

# FACTORS AFFECTING HOUSEHOLD WASTE REDUCTION BEHAVIOR IN RANGSIT MUNICIPALITY PATHUM THANI PROVINCE

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## Introduction

### Statement and Significance of the Problem

In current world situation is well known that it is facing environmental problems due to the amount of solid waste increasing. Due to economic development and population expansion together with consumer demand More products and services According to a World Bank survey in 2012, it was found that worldwide 1,300 million tons of solid waste was generated. In 2016, there was 2,010 million tons of solid waste, an increase of 54.62 % on average. generated 0.74 kg of solid waste per person per day, it is estimated that in the year 2050 there will be up to 3,400 million tons of solid waste On average, humans generate 0.96 kilograms of solid waste per person per day. In Asian region, the East and Pacific are the regions with the highest amount of solid waste generated in the world (Kaza, Yao, Bhada-Tata, & Van Woerden, 2018) about million tons, representing 23.00 % of the amount of solid waste generated worldwide, averaging 0.56 kg per person. per day. Thailand has the 14th largest amount of solid waste generated in the region (Kaza et al., 2018) . 1.15 and 1.57 percent from the year 2016 and 2017, respectively (Pollution Control Department, 2019) and in 2021, Thailand had the amount of solid waste generated was 24.98 million tons, of which 7.89 million tons were recycled, 9.28 million tons of properly disposed of waste, 7.81 million tons of improperly disposed of solid waste, and 7.50 million of residual solid waste. It can be seen that only 73.80 percent of solid waste has been properly managed, lower than the target of the plan. The National Solid Waste Management Framework 2016-2021 stipulates that solid waste has been properly managed according to the principles of not less than 75.00 percent ( Pollution Control Department , 2564 ). The local government organization is an important unit in implementing measures and management practices. Garbage must be correct according to academic principles. from organizing a system for sorting municipal solid waste at the source, transporting solid waste to disposal. Including the use of residual solid waste to be properly disposed of according to academic principles. This will result in solid waste being properly managed according to academic principles and achieving goals. defined (Pollution Control Department , 2 564)

As for the disposal of solid waste, it was found that in 2020, the operating community solid waste disposal sites. There are 2,305 locations and 28 municipal solid waste transfer stations . The waste disposal sites that operated correctly were landfills that were technically correct. semi-aerobic landfill power generation furnace Incinerator with air pollution treatment system Fertilization and production There are a total of 357 solid waste fuels ( RDF) and solid waste disposal sites that are not operating properly, including Bulking, outdoor burning and the furnace does not have an air pollution treatment system, with a total of 1,948 locations

From the report of the Pollution Control Department for the year 2021, it was proposed that the performance of the year 2020 compared with the target value according to the national solid waste management master plan B.E. d) Municipal solid waste is properly managed according to technical principles 69% (target value of not less than 75% by the year 2021)

Residual solid waste is properly managed according to technical principles 100% (target value 100% by the year 2019) Community hazardous waste has been collected and sent for proper disposal according to science 18.5% (target value of not less than 30% by the year 2021) Infectious waste is properly managed. According to academic principles, 98.91% (100% target value by the year 2020) Hazardous industrial waste enters the correct management system 94.81% (100% target value by the year 2020) Local administrative organizations have waste separation. Solid waste and community hazardous waste at source 97.27% (target value of not less than 50% by 2021) (Source: Thailand State of Pollution Report 2020)

Local government organization is considered an important agency in implementing measures for waste management. Since organizing a waste sorting system community hazardous waste and infectious waste from sources in the community at the source collection and transportation to waste disposal community hazardous waste Infectious waste includes management of hazardous waste from small enterprises that are not classified as factories as well by the central agency must support the body of knowledge. and set guidelines for practice in waste management as a guideline for the operation of local government organizations which is an operating unit in The area has clear guidelines for operations. Ensuring the implementation of garbage and hazardous waste management correctly according to academic principles Efficient and does not affect the environment.

