Understanding the Issue of Plastic Waste Pollution in Malaysia: A Case for Human Security

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ABSTRACT

The crisis of plastic waste pollution in Malaysia appears to be snowballing at an unmatched rate. It has also been concerning to know that a large portion of plastic waste was never recycled, in addition to containers of illegal Britain's plastic wastes shipped into the country to be dealt with. While the issues of plastic waste pollution in Malaysia surpasses crisis levels, this study centres on gathering information from those who are enthralled in protecting the human survival and livelihood, in their effort to keep the planet clean from plastic waste pollution. Environmental concerns were rarely perceived as a security problem, but now that the concept of human security has transcended beyond its traditional understanding of state security, this research identifies and analyses the ongoing issues with the crisis of plastic waste pollution, and the current approaches being adopted in solving the crisis. Aiming at devising a plan that addresses the root of the problem to catalyze a significant reduction in plastic waste pollution, this study applies a thematic qualitative analysis that can best be used to interpret and analyze the dataset. The findings indicate that economic development, although beneficial, has given birth to capitalist market, that eventually results in eco-economic crisis. The study also points out that a number of efforts has not been influencing the current plastic pollution mitigation in the country. Therefore, this study provides a better understanding of how human security can be factored into the crisis resolution of plastic waste pollution. A realistic transformation towards eco-effective nation holds the key to mitigation efforts.

Keywords: *Plastic Pollution, Malaysia, Human Security, Circular Economy, Economic Development*

1.0 INTRODUCTION

The plastic waste pollution problem in the world is snowballing at an unprecedented rate and it is very concerning to know that a large portion of plastic waste has never been recycled. Along with the mounting problem, public awareness and outcry has forced a number of states and nations to take actions on the matter in regards to both human and environmental security. While the issue of plastic waste pollution is surpassing crisis levels in the world's oceans, this study will be centred on gathering information from those who are enthralled on consolidating many others to protect human security, in an effort to keep the planet clean from plastic waste pollution. Global plastic waste contamination in the oceans is currently of increasing concern – "The millions of tons of plastic waste discarded can physically harm wildlife, either because plastic waste itself is potentially toxic or because plastic waste absorbs other pollutants, [68]" [49]. The mismanagement of plastic waste has created a significant amount of marine plastic debris, on top of the remaining few that fuelled carbon dioxide (CO_2) pollution globally, [42]. [80] mentions that manmade problems in regards to environmental security may fall into two very distinctive categories: deliberate use of environmental weapons, and oblivious changes to the environment which can trigger instability or conflict. The concept of security has transcended beyond its traditional definition from defending borders to including human and environmental issues. In the general understanding of human security, the culmination of environmental issues may lead to the outbreak of violence, [57]. Environmental concerns were rarely perceived as a security problem, instead they have been for a long time, used as a key concept in the schools of natural sciences, [15]. The author has stated that global environmental changes deal with the changes in nature as well as the society, therefore human beings are likely to be affected by environmental degradation. The overflow of land-based plastic wastes into the oceans have become a permeating pollution faced by the Earth today, [83]. According to the report by UNEP, single-use disposable food containers and packaging, together with plastic bags have made up the largest components of marine and coastal plastic litter. As a result, a large amount of research has been dedicated to understanding the detrimental effects of plastic pollution on marine species and ecosystems. The issue of plastic pollution and marine animals got more heated after a video of rescuers removing a straw from a sea turtle's nose in graphic and bloody detail went viral on YouTube in 2015.

1.1 Research Background

[14] in his article has mentioned that more than 35 million tons of plastic pollutions are produced globally, annually, and about a quarter of that ends up around the water. Recently, the issue of single-use plastic straws was brought to the world's attention – roughly about 437 million to 8.3 billion plastic straws end up on the entire world's coastlines, and that is

just in and near the oceans. Highly due to this statistic, a number of cities and nations around the world is starting to ban plastic straws and stirrers, hoping to address the world's plastic waste pollution problem. Taking the example of single-use plastic straws, despite making up only 4 per cent of the plastic trash by piece, and far less by weight, all those billions of straws have contributed to about 2,000 tons of the total 9 million tons of plastic waste annually and this house is a firm believer of how dangerous it is to assume that small numbers do not add up to anything. As discussed in [80] by Tickell, people have deliberately flooded, burnt, defoliated and destroyed the Earth for purposes of war, from time immemorial. Some of the more serious unintended alterations in the environment have derived from industrial revolution – but a global protest on single-use plastics has many fast food chains and restaurants replacing their plastic wares with more sustainable alternatives such as paper, metal or glass ones. They have done this on a sole theory of reducing plastic waste in the oceans, and regardless how virtuous it may sound, [58] has argued that it is only likely to make matter worse. Campaigns to eliminate plastics will not only be ineffective, but could sidetrack the public from far more effective efforts in the context of environmental security.

Plastic waste that keeps finding its way to our local wastelands if not the ocean has created an alarming condition, that by 2050 there will be more plastic waste in the sea than fish, unless the industry cleans up its act on plastic governance, [81]. The recent circulating news on the mountains of plastic waste in Jenjarom, Malaysia has gotten worldwide attention – plastic waste from the United States, Britain, South Korea and Spain spill onto the streets of an industrial zone in Pulau Indah. "Indah" translated as picturesque according to the Cambridge Dictionary [19] is quite an irony looking at what is going on at the island town which is also home to Malaysia's biggest port. Dozens of factories have opened up in Malaysia to handle waste products from said countries. Many are unfortunately operating without license, using low-end technology and environmentally harmful methods of disposal. Toxic chemicals are being released into the atmosphere or left filing the landfills with high chances of contaminating the soil and water sources, [9]. Without the government's, via responsible ministries affirmative action, Malaysia would have been a dumping ground for the rich nations. The issue of sustainable waste management has become an important priority for policy makers and other relevant stakeholders in Malaysia as the country prepares to become a developed nation. Reducing and eventually stopping single-use plastics is crucial in maintaining healthy marine ecosystem for their survival affects human survival too in the end. Internationally, Seattle was the first city in the United States to pass straw ban legislation with a disability exemption, [72]. Straw bans have since then been celebrated by individuals, compa-

nies and legislators as a positive and necessary move towards widespread environmental change. A faction of the community however was quick in passing judgement and criticism on whether straw bans really represent meaningful change environmentally.

Plastic straw bans according to [45] not only fail to accommodate people with various physical and health disabilities, but they also fail in creating a positive environmental change they claim to prioritise. The small number of plastic straws and stirrers that make up only 7 per cent of the entire plastic build-ups in the world is not a significant chunk of plastic as mentioned by RJ Joseph in [45]. Its lightness and buoyancy has led them to being overrepresented in the issue of straw banning. Meanwhile, [31] has argued that the small size of the straw is what makes them bad for the environment because of how difficult it is to recycle them – making recycling ineffective in this case.

