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## **The presence of confirmation bias in the recycling habits of individuals in Indonesia resulted in the occurrence of motivated reasoning**

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**Abstract.** The complexity of Indonesia's waste problem can be attributed to the lack of awareness among the general public regarding the potential repercussions of garbage. Another element that contributes to the issue is the increasing standard of living within the community. However, there is a lack of agreement on waste management practises and a lack of community engagement in maintaining cleanliness and effective trash disposal. The data utilized in this study were collected by several methods, including direct observation, semi-structured interviews, review of secondary material, and a combination of qualitative and quantitative approaches. There are numerous factors that contribute to the unreasonable behaviour exhibited by respondents. The decision-making process and behavioural patterns of individuals are significantly influenced by various internal elements, particularly those of a psychological nature. The research showed that highly significant number of respondents have adequate knowledge regarding waste separation and the notion of what they should do for environmentally sound village, but 64% still burn their garbage and 76% not separating it. Various individual variables and psychological situations, such as confirmation bias, might contribute to environmentally unfriendly behaviour, despite individuals possessing adequate knowledge. Even the presence of appropriate trash disposal options may have limited impact on altering their behaviour. The subsequent topic of discussion pertains to the presence of biased behaviour, which can significantly influence individuals' decision-making processes, particularly in relation to activities such as burning waste. While individuals may possess a cognitive awareness and express their thoughts explicitly in this regard, it is often the case that their motivations unconsciously shape their judgements, often without their own realisation. For instance, individuals who refute the degradation of their surroundings sometimes remain unaware of how their inclination towards maintaining a clean home or backyard bias their evaluation of the available in-formation they already gain. Based on the findings of the research, it can be observed that a significant proportion of individuals residing in Bendungan Village engage in the practise of waste disposal.

**Keywords.** Environment, Bias, Waste, Behaviour, Motivated Reasoning

### **Introduction**

The garbage problem in Indonesia is a challenging difficulty because lack of public understanding of the implications that might be generated by rubbish. Another element that causes the waste problem in Indonesia to increase complicated is the increase in people's living

standards, which is not accompanied by congruence of knowledge about waste and also community participation not enough to preserve cleanliness and dispose of rubbish in the proper place.

Garbage generation is also caused by people's behavior in putting away rubbish. Many people are aware and have knowledge for the need of processing and dispose of waste appropriately. From a survey conducted by researchers in the Bendungan Village, despite the survey results showed that many respondents have adequate knowledge, but still many people are littering. Even though it is already supplied in this temporary waste disposal unit by the government, and even the government has started the Ecovillage programs which concise of education regarding waste in this village. This village has waste disposal unit are given yet there are still folks who purposefully put rubbish outside the unit area. So not all the waste is collected up by the government.

The legal framework for addressing the issue of littering is established under *Undang-Undang/ Law Number 18 of 2008*, which pertains to the management of waste. According to Article 29, Paragraph 1, Letter e, it is explicitly stated that individuals are strictly banned from disposing of waste in any location other than the designated and allocated areas. Improper dumping of waste, such as indiscriminately discarding litter in non-designated areas, including bodies of water, rivers, or other locations not meant for waste management purposes. In accordance with the provisions stipulated in Law Number 18 of 2008, it is mandated that waste, once collected, should be stored in a temporary shelter or an integrated waste processing plant. Subsequently, the garbage will be conveyed to the ultimate processing location. The regulations pertaining to the prohibition of littering are additionally governed by regional regulations specific to each district or city. Despite of this the people still conducted littering and some burned their garbage.

### **Research Methods**

The research model encompasses a concise representation of the conceptual framework, comprising the variables under investigation and their interrelationships, typically depicted in the form of a diagram or other visual format. The study employs a mixed methods research methodology, incorporating both quantitative and qualitative approaches (Creswell, 2010<sup>1</sup>).

#### *Research Objects and Locations*

The study focuses on the identification and examination of research objects and their respective locations.

Bendungan Village is situated inside the administrative boundaries of Bendungan Village, which is part of Bogor Regency in the province of West Java, Indonesia. The subject of investigation pertains to the encompassing surroundings of the village, encompassing both the physical and social dimensions of the environment.