In the past year, the situation of solid waste in Pathum Thani Province There is a volume of solid waste up to 1,714 tons per day, with waste in municipal areas. Nakhon Rangsit, about 150-170 tons per day, which causes the smell. air pollution waste water source affecting the health of people in the area generated waste There are elements of all types of waste, including general waste, recyclable waste, organic waste, toxic or hazardous waste, and infectious waste. This makes waste management complicated and complicated. As for organic waste, there are as many as 55 percent. Food is reused by producing bio-fermented water. Fertilizer production and biogas production But still unable to get rid of the amount of waste resulting in problems accumulation of residual waste There is a public dump of garbage. make a source habitat of animals that carry various diseases And it is dangerous for people using the sidewalks and roads in the area. infectious waste and Hazards combined with general waste This may cause danger and risk of infection for those who sort waste into bins and municipal staff collecting waste Rangsit City Municipality therefore needs to properly manage all types of waste. Academics to prevent harm the spread of germs from garbage by giving all sectors took part in the operation under Authorities, regulations and relevant laws risk information Hazardous waste is considered. If not sorted out from general waste and properly disposed of, it may be dangerous for people who sort and collect waste. Including chemicals in hazardous waste contaminate the environment and destroy the ecosystem. Infectious waste if not separated from general waste and properly disposed of. It can be dangerous for people sorting and collecting waste. causing the infection to spread to waste sorters Garbage collectors and contaminants in the environment for general waste If discarded in public places It will be a habitat for animals that carry various diseases and poisonous animals. If left on the footpath on the roadside, it may cause slippery accidents. Organic wastes, if left unmanaged, become a source of food for animals that carry various diseases, causing annoying smell And if left on the footpath on the roadside, it may cause slip and fall accidents.

The current accepted solid waste management approach is the 5Rs principle , consisting of Reducing the use of unnecessary items, bringing solid waste Reuse of materials, repairs or modifications water circulation reuse waste and avoiding the use of hard-to-destructible materials that focus on reducing the amount of solid waste that occurs in conjunction with waste disposal which will reduce the burden of disposal solid waste can be done at the household level. Therefore, the researcher is interested in studying factors

affecting on behavior to reduce the amount of household solid waste in the municipality of Rangsit which is considered an urban community. There are large wholesale markets, residential houses, and many industrial factories. The PRECEDE Model has been applied as a framework. Research concepts combined with the synthesis of independent variables from past research. which the findings from the research This time, it can be applied to solve solid waste problems and help manage solid waste. Sustainably Effective to further reduce the impact on the environment and human health

### **Research Question**

From the origin and significance of the problem This led the researcher to ask three questions: What is the household waste reduction behavior in Rangsit municipality? solid waste management Rangsit City Municipality At what level and what factors affect the household waste reduction behavior in Rangsit municipality as follows:

1. Household waste reduction behavior in Rangsit municipality area What is Pathum Thani Province like today?
2. What are the factors affecting the household waste reduction behavior in Rangsit municipality? Pathum Thani Province
3. Management model to reduce the amount of household solid waste in Rangsit municipality How is Pathum Thani Province?

### **Research Objectives**

From the research question The researcher has set the research objectives as follows.

1. To study the behavior of reducing the amount of household solid waste in the municipality of Rangsit. Pathum Thani Province
2. To study factors affecting household waste reduction behavior in Rangsit municipality. Pathum Thani Province
3. To study the management model to reduce the amount of household solid waste in Rangsit municipality Pathum Thani Province

### **Research Hypothesis**

1. Waste Management People's incentives to reduce waste and receiving support for waste management It affects the waste reduction behavior of the people.
2. Waste management affects incentives to reduce waste.
3. Supporting waste management has an effect on creating incentives to reduce waste.

### **Scope of the Study**

**population** In this study, it was a mixed method by conducting a quantitative study (Quantitative Method using a questionnaire with the population in the area.and conducting a qualitative study. Population questionnaire in Rangsit Municipality (data as of September 2022).