1.2 Problem Statement

As public begins to express their anger and dissatisfaction on the issue of plastic waste pollution, [58] argued that campaigns to eliminate plastic is ineffective and will side-track the authorities from regulating efforts that carry more weight in safeguarding the environmental security. Plastic waste pollution has for long been the bone of contention, as it is said to have eclipsed the global threats of climate change, which goes to say that the society seems to want a world without plastic waste pollution, but does not exactly want a world without plastics. While humans and animals swim in discarded plastics, the blame often falls on developing Asian and African nations – where garbage collection systems are often ineffective, [64]. Plastic waste pollution, giving rise to a number of instabilities in the context of environmental security as such of marine plastic litter, illegal plastic waste dumping from Mount Everest to the bottom of the sea, and even clogging drainage systems, has resulted in increasing impacts towards human health – which goes against the very concept of human security as stated in the United Nations Development Report, [82]. The concern is, has the approaches being used to solve the problem of plastic waste pollution in Malaysia been ineffective? Or, has the environmental policy on plastic waste pollution been targeted to the wrong public group all along? The divisional debate has for long concealed whether environmental problems should be securitized, and belong in the practices associated with providing security.

In conjunction with unauthorised plastic dumping in Malaysia, whereby 3,000 metric tons of non-recyclable plastic waste were imported from countries like US, UK Canada and Australia, the notion of reduc-

ing single-use plastic in Malaysia has become the root of addressing and finding solutions for country's own plastic waste, including the excessive dependence on plastics by looking out for sustainable solution to waste management, [43]. [86] in their article have highlighted that the increase use of plastic in modern society, along with inadequate management has led to its accumulation in the marine environment. Malaysia has been ranked 8th among the top ten countries who have contributed greatly to the plastic waste pollution crisis in the world, which goes as far as saying that Malaysians have knowingly participated in the crisis cultivation of plastic waste pollution, [1]. With 9.1 billion tons of virgin plastic produced to date, the production rate is estimated to triple in the next 25 years. While the Malaysia's Minister for MESTECC has expressed her disappointment over the issue of plastic waste pollution in Malaysia, and not wanting the country to become the trash can for developed nations, the Housing Minister has a conflicting view of not wanting to miss out on a business that could be worth billions, [8].

If ignored, plastic waste pollution will impact ecological communities, and the ecological functions too will deteriorate as a result. The challenges such as environmental degradation and infectious diseases have been a fact of life and death in many parts of the world, according to [18]. For what were once development issues, they have now become the international security concerns among Western powers. "Infectious diseases, climate warming and environmental pollution are undermining the very pillar of human security, (Wu, 2018)" [18]. Additionally, illegally imported plastic waste to be recycled in Malaysia may also cause both environmental and health hazards. Environmental changes have proved to affect human values, in terms of their freedoms and rights. It was not until recently that some have started to respond to global phenomena of eliminating single-use plastic, one item at a time. Despite their organised responses, government policies have not yet been able to alter the course of global changes that would bring an impact towards both human and environmental security. Human societies have, for the longest of time managed to adapt to the environment created by industrial revolution that came way before them. Changing their values and convincing them of different lifestyle will not come without challenges. If this study on plastic waste pollution and its relation to human security is not known, direct interventions in the environment with other human actions will drive a global change towards the Earth's radiative balance, [76]. Thus, finding a solution that works in resolving the crisis of plastic waste pollution will be difficult should this study is not known. That being said, the exponential growth of plastics will continue to threaten the survival of planet Earth. This paper is aimed at proposing a solution that may change public's at-

titude and behaviour, to catalyse a significant reduction in plastic waste pollution, in Malaysia specifically.

2.0 LITERATURE REVIEW

Periodically, human activities are the driving force that is pushing the world's oceans to the brink of collapse, and the planet toward mass extinction, [38]. The ocean is home to millions of species and plays a fundamental role in providing the planet with life and food sources. Nevertheless, the welfare of the ocean, which is vital for all life on Earth is being compromised on a global scale by many ongoing and persistent human activities that have deliberately taken a toll on the ocean, said the author of "How humans are driving the sixth mass extinction" [38]. Along with impacts such as global climate change, noise pollution, and environmentally unsustainable fishing methods, plastic waste pollution is an urgent threat to the ocean, [65]. In the attempt to protect ocean and landfills from being excessively littered with plastics, organisations all over the world are working together the public to push for changes in legislation.

2.1 Threats of Plastic Pollution in Malaysia

Plastic according to the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC), has exceeded the use of other materials in terms of its versatility and functionality, [56]. As a global player in plastic production with currently 1300 active plastic manufacturers, Malaysia has been ranked 8th (eighth) among the top ten countries with mismanaged plastic waste around the world. 0.14 to 0.37 million tons of the total 0.94 million tons of mismanaged plastic wastes have been washed into the oceans. Single-use plastics are too commonly used for plastic packaging, carry bags, straws – all of which intended to be used only once before they are thrown away. As a result of the 20th century invention, planet Earth as the only habitable planet at the moment is dying a slow death by degradation, [60]. Humans have produced 8.3 billion tons of plastic since 1950s when the invention of polyethylene triumphed the daily human inconveniences. According to some scientific calculations, the amount of plastic waste is reported by the New Straits Times to quadruple to 34 billion tons by 2050 – amounting to plastic waste the size of four Argentina states, [60]. Unfortunately, the crisis of plastic waste pollution does not end on continental lands alone. It continues to suffocate the oceans too with 8 million tons of plastic waste making its way into the oceans very year.

United Nations Development Programme has established that the world in general uses up to five trillion disposable plastic bags each year,

and 1 million plastic drinking bottles are being purchased every one minute, [73]. And that is only disposable plastic bags and bottles. What about other single-use plastic products such as those used in medical field and food processing? They have been used so widely that a massive island of plastic three times the size of France is floating between California and Hawaii. A problem that is currently surpassing crisis levels with the growing impact of plastic usage extending beyond the environment, as it has quickly been affecting human health too. Plastic pollution affects human in many ways. The burning of plastic waste would emit dioxin which would intoxicate humans. And plastics that were left filling up the landfills and those that found its way to the oceans will seep into the underground waterways, and later pollute the groundwater resources and river, [2]. The problem with plastic waste pollution is that it is not only painful to watch, but it is proven to impact human health in ways that would limit and threaten human livelihood and survivability. With ongoing exposure to the toxin produced by plastic wastes through the process of refining and production of plastic resins and additives, human nervous system will be impaired, among many other reproductive and developmental problems such as cancer, leukemia and genetic impacts, [12]. On top of some of the obvious threats of plastic waste pollution, plastic products may contain fragments of plastics which are called microplastics that upon ingestion, may enter human body directly, causing an array of health impacts ranging from inflammation to oxidative stress, that will in turn result in cardiovascular disease and cancer, besides the obvious autoimmune conditions such as rheumatoid arthritis and inflammatory bowel disease, to name a few. Unchecked plastic consumption has resulted in countless severe human health implications, [33]. Human's dependence on plastic has caused a lot of the additives that do not bind with plastic's chemical chain to be absorbed by the skin, evaporate into the air and absorbed via the food and drinks we ingest. While some chemicals that exist in plastics affect basic hormonal function, some retardants interfere with children's brain development, [33].