Bendungan Village is situated inside the Ciawi Subdistrict of Bogor Regency, which is located in the province of West Java, Indonesia. This particular location is a component of Bogor City, encompassing a total land size of 132.9 hectares. The geographical location of the site can be identified by the coordinates 106.861984 East Longitude and -6.668112 South Latitude. This hamlet is administratively bounded by the following: - To the north: Pandansari

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<sup>1</sup> J. W., Creswell, & Plano Clark, V.L. (2010). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

hamlet - To the south: Sukamahi Village - To the east: Sukamahi Village - To the west: Banjarwaru Village/ Ciawi

### **Quantitative Data Collection**

Quantitative data collection refers to the systematic process of gathering numerical information in a structured manner for the purpose of analysis and interpretation.

The research focuses on the Bendungan Village community, located in the Ciawi Subdistrict of Bogor Regency. This community serves as the unit of analysis for the quantitative data collection sample. According to Creswell, the samples were chosen in a random manner, ensuring that every individual within the community has an equal likelihood of being selected. Therefore, every resident of the Village has an equitable opportunity to serve as the response.

The calculations were conducted utilising the Taro Yamane formula or Slovin's formula, as described in Stephanie, E's book titled "Slovin's Formula Sampling Techniques" published by Houghton-Mifflin in New York, USA.

$$n = \frac{N}{Nd^2 + 1}$$

Where :

$n$  = Sample

$N$  = Total Population of Bendungan Village in Ciawi Sub district District (10,741 people<sup>2</sup>)

$d$  = Deviation / Sampling Error (10%) with level of confidence in the data is 90%

### **Secondary Data Collection**

The utilisation of secondary data is imperative in expediting the comprehension of field situations. The utilisation of secondary data is crucial in expediting the comprehension of field circumstances, population demographics, environmental management policies, and several other reports. Data are acquired through the process of gathering, recording, and extracting information from a diverse range of documents obtained from DLH West Java Province, as well as publications and pertinent reports associated with the conducted research.

### **Literature Review**

#### **Confirmation Bias**

According to Nickerson<sup>3</sup>, confirmation bias is the search for or interpretation of data in ways that are biased toward preexisting ideas, expectations, or a hypothesis. People often have a bias toward information that supports their views or beliefs and disregard information that contradicts them. This implies that humans normally behave in one of two ways when confronted with newly acquired information. The tendency is to accept information as true, accurate, and objective if it supports people preexisting beliefs. People are pleased to have been shown it and embrace it without reservation. It can be defined as the propensity to build one's self-esteem by focusing on information that only confirms one's point of view and ignoring contrary information. Rolf Dobelli defined confirmation bias as our tendency to perceive incoming information in a way that is compatible with our preexisting theories, beliefs, and convictions. Any new information that contradicts people preconceived notions is eliminated

<sup>2</sup> Monografi Kecamatan Ciawi Kabupaten Bogor, Bogor Sub-district Government, 2016.

<sup>3</sup> Niocckerson, R. Confirmation Bias: A Ubiquitous Phenomenon in Many Guises, June 1998, Review of General Psychology

by them. This bias determines whether someone accepts or rejects a claim based more on how well it fits with preexisting ideas than on how compelling the claim's argument is.

### **Motivated Reasoning**

According to Kunda (1990)<sup>4</sup>, motivated reasoning is the propensity for an individual to assess and interpret the information in preference of their personal liking. When someone acquires information that is contrary to their preferences, he or she has a tendency to have reservations about it and begin to search for facts and supporting evidence to cast doubt on the veracity of the unwanted information. Knowledge attempts to search will be minimal if someone is presented with information that corresponds to their preferences, as they will be far more inclined to believe the data provided. An individual's motivated reasoning circumstance will consequently attempt to find rationalization and justification for the result they want, thus restricting the acquisition of information with more appropriate data (Kunda, 1990).

The motivated reasoning bias in this study is thought to originate from people's feelings of accountability for the strategy they select. This motivates them to look for data that corresponds to their preferences in order to support the expected results, i.e., the strategy they chose actually succeeded.