- Male population of 39,191 people
- Female population of 45,360 people
- Total number of 84 , 551 people
- Number of houses 57,184 households

Age range of the population	Male (person)	Female (person)	Total (person)
Younger than 1 year - 9 years	4,149	3,794	7,943
Age 10-19 years	5,046	4,734	9,789
Age 20-29 years	5,720	6,046	11,766
Age 30-39 years	5,975	6,933	12,908
Age 40-49 years	6,396	7,727	14,123
Age 50-59 years	5,786	7,458	13,244
Age 60 years and over	6,120	8,703	14,823

**Content** In the research, the researcher applied the PRECEDE Model in Stage 3 , Educational and Ecological Assessment. as a conceptual framework for research together with the synthesis of variables Independent from past research It consists of leading factors, facilitating factors, supporting factors, and attribute factors. personal and household as a framework for asking

**area** In this study, the researcher conducted a study in the municipality of Rangsit City. Pathum Thani Province

### Significance of the study

**Administrative :** Will get to know the behavior of reducing the amount of household solid waste in Rangsit municipality Pathum Thani Province And know the factors to study the behavior to reduce the amount of household solid waste in the municipality of Rangsit. Pathum Thani Province This will lead to the determination of appropriate guidelines for the people in the area of Rangsit Municipality.

**policy :** The results of the study can then be used to formulate local policies.

**Academic benefits** will be able to use the research results to study and compare with other areas to solve the problem of waste sustainably

### Definitions of term

**Behavior to reduce the amount of solid waste** means the practice according to the 5Rs principle of households in Rangsit municipality. Pathum Thani Province about reducing the use of unnecessary items Reusing solid waste, scrap materials repair or fix recycling of waste and avoiding the use of materials that are difficult to destroy

Household solid waste means general solid waste. solid waste recycled solid waste organic waste and toxic or hazardous waste from the community arising from households in Rangsit municipality. Pathum Thani Province

**Knowledge about waste reduction** refers to the knowledge and understanding of households in Rangsit municipality. Pathum Thani Province about reducing the amount of solid waste by reducing the use of unnecessary items Bringing solid waste reusable material repair or fix recycling of waste and avoiding the use of materials that are difficult to destroy

**Good attitude towards waste reduction behavior** means feelings or opinions of households in Rangsit municipality. Pathum Thani Province on the behavior of reducing the amount of solid waste

**Motivation to reduce the amount of solid waste** means something that motivates people in the household. in the municipality of Rangsit Pathum Thani Province consisting of

**Social motivation** means that people in the community have common needs.

**Economic incentives** mean earning from waste and reducing expenses.

**Recognition motive** means receiving an award.

**Environmental incentives** refer to a better community environment.

**Support from the government** means having a policy on solid waste management means an announcement or policy of the village that Encourage people in each household in the municipality of Rangsit. Pathum Thani Province has a proper solid waste management.

**Support from the private sector** means sharing knowledge. purchase of waste or having a waste bank in the community Service of antique buyers