When the matter of toxic waste is being highlighted in a conversation, Sungai Kim Crisis has since become the wake-up call for fellow Malaysians and government through responsible ministries, to a new ugly reality about unwanted wastes. Aside from landfills and oceans, rivers too, running through the maze of endless factories have become a dumping ground for not only plastic waste, but toxic chemicals too, [71]. Malaysia is equipped with environmental laws, as such of Article 127, the Environmental Quality Act explaining in great details acts of prevention, abatement and control of pollution, besides the enhancement of the environment. Yet, solid hazardous waste continues to find its way to undesignated places due to the high cost of recycling as compared to illegal dumping

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and incinerating. Since January 1 2019, the plastic straw ban has been in substantial effect in Kuala Lumpur, Putrajaya, Labuan, and in Selangor recently since July 1 2019. Despite signs emphasizing that plastic straws are only available upon request, there has been no significant mark on the decline of straws used and disposed, [79]. It is clear from this review that plastic straw ban is simply an advice with no actual impact on plastic production reduction, and with completely zero repercussion to the public. Without penalties, and enforcement or restriction on the use of plastic straws, there will be no binding force to the straw ban advisory. In this battle against plastic waste, a report from The Star online agrees that government's focus should shift from end users or consumers to producers and massive conglomerates, [79]. It is not like we are under the pressure of insufficient plastic products.

Alternatives to plastic straw and plastic bags on the other hand appear impractical for lower income individuals. The target of compliance for plastic alternatives is higher among urban and educated populations, and to top that all off, plastic industries do not want the public to find out that recycling is not even a solution to the ongoing crisis of plastic waste pollution. Out of 360 million tons of newly produced plastic every year, less than 10 percent is actually currently recycled, [32]. While alternatives to fossil fuel-based plastic called bioplastics are often being promoted as bio-based, biodegradable and compostable, the trend has been confusing, [44]. Bio-based plastics originates from agricultural crops, and with the building crisis on food security, bioplastic creates an unnecessary competition for food crops, threatening hence, food security. Besides which, biodegradable plastics can only break apart into smaller pieces under conducive environment that is in either industrial composting facilities, or home composting systems, [44]. All of the key issues that make biodegradable plastic not much better than the conventional single-use plastic. Education may be the key to solving the crisis of plastic waste pollution, but before any one particular party get blamed for the problem created by a completely unnoticed group, the crisis, along with all the efforts carried out to solve it, must be reviewed and perfectly understood first. Household wastes consist of food, plastic and paper. Segregation of wastes will not work if the cycle stops at the consumer's end. Infrastructure has to be improved first for the mechanism to divert trash from landfills into a close-loop cycle to happen, [88]. The discussion on plastic waste pollution has been happening for as long as one can remember, but the implementation and execution of plans have been far too leisurely. When the process is not slow, the methods are backward in nature. As Malaysia races in time to achieve all 17 (seventeen) Sustainable Development Goals listed by the United Nations, plastic waste crisis is not being treated with urgency, therefore limiting measurable outcomes to date, [79].

2.2 Genealogy of Human Security

Human security as described in the UNDP report [82] is defined as "safety from such chronic threats such as hunger, disease and repression. Human security means protection from sudden and hurtful disruptions in the patterns of daily life – whether in homes, in jobs, or in communities. Such threats can exist at all levels of national income and development". The concept of human security in considered acceptable for the discussion and dialogue on the matters of socio-economic development, although the term itself was not formally used in ASEAN countries like China specifically, [26]. Instead, the term non-traditional security was being incorporated in discussing issues with regard to human security. [80] in his research argues that the concept of security, global or otherwise does not exist – it has become a term so widely used and abused, it has become meaningless. The search for security itself has virtue in itself. Our planet is insecure in space and life inhibiting it has become a subject to constant hazard, vulnerable to constraints from time to time. Be that as it may, in a world where wars lead to sufferings, human rights and human insecurity represent a remarkable challenge to many nations, [63]. In the context of globalisation, the metamorphosis of human security has become progressively delicate to those predisposed to the loss of state power and conformity to the law regarding the use of barbarity in their conduct, [51].

Othman et al. [63] also mentioned that although the fostering of human security concept has become essential in our times by providing a people-centred axis to security – freedom from wants, needs and indignity, the centrality of human rights within the pretext of human security has not been inspected in a systematic way. Therefore, the authors have indicated that the full implementation of human rights as the pillar of human security is yet to be achieved despite the positive progress in academic discourse on the topic. The concept of human security is commonly debated in the field of international relations, development studies, and security in general. [67] has further discussed a suggestion of approach that would provide a more meaningful notion of human security through the collaboration of political scientists and medical practitioners by [78], giving birth to the science of human security.
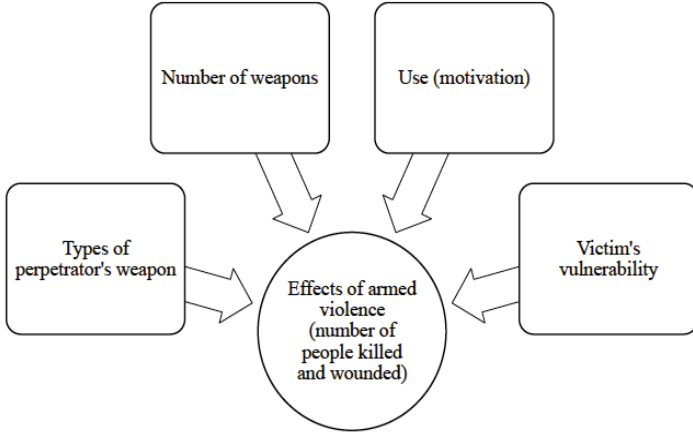
Figure 1 The Taback-Coupland Model

The model developed by [78] is formulated around the confine of four risk factors which are the nature of weapons, the number of weapons used, the way the weapon is used, and the victim's vulnerability, for the effects of armed violence. The idea behind the evidence-based model is to extract important information from media reports in order to draw a conclusion on the perpetrator's intention, [55]. Taback and Coupland [78] concluded that human insecurity stems from the well-being of human's lives as they become exposed to unnecessary risks of decreased health status, as a result of those who resort to armed violence. Hence, such risk must be reduced if not eliminated altogether. Curley in her study [26] argues that the extension of human security ideology is rather an approach which seeks to impose ideas on regional setting by means of pressuring or shaming. The breadth of human security continues to widen its implementation to distinct branch of knowledge, but its values and transparency remains confusing amongst those who are not interested in similar agenda. In the pretext of regional governance, human security is commonly strung to the democratic development of the region, [26] – an idea that fuels the understanding that democratic countries tend to emit less, in terms of pollutants such as CO_2, [66].