### **Habitus**

The present study inquiry pertains to the concept of habitus as expounded by Pierre Bourdieu. The acquisition of habitus is facilitated by one's upbringing and educational experiences. The aforementioned notion is employed at the individual level. Habitus can be understood as the outcome of acquired skills that are transformed into practical actions, but not necessarily consciously recognised. These actions then manifest as a seemingly innate talent that evolves within a certain context or setting. During the process of obtaining these talents, the structures that are initially generated undergo a transformation and subsequently become the very structures that contribute to their formation. The notion of habitus refers to an individual's intrinsic disposition or character. The habitus of individuals varies in principle. According to Pierre Bourdieu, habitus can be defined as a cognitive structure that is internalised by humans, enabling them to comprehend and navigate social phenomena<sup>5</sup>. The concept of habitus entails both the production and the reciprocal influence of society. According to Ritzer and Goodman (2004), the field comprises a complex network of relationships among diverse entities. The structural characteristics of the field play a crucial role in exerting influence and imposing limitations on players, whether acting individually or collectively<sup>6</sup>.

Habitus refers to the internal subjective framework that individuals develop via their personal experiences, wherein they internalise the outward objective structure of the social environment in which they are situated. It is through the concept of habitus that individuals generate behaviours that then influence the social realm, so creating external objective structures by externalising their interior subjective structures. The concept of habitus refers to a social structure that simultaneously shapes and is shaped by the social world. The concept being discussed pertains to the interplay between the internal subjective structure and the outward objective structure.

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<sup>4</sup> Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108

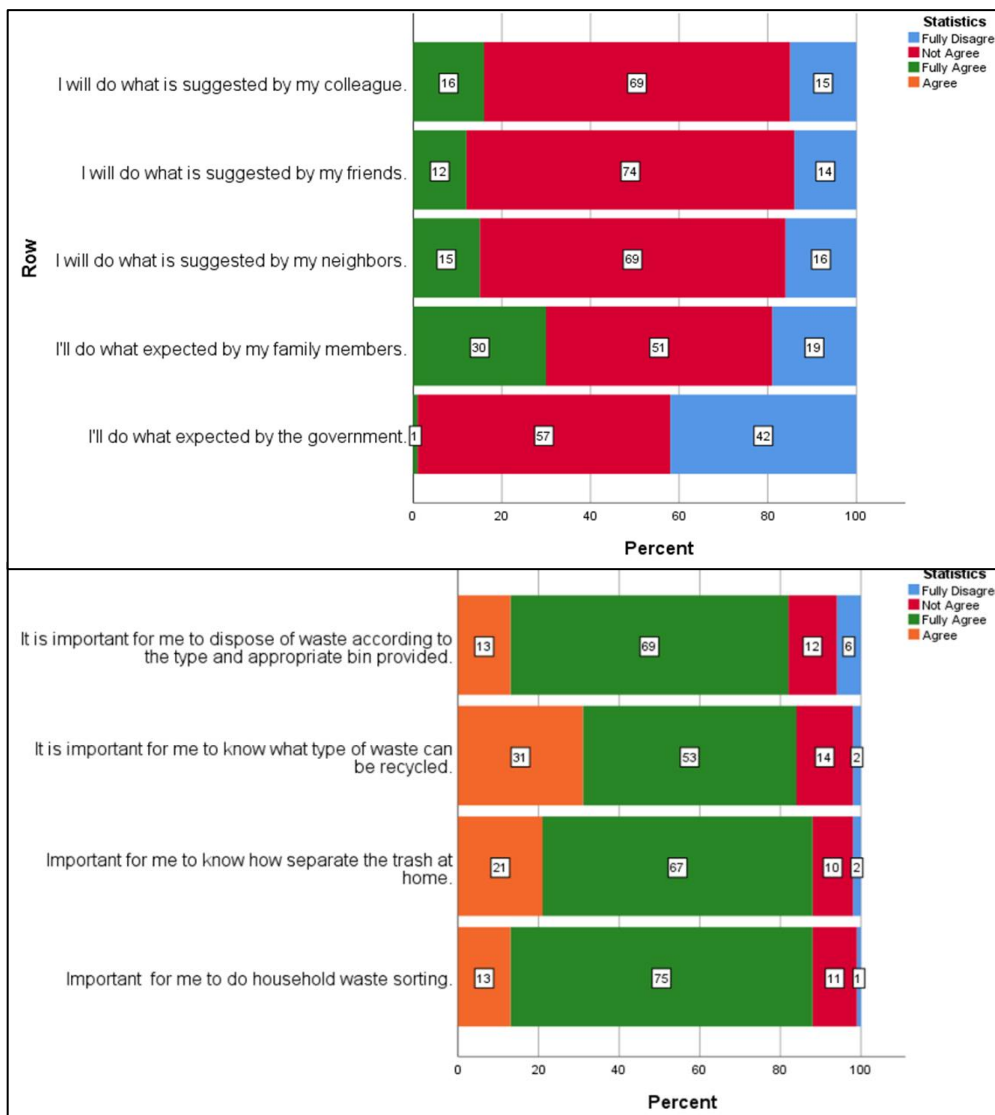
<sup>5</sup> Maton, K. (2012). Habitus. In M. Grenfell (Ed.), *Pierre Bourdieu: Key Concepts* (Key Concepts, pp. 48-64). Acumen Publishing.

