Locational characteristics of vending machines in Tsukuba city

201430231 Niloofar Haji Mirza Aghasi
(Doctoral program in Geoenvironmental Sciences)

1.Introduction

Today vending machine especially drink vending machine have a significant role in urban daily life in Japan. As the end of 2008, the number of vending machines in Japan was 5,260,000[1]. Like convenience stores, vending machines can be found in anywhere in japan, especially in the city and urban areas. They are in the malls, department stores, bus and train stations, streets and park, etc. Therefore the analysing of these machines through spatial analysis is considered for this study.

2.Research area

The study area of this fieldwork is Tsukuba City center, Inarimae area, Umezono, Ninomiya and Higashi). These areas selected based on their function as they represent a commercial, residential and educational land uses with significant functions.

3.Purpose and Methodology

The purpose of this fieldwork is to examine locational characteristics of the vending machine in Tsukuba city using GPS facility and GIS software. This study includes 2 steps; first, in order to achieve the objectives of this fieldwork , it seems necessary to examine the spatial distribution of vending machine based on the closest facility. The point location of vending machines recorded by GPS and closest facility and drink type recorded as attribute data. Second for approximately measurement of these machines 100 buffer analysis have been done.

Results and Discussion

In total, 81 points were captured in the selected study area by GPS, which every point represented a vending machine.

Each vending machine considered through the closest facility. The spatial distribution of vending machine through the different land uses considered separately as Tsukuba

land use database is related to 2000 and not suitable for this study. The point location of these machine represent that these vending machines generally are densest in the center area and around the stations as these area are more dynamic and high rate of people walkability. Most of the machines provide hot drinks as well as cold drinks, and as now is winter, hot drinks are more popular. Not only city center but also residential areas with some commercial or administrative land usage also has the high rate of vending machines. The most common type of the vending machine is drink type and 4 cigarette vending machines and 2 taking photo vending machines found out in this study. This study is still under progress, the finals created map will provide in the final report, after finishing analysis. Further deep consideration is needed for this analysis.

Closest Faculty	Residential	Commercial	Park	Kaisha
Vending machine	12	37	11	14
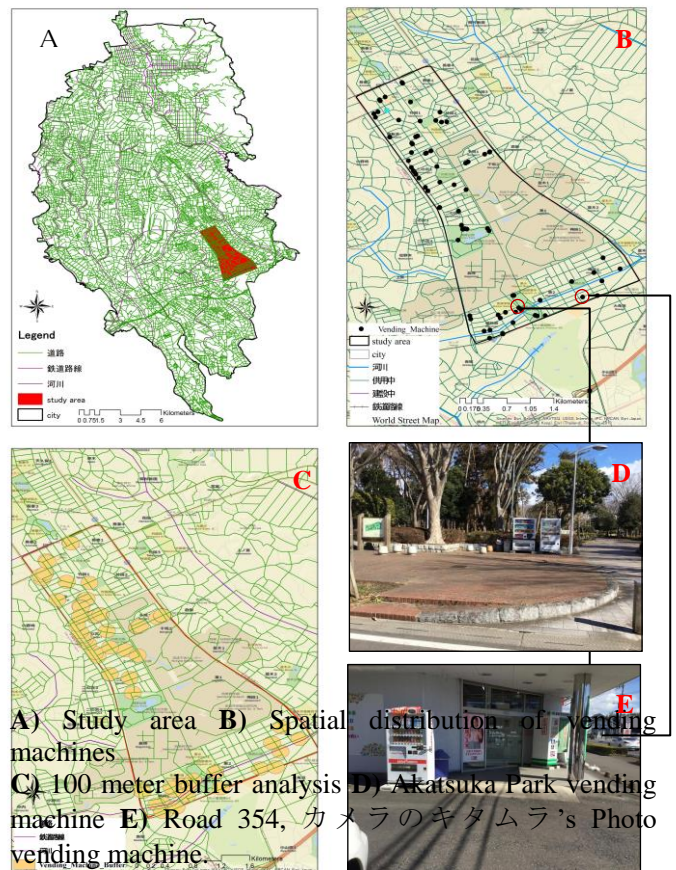
A) Study area B) Spatial distribution of vending machines
C) 100 meter buffer analysis D) Akatsuka Park vending machine E) Road 354, カメラのキタムラ's Photo vending machine.

---

[1] (www.att_japan.net/en/culture/guide/)