2.3 Global Enlightenment of Environmental Security

The concept of environmental security includes a spectrum of issues from those involving the role that the environment and natural resources play across the continuum of peace and security, to the relationship of human well-being, development and security may have with the environment, [22]. By linking environmental issues to politics, it has urged the high politics to create a political awareness, hence the sense of urgency

necessary to solve environmental problems happening in large parts of the world, therefore strengthening the security part of human well-being, [36]. A disputable concept such as environmental security is a crucial evolution of national state and international policy systems, [7]. The author has highlighted the capacity of the concept to affect foreign policy, security policy, environmental policy, and science and technology policy. Allenby [7] has noted that the pressure to making environmental security as a policy system stems from the apprehension of environmental issues no longer being a supplementary constituent in global governance systems, but rather the fundamental element. The author has also come up with an analytical framework to support the evolution of the environmental security concept into operational programs and projects by viewing it as a union of four separate components which are resource security, energy security, environmental security, and biological security (REEB).
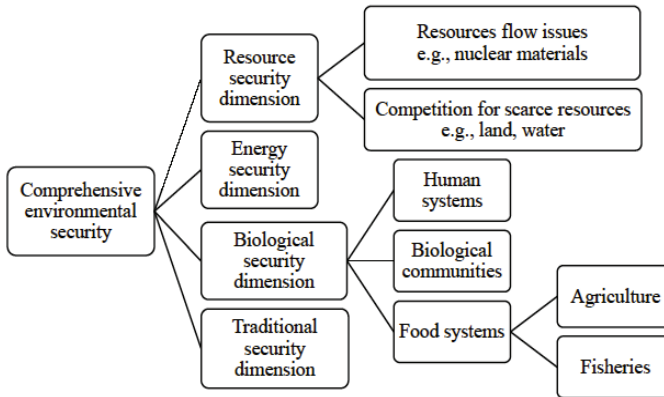
Figure 2 Allenby's Dimensions of Environmental Security

As responsible citizens all around the world prepare to enter the twenty-first century, [77] has highlighted the three central issues faced by the global community – environmental degradation, impoverishment, and the insecurities caused by both environmental degradation and impoverishment. Meanwhile, the discussion on the links between environment and security has been developed in order to achieve political and economic stability. Many researchers however, according to Steve in [77], have been avoiding the term security in their studies, rather focus on environmental change and social adaptation and/or armed conflict on its own. Approaching the matter in a similar method, Elliott [29] in his article links environmental degradation to sustainable development rather than to human se-

curity, therefore detaching the idea of security from environmental issues altogether.

Understood as the absenteeism of risk and threat towards the environment a community lives in, environmental security in the past has been focusing on the link between environmental poverty and violent conflicts, [69]. Modern days environmental issues are affecting many countries in the world, therefore green jobs, linked to eco-friendly products and services according to [53] would provide a sustainable economy and better environment for the future. The values lie in this idea is that said jobs will give opportunities that are beneficial to both workers and the environment. While the authors had discussed in depth the role of religion in green jobs, the principle of secularism in Islam as compared to conventional definition of keeping religion considerations out of public and governmental affairs is being contested, [48]. Mansour et al. [53] have agreed that Muslim countries do not have comprehensive regulations to manage the environment. In addressing said deficiency, the authors have taken Malaysia whose stipulations are purely in line with Islamic teachings, as an exemplary Islamic state in managing the environment. Environmental rights and human rights are universal as mentioned in the Quran, and natural resources must be conserved and protected. Humans' responsibilities towards the Earth in order to provide a decent livelihood must be carried out in ways that do not harm the environment further, [53]. The essence of environmental security is to be understood in the guise of a subfield for human security agenda, taking into consideration the broad axis of freedoms; from fears, wants and indignity, [89]. The author has associated the link between environmental issues consciousness and security to have emerged as a part of post-World War II environmental politics. That being said, Zwierlin [89] in his study has asserted that environmental security holds an indication of whether or not environmental degradation give rise to direct or indirect influence towards human insecurity, as agreed by Schilling et al., [69].

2.4 Biopolitics, Environmental Change and Development

Biopolitics has become an outstanding concept in global governance due to the rise of global liberal governance, that is founded on the basis of administering and producing life, rather than threatening death, [21]. The United Nations Framework Convention on Climate Change (UNFCC) is intended at stabilizing greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system in a timeframe that allows for sustainable development to take place naturally in the ecosystems, [84]. On a similar conduct, the Kyoto Protocol that was meant to lower the global greenhouse gas was

a failure due to the lack of structure in the agreement, which has led to the idea of integration of biopolitics that makes use of a large orchestrated global mitigation efforts, [21]. Cavanagh has expressed his concern of integrating global biopolitics in ecological politics, which does not depend solely on sustainable development, but on the livings – generating the questions of which forms of life will be allowed to live, and which to be let die under the worsening environmental conditions, [21]. Looking at the issue through the utopian aspirations, one will be able to look at the political dimensions of environmental actions ethically, [62]. By which sense, the author of [21] has argued in detail, how the concept of biopolitics may assist the ecological governance. [4] in his work has reminded us to not only focus on the affirmative capacity of biopower, that has for a long time attempted to break the line between what lives and what dies. Instead, concentrate on the politics of supporting life – biopolitics. Marxism has provided us with the understanding that capitalist system is the cause of environmental degradation through the process of globalization and imperialism under the order of repressive states, [46]. A process that was once an exception has gradually become a general rule in the modern days, [70]. *Homo sacer*, being used to further explain the concept of biopolitics of Foucault by [4] is defined as he whom can be killed without anyone being guilty of murder, but must not be sacrificed as part of a ritual. A concept that according to Seixas and Birman reflects modern days totalitarian governments, [70]. As a political paradigm of modernity, the promotion of sovereign power in contemporary days is no longer about making die and letting live, but more of making die and making survive. Under the sovereign power, [5], has pointed out that "sovereign figures of our time are killable, but unsacrificable".

3.0 RESEARCH METHODOLOGY

This paper in accordance with [34], agrees that there is no single solution to addressing the leakage of plastic into the environment, but the solution is likely to be the combination of approaches based on local context. On top of that, the issue of plastic waste pollution has become one of the leading causes for carbon emission that has indirectly contributed to global climate change. Having said that, in tackling the concern of environmental security in relations to plastic waste pollution that has been filling up the marine ecosystems and landfills, this qualitative approach study is adopting the expert interview method to gather relevant data. The methodology chosen is in accordance with the needs of this research to identify the issues of intensifying crisis of plastic pollution, and to deduce suitable conclusions on the effect of environmental degradation on human security in Malaysia. This study aims at providing a relevant solution to environmental degradation, as a result of plastic waste pollution that has contributed to human insecurity in Malay-

sia. The research findings of this study are analysed using thematic data analysis, and assisted and further enhanced by the principle of Atlas.ti software in order to identify and explore the elements of issues of intensifying crisis of plastic waste pollution in Malaysia, on top of analysing the approaches used in resolving the crisis. The primary data gathering or better known as the context units of this study is derived from expert interviews with prominent purposive samples engaged in the field of human security, particularly those concerning with environmental protection. As discussed by [28], the researcher has agreed that authoritative guidance carries even more weight for the direction of this study. Although qualitative research works out under the combination of observations, interviews, and document reviews, detailed data is gathered through open ended questions that allows for direct quotations, making the interview an integral part of the investigation, [10].