<sup>6</sup> Ritzer G. & Goodman D. J. (2004). *Sociological theory* (6th ed.). McGraw-Hill.

In summary, Bourdieu (1995) argues that habitus is a result of historical processes, giving rise to both individual and collective practises. These practises, in turn, contribute to the construction of history, operating within the frameworks established by historical circumstances.

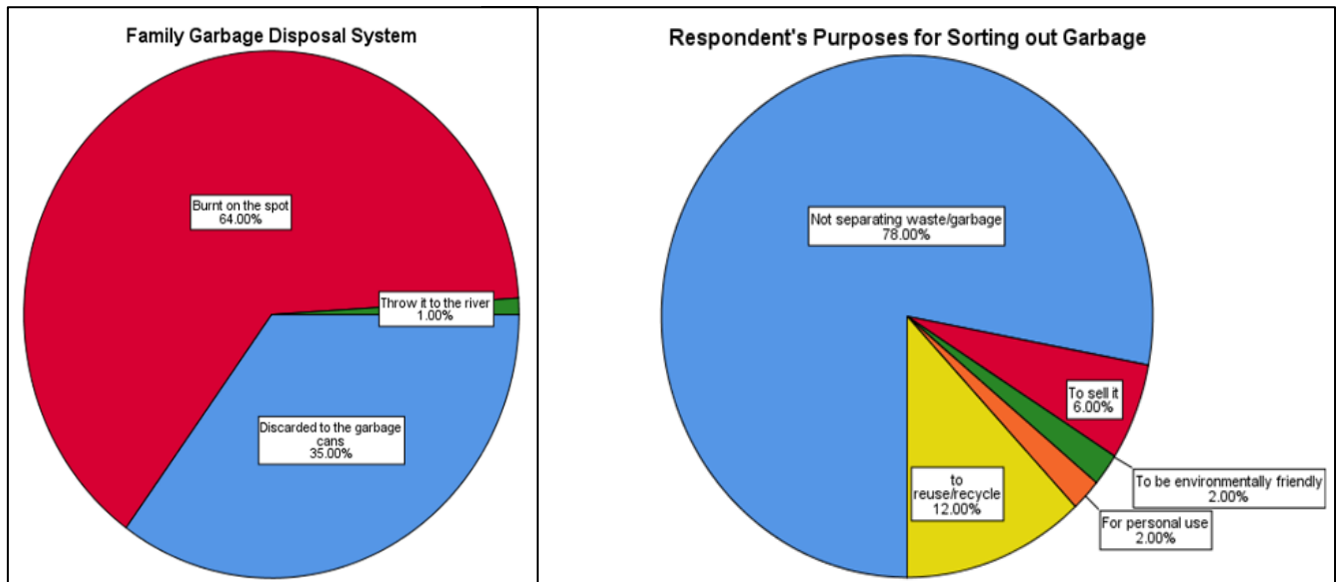
**Results and Discussion**  
**Basic Knowledge on Recycling**

Fig 1. The research showed that the respondents understand and have basic knowledge on waste and recycling, but ignorance on other actors' suggestion and expectation.



Source: Researcher, 2023

Fig 2. The figure showed that most of the respondents burnt their garbage and not separating the type waste although as the previous figure showed that they have the knowledge on recycling.



Source: Researcher, 2023

The behaviours generated by the habitus have a tendency to align with the structures that give rise to them, thereby perpetuating the very structures from which they originate. However, it is important to note that habitus should not be interpreted solely as a mechanical replication of the structures that shape it. Instead, it can be seen as a generative structure, as Bourdieu (1992: 55) argues. This is because habitus embodies the historical experiences and influences that have shaped an individual's body (Bourdieu 2002: 151).

