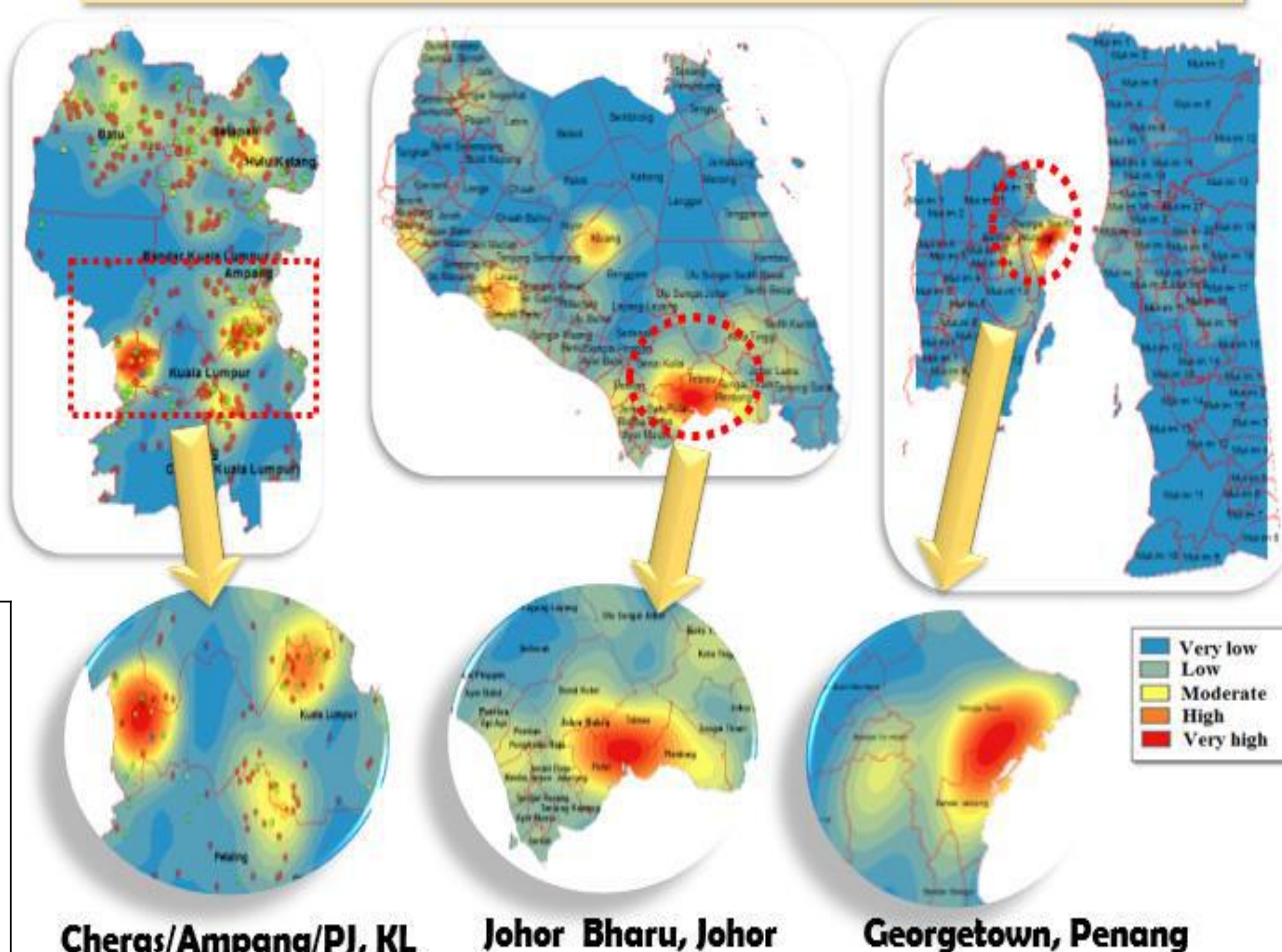
PROBLEM STATEMENT

The earlier drug addiction data compiled by the National Anti-Drugs Agency, Malaysia under the program of *Perangi Dadah Habis-habisan* (PDH) indicated that high prevalence of Opiate and Amphetamine Type Stimulants (ATS) used in high risk areas such as Kelantan, Selangor and Pulau Pinang. However none study has been performed to understand the geospatial pattern drug abuse for Malaysia of the high prevalence areas. Hence, this study utilized GIS analysis to identify distribution pattern of drug abuse (client) based on demographic parameters such as age, gender and hot spot areas of drug abuse for substance abuse prevention in Malaysia

RESULTS

DRUG CLIENTS DISTRIBUTION MAPS: DISTRICT

DRUG CLIENTS DISTRIBUTION MAPS: SUB-DISTRICT

Easily link with information: residential types, road, location name , land use information

Most hot spot area located in capital city

Cheras/Ampang/PJ, KL   Johor Bharu, Johor   Georgetown, Penang

The capability of GIS for substance abuse prevention includes data searching and data display in spatial and temporal patterns. Users can select any point in the spatial or map layer and display the database or attribute information related to the chosen point data for more details in no time. On that note, it implies the potential of integrating this GIS into AADK's existing data management system for better result of subtance abuse prevention.

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