3.1 Research Framework

The success of an expert interview relies greatly on the reliable interview protocol, as mentioned by [87]. In ensuring that this study is constructed efficiently, the researcher has adopted the four-step Interview Protocol Refinement (IPR) Framework by Yeong et al. to improve the interview protocol reliability and validity. The authors emphasize the need for instruments used for interview process to pass reliability and validity tests before being considered as a reliable tool. As agreed by the researchers, "the measurement of reliability and validity of a qualitative study lies in the quality of research findings, [35]". Researchers are allowed to strengthen the reliability of their interview protocols through the utilization of IPR framework presented, due to its suitability for refining semi-structured interviews. From the perspective of a grounded theory, piloting becomes unnecessary because each interview has been designed to be built from the information obtained prior to the interview, [20], thus making the protocols congruent with the aims of the research.
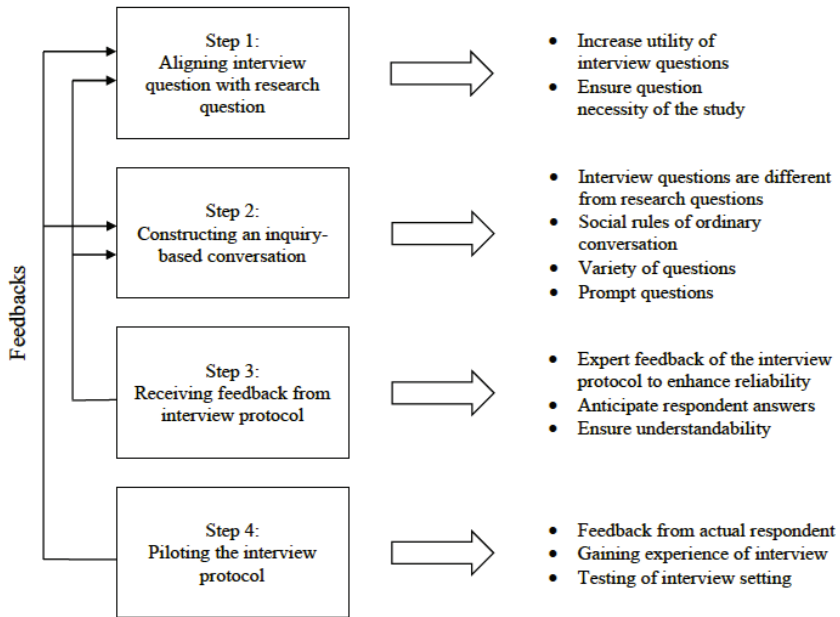
Figure 3 The Four-Step Interview Protocol Refinement (IPR) Framework

3.2 Research Sampling

For the direction of this study, purposive sampling is deemed to be the most suitable method. It uses the researcher's own judgement in selecting the interviewees with a specific purpose in mind, by which the selected experts represent the deliberate choice of participants due to the qualities they possess, [30]. As a non-random technique of sampling, the participants are selected by the virtue of their knowledge, experience, and passion in the field. The relevance for this method of sampling is to concentrate on the experts that have particular characteristics who are able to assist in gathering the data for the findings. This study adopts the method of purposive sampling that is presumed to be appropriate in selecting experts who are dedicated in the field of human security, the dimension of environment in human security, and environmental protection as a whole. Their knowledge and passion for this field bears importance towards providing information on the crisis of plastic waste pollution in Malaysia from the viewpoint of human security within the specific time frame given to conduct this study. Under the larger scope of purposive sampling, Etikan et al. [30] has indicated that expert sampling is a positive tool to use when new areas of research is being investigated, in order to gather whether or not further studies are required. For the direction of this study, four (4)

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participants from the field of human security and environmental protection were mindfully chosen to participate in the expert interviews. Some of the interviews were conducted face-to-face, and others through emails to accommodate those who are residing overseas during the time this research was conducted. Views and opinions gained from the interviews are used in latter parts of this research paper. The participants come from different governmental ministries, academician, practitioner, and non-governmental organization (NGO) that was represented by an advocate for the Extinction Rebellion.

3.3 Qualitative Thematic Data Analysis

According to [52], data analysis is considered central to having a credible qualitative research. Both qualitative content analysis and thematic analysis, residing under the bigger umbrella of qualitative data analysis are further categorised as qualitative descriptive design, [85]. Qualitative data analysis, according to the authors goes beyond verifying past conclusion of theories, rather the textual data are analysed and themes will be elucidated from it. As quoted from [61], "qualitative research is intended to generate knowledge grounded in human experience, (Sandelowski, 2004)", therefore a rigorous and methodical manner is crucial in yielding significant and beneficial results. In the process of data analysis, the researcher, according to Nowell et al. becomes the instrument for analysis, [61]. The work of making judgements on codes, themes, and decontextualizing the data will fall upon the researcher. Through the use of systematic approach of recording and systemising the data collection, while being transparent about the methods of data analysis, [11] has pointed out that readers are capable of determining whether or not the research is credible.

Thematic analysis is defined as a systematic process of identifying patterns or themes from the qualitative data collected, [52]. In comparison to some of the qualitative methodologies, thematic analysis is not bound to a specific epistemological or theoretical perspectives, thus making this method of data analysis flexible to be utilised in the direction of this study. Maguire and Delahunt have stated that the product of thematic analysis are themes that can be applied in addressing the research findings, [52]. In that respect, the researcher must make a distinction between the two levels of themes, which are semantic and latent; surface meanings and concealed meanings correspondingly, [16]. To facilitate the thematic data analysis, the researcher has also adopted a non-linear six-phase framework by Braun & Clarke [16]. Qualitative data can be analysed through the method of thematic analysis by identifying, analysing, and reporting themes occurred within a set of data, [17]. Essentially, thematic analysis can be facilitated by software as such of NVivo or Atlas.ti, but Bree and Gallagher have argued that the very flexible nature of thematic analysis

has allowed for manual analysis using only Microsoft Excel that is relatively easy and cost-effective, [17]. Adopting this method and adapting the principle of Atlas.ti, the data analysis of this research will be carried out in such a way that once the interview transcripts were organised per question, the data was migrated to a Microsoft Excel worksheet in search for themes that were later being colour-coded.

The data was analysed and assigned to a set of guided thematic areas in the Microsoft Excel worksheet. Although the three main thematic areas were guided by the research objectives, this data-driven, inductive approach has ultimately given birth to the identification of more sub-thematic areas, each labelled with different colour. With a tool to sort data based on the colour of the cell, each thematic area was duplicated into a different worksheet, hence sorting the data based on their thematic area, which facilitated the process to bring together all key points of each theme. As argued by Braun & Clarke, thematic analysis should be a foundational method for qualitative analysis for it prepares researchers with skills to conduct many other forms of qualitative analysis, [16]. Hence this study on that note, is adopting the method of thematic data analysis as its principal method of analysis to identify, analyse, organise, describe, and report themes found within the context units of data gathered through the process of expert interviews. The issue of reliability and validity of the research is solved by conducting a meticulous thematic analysis, [61]. Even though the lack of academic literature on the utilisation of thematic analysis causing researchers to be disoriented when applying the method in their research, Braun & Clarke have claimed that thematic analysis provides researchers with freedom to modify their studies while allowing for rich and detailed findings, [16]. As far as the issue of research reliability and validity is concerned, transparency in conducting the research and analysing the data that leads to the research findings is of critical component, [39].