As evidenced by the research findings, individuals who were raised in households and environments characterised by littering and a lack of recycling tend to internalise habitual patterns associated with such behaviours. This particular arrangement will develop and integrate into its habitus. Consequently, if an individual employs the behaviours inherited from their family, they will inevitably replicate the underlying frameworks that constitute their habitus. In addition to serving as a framework that creates and governs behaviour, habitus also operates as a system of representation. It encompasses the processes of perception, classification, and appraisal, which serve to structure, interpret, and evaluate the various encounters and experiences encountered by individuals.

Each instance of acquiring a novel experience result in a modification of his habitus, as the new encounter becomes integrated into his individual framework. There exists a specific boundary to this alteration since the habitus tends to persist. Once established, the habitus functions as a cognitive framework through which new experiences are interpreted and understood.

The initial experience holds paramount significance. Moreover, habitus has a tendency to guide individuals towards novel experiences that enhance their capabilities, while also steering them away from situations that may diminish their capacities. An illustration of this

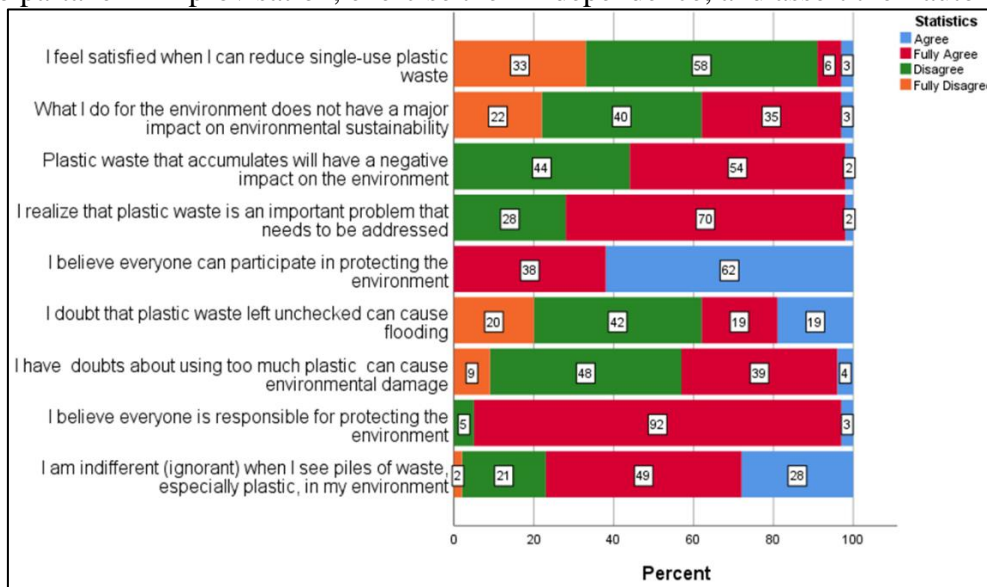
phenomenon is the manner in which habitus often acts as a barrier, inhibiting individuals from forming social connections with those who hold divergent viewpoints. However, it should be noted that habitus is not inherently immutable and can indeed undergo transformation. In addition to its incorporation into novel encounters, habitus can also be regulated by the cultivation of consciousness and socio-analytical practises, namely by augmenting the reflexivity of individuals. The capacity to effect changes and exert control over habitus is subject to certain limitations. According to Bourdieu (1994: 116), past experience plays a significant impact.

The concept of habitus pertains to the cognitive realm of actors, whereas the environment is situated external to their cognitive processes. Habitus refers to a cognitive or mental framework employed by individuals to navigate and engage with various aspects of social existence. Actors possess a repertoire of schemes or internalised patterns that they employ to observe, comprehend, actualize, and assess the social realm. Actors generate their behaviours and evaluate them by means of these patterns.

According to Ritzer and Goodman (2004: 52), Habitus can be understood as a result of the internalisation of the social world's structure. The concept of habitus is both a product of and a contributor to social existence. The mediating factor between habitus and social life is action. On one hand, habitus is formed by the enactment of practises; on the other hand, habitus is the outcome of actions that are shaped by social interactions. While habitus can be understood as an internalised framework that influences an individual's ideas and decision-making, it is important to note that habitus does not possess deterministic qualities.