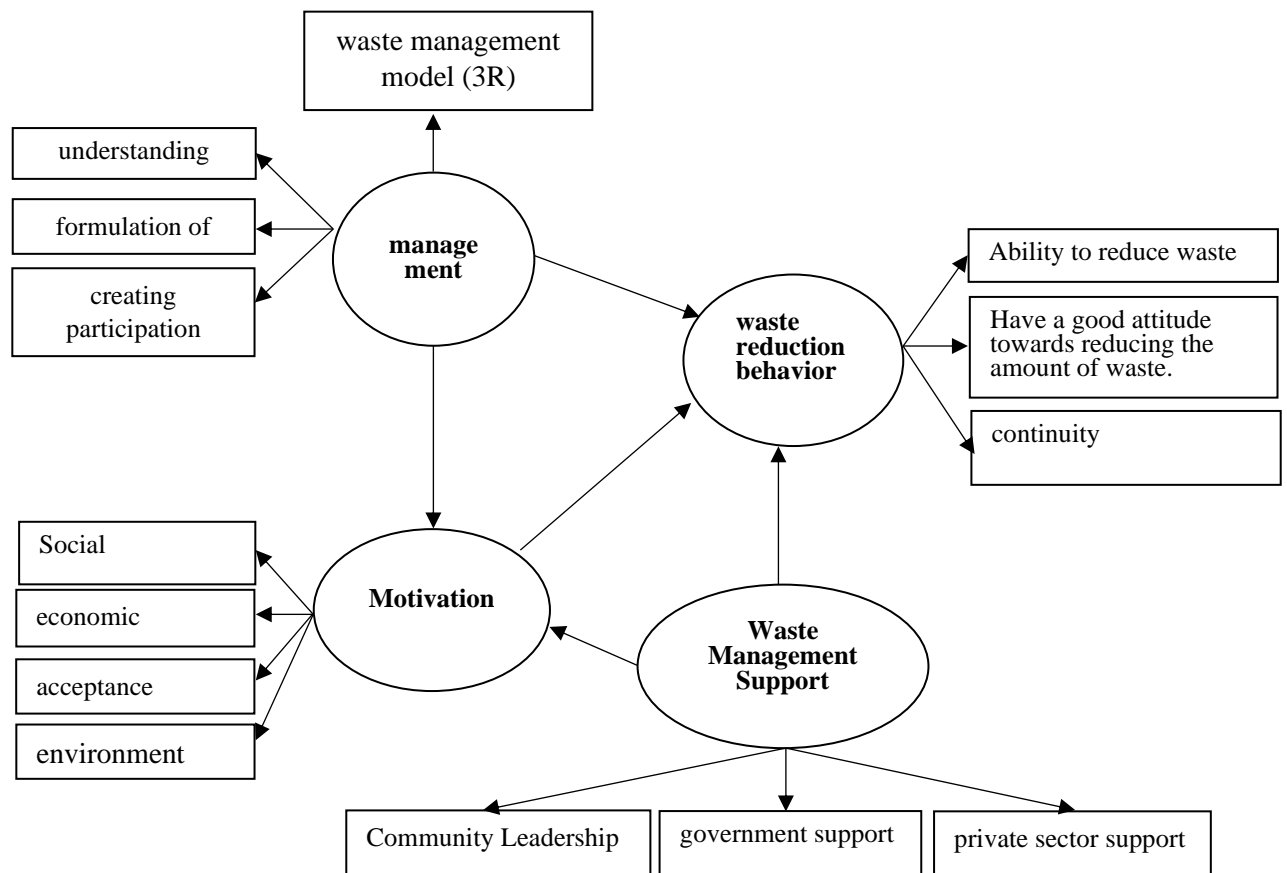
**Receiving information about the reduction of solid waste** means the channel for obtaining information. about reducing the amount of solid waste, including television, radio, newspapers, the Internet, public health personnel and officials of the local administrative organization subdistrict of households in Rangsit municipality Pathum Thani Province  
Type of residence means residence of a person in a household in Rangsit municipality. Pathum Thani Province Divided into single houses, townhouses/townhouses for living, condominiums, and commercial buildings for residence and business.

**Social status** means joining a group, club, association or organization. Including having a social position in the household in the municipality of Rangsit. Pathum Thani Province

### **Theoretical concepts used in research studies**

1. Participation Theory
2. The concept of perception theory
3. The concept of management theory
4. Theory of Motivation
5. Theoretical concepts on public policy
6. Concepts related to solid waste management.3 Situation and management of solid waste in the country
7. The 13th National Economic and Social Development Plan (2023-2027)
8. Environmental Quality Management Plan 2023-2027
9. Clean Province Action Plan 2023, Ministry of Interior
10. Solid waste problem situation and solid waste management problem
11. Related research
12. Conceptual Framework

## Conceptual Framework



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