**Coursera Capstone: Determining best location for City Waste Management in Kochi city using Machine Learning**

1. Introduction

Waste disposal and management is one of the biggest challenges of Kochi city, the financial capital of the state of Kerala in southern India. Kerala is well known for its tourist destinations and is also heralded as “God’s Own Country” among travel buffs. Kochi city, is a port city with a trading history that dates back to at least 600 years with China, Europe and Arabia. Kochi city, although a centre of commerce with its own IT park christened as InfoPark, offers affordable residential spaces as well as a plethora of tourism spots and hence more troublesome is waste management. Kochi City generates 380 tonnes of waste a day, out of which 150 tonnes are biodegradable and 100 tonnes are plastic waste. The present waste management plant located at Brahmapuram, only 5 kilometers away from InfoPark- a neighborhood of Kochi city is currently damaging the environment, which was previously a lush green area and borders with two rivers- which supply drinking water for nearby regions. The discomforting stench of the biodegradable garbage and rain water stagnation in disposable plastic carry bags are serious threats as these contribute to a huge swarm of houseflies and excessive mosquito nuisance, which points to the risk of an epidemic like malaria or dengue. Residents of Brahmapuram and school-going students are under these potential risks while some of the residents have already fled their homes[1]. Groundwater contamination is yet another disaster in the making. Due to a recent fire break out at Brahmapuram plant, that disrupted the whole city by the toxic gas emanating from plastic waste, the government of Kerala has presently stopped collecting household plastic garbage and now needs to bring up a solution to deal with the city waste management problem. The Kerala State Pollution Control Board (KSPCB) advised the government that the  energy-from-waste option is not so cost-effective [2] . In addition to this, the amount of waste remaining to be treated is rising.

1.1 Business problem

This project aims at finding an ideal spot for waste disposal and management for the city of Kochi, as the growing city will generate more waste, an ideal plant should be able to accommodate the input it receives and only then comes the problem of optimal way of treatment. The city’s waste management should not interrupt the social or economic matters of the city and must be isolated well. The stakeholders of this project are the residents of Brahmapuram and the government of Kerala. The impact of this project will not only enhance the living standards of people of Kochi city but it will save a lot of government funding in long term, protect the environment meanwhile its benefits, both social and economic, will stimulate other districts of Kerala to join the bandwagon of this scientific way of locating waste management plant and thus propel the state towards prosperity.