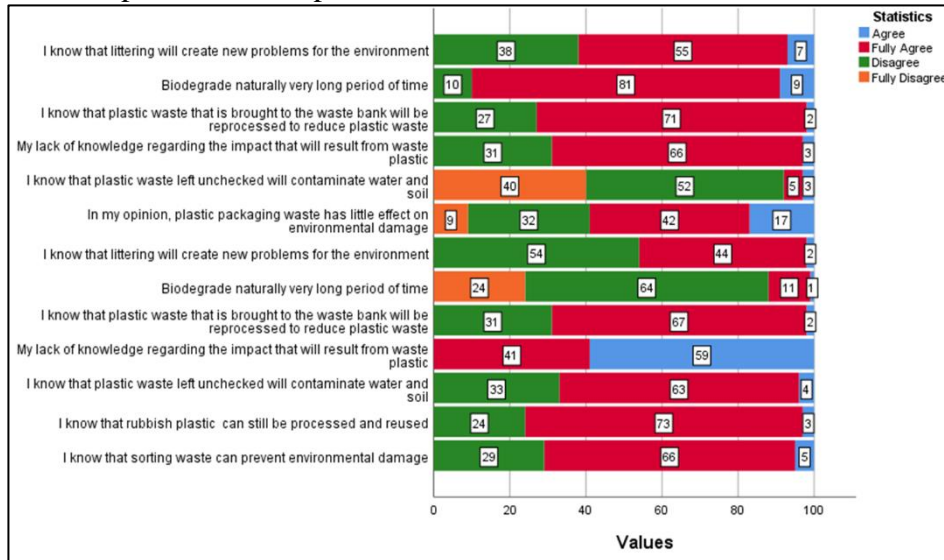
Fig 3. The bottom research result showed that most of the respondents are ignorant on piles of waste.

The underlying cause of these uninformed outcomes. Although the majority of respondents possess sufficient knowledge regarding recycling, it can be argued that an individual's actions are not solely determined by awareness and compliance with regulations. The notion of habitus holds considerable importance in shaping individuals' actions, serving as both a motivating factor and a potential obstacle. Hence, habitus provides individuals with the ability to partake in improvisation, exercise their independence, and assert their autonomy.