Qualitative method of data collection, as discussed by [3] creates a comprehensive record of participants, both verbal and non-verbal. In maximizing data collection, semi-structured interviews were used during the data collection process in order to allow for freedom to participant in when giving their thoughts and opinions on related issues. The data collected as a form of valuable information was then analyzed, sorted, and orchestrated into this research. As a crucial part of data analysis, the thematic data analysis carried out by the researcher is adopting the summary of categorization process by Constas (1992). When analyzing the data, the researcher has adopted the principle of Atlas.ti and adapted it in a manual thematic data analysis. Reason being is because the researcher believes that thematic data analysis carried out manually makes data cataloging

more organized. Summary of details of the categorization process adopted and adapted in this study is by Constas (1992), with components such as origination, verification, as well as nomination that will be further defined in following section.

Table 1
Summary of Details of the Categorization Process Suggested by Constas (1992)

Components	Descriptions
Origination	
Nomination	

3.3.1 Categorization

As a crucial part of data analysis, the thematic data analysis carried out by the researcher is adopting the summary of categorization process by Constas (1992). Categorization defined is an action or process of placing into classes or groups. It often refers to the descriptive level of text and is an explicit manifestation of the informants' account, [85]. Categorization according to Vaismoradi et al. is a primary product of analytical process and has a descriptive identity used at the beginning of a theme development process to classify findings, [85]. Category development commonly helps with the process of theme development, as outlined in the process for categorization that originally consists of three components, which are origination, verification and nomination. For the purpose of this study however, only two components will be utilized.

3.3.2 Origination

As a crucial part of data analysis, the thematic data analysis carried out by the researcher is adopting the summary of categorization process by Constas (1992). Categorization defined is an action or process of placing into classes or groups. It often refers to the descriptive level of text and is an explicit manifestation of the informants' account, [85]. Categorization according to Vaismoradi et al. is a primary product of analytical process and has a descriptive identity used at the beginning of a theme development process to classify findings, [85]. Category development commonly helps with the process of theme development, as outlined in the process for categorization that originally consists of three components, which are origination, verification and nomination.

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For the purpose of this study however, only two components will be utilized.

3.3.3   Nomination

Nomination as the name would suggest, very much concerns with naming categories, [85]. In a way, the nomination process of theme development is also regarded as the labelling constituent of the procedure. Although category names are assigned at the same time categories are created at the beginning of the theme development process, it does not mean that that is how it should always occur. Names or labels of the categories may change as the researcher becomes more familiar with the setting as the research progresses, [24]. At any point, the researcher may herself select a label of her own choosing to represent a particular category, as described by Constas, [24].

3.4 Research Reliability & Validity

Golafshani [35] has pointed out that methods as such interviews and observations, are dominant in the interpretive paradigm acquired through qualitative method, and supplementary in the paradigm of positivism obtained through the method of quantitative. "In the attempt to ensure reliability in a qualitative study, the examination of trustworthiness is deemed crucial, (Seale, 1999)" [35]. However, [74] has argued that reliability is an issue that concerns measurements, and since there is no relevant measure to judge the quality of a qualitative research, if reliability is sought in a study then the study can be considered as a bad research. Stenbacka concluded that concept of reliability is misleading in qualitative studies, and validity is only achieved when using the method of non-forcing interviews with mindfully chosen informants, [74].

[27] argued that the term qualitative rigor is an oxymoron considering the exploration journey a qualitative research may provide, it does not succumb to the stiff boundaries quantitative research is designed to be. Researchers have debated against the concept of reliability in qualitative research to be misleading, and it has no relevance as it does in quantitative research. Cypress [27] has therefore suggested for (1) research findings to be provided with evidence that supports interpretations, (2) researcher's perspective to be acknowledged, and (3) thick description to be included. Some of the validity techniques in qualitative research takes into consideration the research design, data generation, analytic procedures, as well as findings presentation – all of which not based on a set of determinate factors. Thus, [25] has suggested that validity and reliability of a research

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should be impacted by researcher's own perception of the construct of validity.

4.0 FINDINGS AND DISCUSSIONS

Based on the interview with four homogenous informants who are experts in the field of environmental protection, the data collected was analysed through the adoption and adaptation of thematic qualitative analysis, using the principle of Atlas.ti that studies the issue of plastic pollution in Malaysia and its relationship with human security as a whole. Their knowledge and passion in this field bears importance towards providing information on the crisis of plastic waste pollution in Malaysia from the viewpoint of human security within the specific time frame given to conduct this study. The findings are stated in the table that follows. For each categorization of findings, the main thematic findings will be provided in support of the research findings.

Table 2
A Summary of the Thematic Findings

Categorization of Findings	Thematic Findings
Identification of Issues on the Plastic Waste Pollution Crisis	• The role of plastics in economic development. • Eco-economic crisis as a result of capitalism take-over. • Unethical plastic disposal and poor waste management. • Malaysians by nature. • Falsely targeted plastic mitigation effort.
Analysis of Current Approaches Used to Solve the Crisis of Plastic Pollution	• Current approaches by the ministry and its challenges. • The role of industry players in mitigating change. • Consistency in media publicity.
Solving the Crisis of Plastic Waste Pollution in Malaysia; A Proposal	• Human security as a form of societal alleviation. • Circular economy. • The foreign concept of "degrowth". • Societal means of contribution. • Policy reconstruction and retargeting.

4.1 Identification of Plastic Waste Pollution Crisis in Malaysia

Plastic pollution has become a supplementary if not the main environmental crisis in Malaysia. On top of which, plastic pollution has also been classified among the many factors for the changing climate. Moving forward, the underlying issues of the plastic waste pollution crisis must be identified, before the process of plastic mitigation can take place. The issues with the crisis of plastic pollution have been identified and presented in Chapter Four. Based on the findings, the first research objective

has been achieved and completed as a total of six (6) thematic findings were gathered from the process of theme development based on the expert interview with four informants. The emergence of plastic as a result of industrial revolution has continuously been in demand by the civil society, thus its role in economic development is worth mentioning. In which event, plastic discovery and its link to human security can be viewed as a form of relief for the civil society, who are now able to progress in the field of healthcare, food preservation, manufacturing and development. As the production of plastics continues to surge, the growth curve can only be expected to endure the social commentary on its adverse conditions for years to come. Recent arguments have said that plastic dominance in the economy has resulted in wasted resources, apart from inducing global environmental degradation from material leakage into the environment. As a ubiquitous material of the modern life, majority of the commonly used plastics are not biodegradable, despite able to physically break into smaller particles that penetrate into the environment, especially marine, [13].