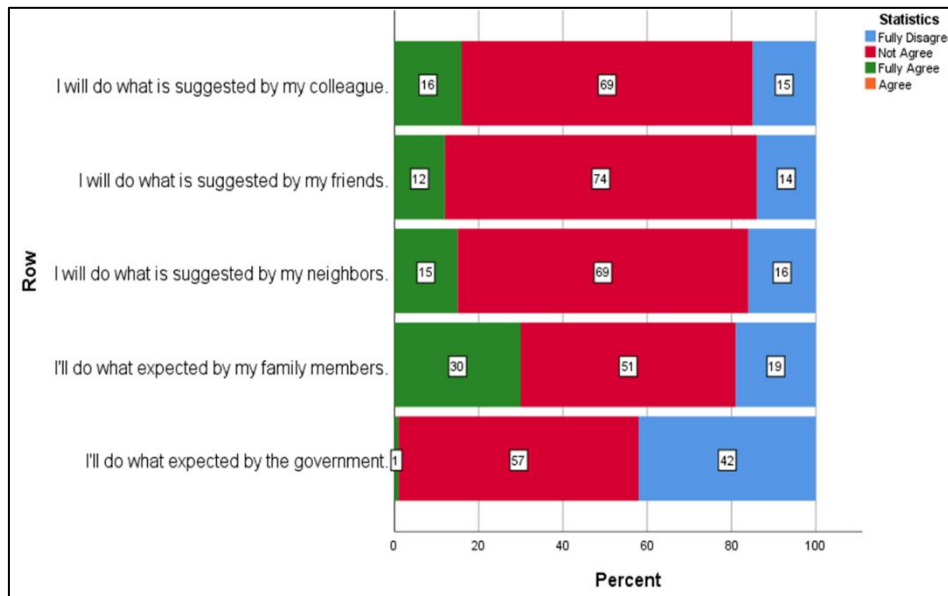
Source: Researcher, 2023

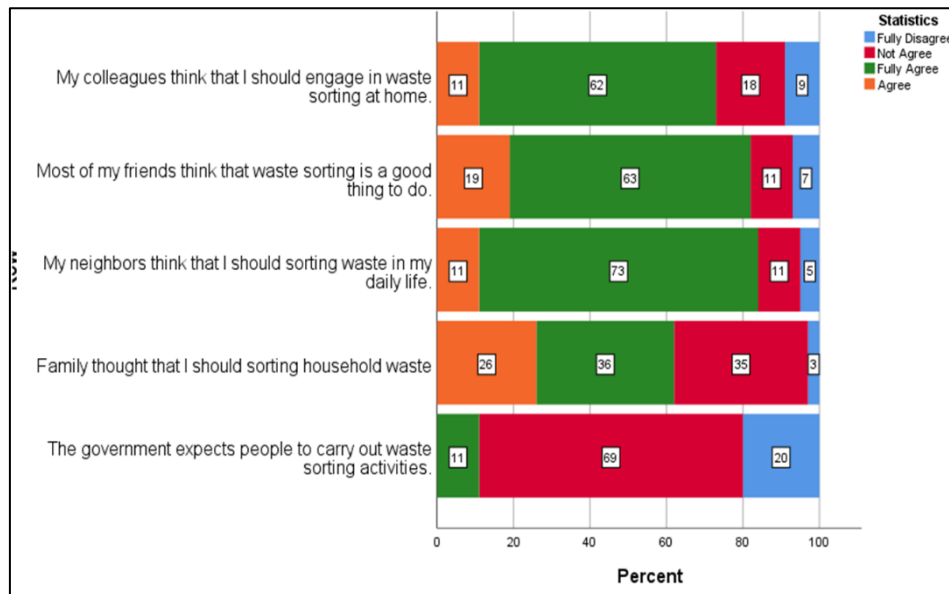
Fig. 4. Respondents` knowledge on plastic waste. The research showed that most respondents understand the problems with plastic waste, but still most of the chose to burnt their waste.



Source: Researcher, 2023

Fig 5. Motivations are routed by normative believe  
The Figure 5 anomaly can be explained by the concept of habitus





Source: Researcher, 2023

The biases that emerge within the dam village community regarding the knowledge acquired through government-provided environmental education may be influenced by the surrounding environment and social customs. It is noteworthy that despite the fact that a significant portion of individuals already possess a comprehensive understanding and adequate knowledge to effectively engage in environmentally conscious practises. Societal inclinations often lead to an underestimation of the environmental circumstances prevalent in rural areas, as individuals prefer to perceive the practises of burning waste and disposing of it straight into rivers as having no immediate repercussions on their own well-being.

#### Characteristics of those who lack motivation

Having distinct characteristics that set you apart from others also contributes to your individuality, particularly in contrast to individuals who conform to prevailing societal norms and fashions.

Some individuals engage in the negligent disposal of waste, such as haphazardly discarding it or immediately incinerating it, possibly due to observing others engaging in similar behaviour. Based on the findings of the questionnaire, it is evident that individuals tend to emulate the behaviours exhibited by their immediate social environment.

In addition to societal influences, the manifestation of this prejudice also arises from intrinsic variables within individuals.

There have been notable shifts in conventional living arrangements, when individuals have the ability to dispose of their trash directly into the environment due to its inherent capacity for rapid decomposition, as opposed to other disposal methods.

In contemporary society, a significant portion of garbage consists of non-biodegradable materials, particularly plastic packaging. Consequently, many individuals have a sense of unease and struggle to come to terms with this reality, leading them to seek validation for their behaviours, even if they are ethically questionable. This phenomenon may arise due to the cognitive limitations of the human brain in processing and adapting to altered circumstances.

The level of literacy skills possessed by an individual might also have an impact on the manifestation of bias. It appears that contemporary civilization is greatly dependent on the

actions and behaviours of others. In contrast, the current practices may not necessarily adhere to the correct standards.

### **Conclusions**

The participants at the research site did not consistently exhibit sensible behaviour. There are numerous factors that contribute to the unreasonable behaviour exhibited by respondents. The decision-making process and behavioural patterns of individuals are significantly influenced by various internal elements, particularly those of a psychological nature. Various individual variables and psychological situations, such as confirmation bias, might contribute to environmentally unfriendly behaviour, despite individuals possessing adequate knowledge. Even the presence of appropriate trash disposal options may have limited impact on altering their behaviour. The subsequent topic of discussion pertains to the presence of biased behaviour, which can significantly influence individuals' decision-making processes, particularly in relation to activities such as burning waste. While individuals may possess a cognitive awareness and express their thoughts explicitly in this regard, it is often the case that their motivations unconsciously shape their judgements, often without their own realisation. For instance, individuals who refute the degradation of their surroundings sometimes remain unaware of how their inclination towards maintaining a clean home or backyard bias their evaluation of the available information they already gain.

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