In the concern of economic development and environmental degradation, both are considered to be of conflicting goals, as argued by [75]. In a case of which, plastic produced for consumer goods sector can be considered to accelerate economic growth, yet at the same time harming the environment too, thus limiting the sustainable development goals from transpiring in a certain nation. Through technological advancement however, limits to growth as a result of environmental emergency can be pushed back. Higher standard of living is possible to achieve without costing the ecosystem – a scenario that is only practicable with support from the national administration, civil society and responsible industry players. Investment in future multidiscipline research allows for better understanding on the change of plastic production, and plastic waste management, along with its impact on human security and the natural ecosystem. The current dilemma of economic development versus environmental concerns revolves around the refashioning of plastic's positive discovery into one that favours profit-making industries. The broad theory of supply and demand introduced in neoclassical economics has continued to feed the capitalist markets beyond humans' means of repair. Although plastic has contributed to resource efficiency by reducing food waste through increased shelf life, illegal dumping and mismanagement of plastics have entrained 8 million tons of plastic packaging leak into the ocean every year – an amount of which equivalent to one truckload of garbage every minute. In addition to this, global standards requirement of measuring wealth based on the urbanisation of cities and its people has ruled out the key conditions of ethical plastic disposal that makes recycling sound like a mythical concept, forasmuch it is not being utilised due to the lack of proper education and poor waste management system.

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While the community, authority included, continues to put the blame of unethical plastic disposal onto one another, the growing rate of plastic production does not stop, and its repercussions on human survival and the ecosystem only escalate at a speed faster than our means to recuperate. Ideally, plastics are produced to withstand the extreme condition of human progression, yet a material that durable gets thrown away before it is even defective in nature – an enigma on its own. On top of that, as discussed by majority of the informants, it is also the attitude of fellow Malaysians, whose actions had indirectly facilitated the growth of present issues. Despite the millions of people all over the world trying to cut down on their plastic use, the production of virgin plastic is increasing, and this research believes that it is not only the case of consumer demand. The fault lies at the very root of modern industrial capitalism. The civil society should not be blamed for the throwaway culture, when the demand-led basis of consumerism is invented by conglomerates who benefit greatly from it. In theory, all plastic can be recycled. But there are evidently many issues that hinder it from being conveniently practiced, from humans' lack of responsibility to participate in the noble act of recycling, to little market for recycled product. The cost of recycling is definitely higher than it is to produce new plastic, and at its core, increasing the recycling rate will not be effective unless the production of virgin plastic is being completely replaced with the production of recycled plastics – in order to get rid of the existing plastics that are currently covering up the surface of the Earth. Moving forward, the authoritative figures are coming up with plans to solve the crisis of plastic waste pollution, and at present, circular business model that is intended at replacing the current linear economic system is gaining ground. The latter part of this chapter will be dedicated for the discussion on circular economy in detail. Stating that the current policy (if there is any) on plastic pollution mitigation effort has been falsely targeted may sound like a hard pill to swallow, especially at the national administrative level. It is of no doubt that the authorities are trying to confront environmental problems in as a subtle way as possible. Addressing the problem by blaming the civil society without the slightest intention of educating them on what is happening to the world, instead of calling out the massive conglomerates who still find a way to maintain their plastic production, further evidences the different value that is attached to the lives of the general public. While the intensity of the crisis changes as the year passes by, strategies, approaches, and tools chosen to address them must evolve alongside the problems. The assessment of environmental issues must take into consideration the human security factor that is deeply intertwined with the crisis, especially when human health forms the basis of human development, as a measurement of human security.

4.2 Analysis of Current Approaches Used in Resolving the Crisis

As to a number other problems pertaining the ecological crisis, approaches have been taken to solve them. Similarly, in the crisis of plastic waste pollution, a series of approaches have been made to solve it. This section clarifies further the current approaches being used in solving the matter. With problems of eco-economic being the catalyst to the environmental crisis involving plastic pollution, unethical plastic disposal by the community, falsely-targeted policies by the government and media inconsistency in raising awareness towards the matter are being put forth in the blaming game. Nevertheless, as discussed earlier in the *Identification of Issues*, civil society should not be put at the frontline of the quarrel, just so that one party can avoid from owning up for being greedy. The crisis of plastic waste pollution can be seen as a crisis of convenience, as reported by [37]. The logic of capitalism dictates that a world without plastic, or at least a world without single-use plastic, is unimaginable. The throwaway culture describes a history of contemporary capitalism to a great length, while the invention of urban life fosters the innovation of the prismatic material of modern life – both of which affect human livelihood differently. As governments around the world try to search for the best course of action, sustainable development as a policy goal has always been central to the discussion, as supported by new policies stretching from international agreements to national environmental laws, [41]. At the national level, conflict between the objectives of environmental policies and economic development is resolved through the introduction of Malaysia Plastics Pact, putting forth recycling as the key element of the circular economy.

Successful outcome of a particular policy is determined by how it is able to improve the condition of the environment, without ignoring the needs for other sustainable goals including economic, social, political and legal among many others, to cultivate at the same time. Policy implementation often faces failure because of how they were developed, and put into operation. As presented by Howes and his colleagues [41], implementation traps range from (1) incomplete specification of aims or objectives, (2) inappropriate agency for implementation, (3) conflicting objectives within or between policies, (4) incentive failures, (5) conflicting directive from agencies or senior official, (6) limited competence of agency or those tasked with implementation, (7) inadequate administrative resources to support policy implementation, and (8) a failure to communicate with the affected community. For the purpose of this study, current approaches used in solving the crisis of plastic waste pollution are analyzed to understand better what has been done to date. It is obvious that while the initiative has been taken to introduce Malaysia Plastics Pact to

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the community, integration of work between ministries has managed to transform itself into yet another dilemma that decelerates the effort a little. Generally, Malaysia Plastics pact is aimed at bringing together everyone who needs to be involved in tackling the crisis of plastic waste pollution in the country, and go about eliminating single-use plastics and developing a plastic circular economy, as stated in the Ministry's website [56]. The Malaysia's Roadmap's Action Plan is envisaged to tackle the severity of plastic pollution in Malaysia, low recycling rates of plastic waste, absence of environmentally friendly and cost-effective alternative, and the absence of uniform policy framework.

This paper concurs with the idea that economic development cannot be sidelined in the national effort to get the civil society to be part of the journey towards a sustainable future. Plastic recyclers contributing RM20 billion to the economy should be a celebrated news. But it is in this research's best hope that the Federal Government, via responsible ministries would lead the implementation of this Roadmap by focusing on the human factor first before getting eager about the economic prosperity circular economy promises. Without proper implementation, circular economy may result in resource depletion – the water it needs to reformulate recycled products, and energy it requires to reconstitute them, [59]. Circular economy as a concept has gained momentum from western policymakers, businesses and NGOs since its initial introduction in 2010. Best believe that the concept lies on a comprehensive recycling, an area that we are somewhat lacking, endowed by poor environmental outreach, and weak implementation. Fundamentally, substantial transformation, alongside stricter implementation is required in making the most sense out of the current approaches used in solving the crisis of plastic waste pollution in Malaysia. On another note, the role of media in conveying the message to the public society should not be pushed aside. Conforming to the hypodermic needle theory of communication that emphasizes on the consistency in media publicity, social media has to be adopted already in the progressive 21st century as an official means of message broadcasting. Environmental issues are progressively becoming the concern of the international community, and social media connects people around the globe at lightning speed. Notwithstanding the steady urbanization that is equated to nation's growth, marginalized and vulnerable groups of the minority have to be included in the similar conversation on progress and sustainable growth, in order for the policy to be reflected equally on the entire community of the public.

4.3 A Proposal to Solve the Crisis of Plastic Waste Pollution in Malaysia

Modern problems require modern solutions. Accelerating the mitigation process of the plastic pollution crisis in Malaysia, opinion and views from experts have been taken into account. This section reviews a proposal to solving the crisis of plastic waste pollution in Malaysia by adopting the foreign concept of "degrowth" and circular economy into a series of available solutions, without leaving out the principal concept of human security. Human security as discussed in the review of literature may not be all that new a concept to most of those familiar with global governance and the basic concepts of human rights, for human security and human rights must move in tandem, there to say that one is not achieved without the other. Some of the informants interviewed in the expert interview agree that the elements of human security are what is recognized as a mechanism for social alleviation and the crisis of plastic waste pollution is a threatening factor in maintaining human security as a whole. As the identification of issues and analysis of current approaches have been discussed extensively in the preceding sections, this particular subdivision will address further the proposal to solve the crisis of plastic waste pollution in Malaysia, as per suggested by the informants of the expert interviews. Based on the findings, the final research objective has been accomplished, looking at the total of six (6) thematic findings gathered during the process of theme development based on the data assembled from the expert interview with four informants.

Some of the suggestions that appear to be striking in its essence include the concept of degrowth and circular economy, as this research comes to term with the conflicting economic development versus environmental concerns. Ideally, human security reflects the progression towards societal alleviation, that frees the community from a series of socio-economic regressions. But it is unfortunate that neoclassical economics has left out an area that is supposed to study the environmental impacts of economic policies. The initiative for circular economy has set an ambitious goal of improving the country's productivity of resource use, while reducing pollution, especially plastic waste. Resource issues and global changes are deeply interwoven, for a tiny shift in chemical balance of the atmosphere may negatively lead to transboundary pollution. Circular economy and recycling economy are only partial to the environmental economics mitigation, [50]. On the contrary, restoration economy that puts into account the natural capital must be introduced through major investments in the restoration of forests, grasslands, deserts, farms, watersheds, oceans, and atmospheric balance to recover the collapsing investment in human habitat and their infrastructure. The government-driven restoration

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economy, as suggested in Economic Solutions by [50] is not automatic be-cause industries and conglomerates will not clean up their messes without the incentive to do so. Through command-and-control regulation, resto-ration economy creates a structure that sanctions polluters to either fixing what they ruined, or creating something better that what they destroyed. In achieving said economic structure, the public administration has to tighten the rein on uncompromising industries, and civilians that are not mindful in their environmental actions. Figure that follows will illustrate how the implementation of a Restoration Economic Model may take place in Malaysia in its attempt to mitigate ongoing environmental crisis, and strengthen its environmental security.
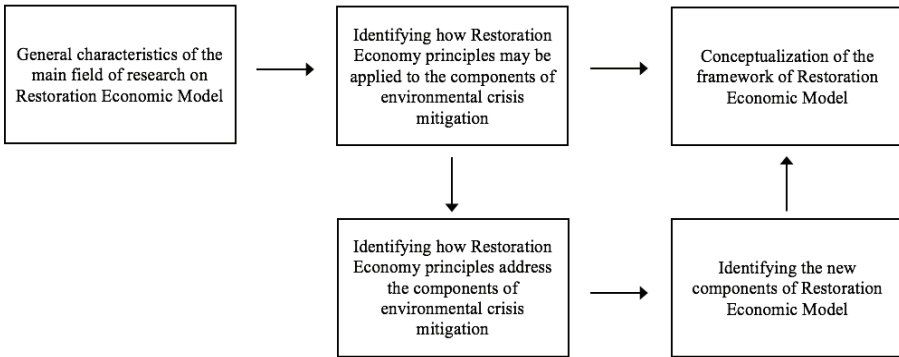
Figure 4 Restoration Economic Model Recommendation for Implementation of Envi-ronmental Security in Malaysia

Opposing to the concept of growth, and circular economy alto-gether, degrowth, or simply a concept of scaling down may also become the answer to climate and environmental miseries, or for the purpose of this research, plastic waste pollution crisis. Industries making their way by monetizing natural resources at the expense of the environment will have to be able to reduce their production and consumption rate collectively in order to adhere to this concept. The idea of this steady-state economy suggests that we maintain the current size of the economy and stop seek-ing for further growth – which sounds like an implausible idea, given that some of the poorest nations will still have to develop to attain a certain dignified level of existence. The aim is to plan and contract fair economic development in the richest nations that will eventually reach a degree of steady-state, which allows nations to operate within the biophysical limits of the Earth, [46]. It is easier to remain ignorant to the high price of re-cycling than to actually pay for it. Asian Nikkei Review has revealed that disposing plastic bottles in America is more expensive than in China at the price of RM2000 as compared to only RM822 in China. Due to this, plas-

tic waste will continue to be sent to developing countries to be dealt with than to be processed within the United States of America itself. Developed countries like Japan, America and Germany, including the remaining of the European Union should have better technology, yet their plastic wastes are being shipped thousands of kilometers away to be handled by countries who lack waste management themselves like Malaysia and Africa. This goes as far as saying that recycling in its most genuine sense, does not work. Apart from the high price of recycling, why else would recycling be trumpeted in developed countries when their trash is being dumped elsewhere knowingly. Developing countries suffer from a lot of things. They already have very poor environmental and climate security, let alone recycling, whose facilities are ill-equipped. As the cost of recycling gets higher with the demands, importers dump plastic wastes illegally in Malaysia to be rid of it.

For as long as narrow and mainstream ideas dominate the policy debates in the country, an economic paradigm that puts nature at its core will remain to be a far-fetched notion, as agreed by [23]. The alternatives to current economic model will have to go through a radical change that is driven from bottom-up, rather than the top-down that is constantly being imposed on the civil society, in order for environmental crisis mitigation to take place in the country. In cases where environmental concern is central to a discussion, it has to be reminded that public often becomes vulnerable without the right knowledge, wisdom, capabilities, social connections, and support from those responsible for the country's administration. Arguments on separation of power should not be used in the pretext of ecological problems, for it does not reflect efforts and political performance in solving the matter. Single-use plastic packaging is not always a case of consumer demand, but lacked waste management infrastructure to cope with the surge in plastic garbage can become a case of ignorance for commitments.

5.0 CONCLUSION

Conforming to the idea that modern problems require modern solutions, this research agrees that there is almost no solution to environmental crisis, except for the radical ones – if the regime dare make. Simple solutions just do not make the cut to resolve complex problems. Now that the issues of the plastic waste pollution have been identified, the origin of the problem has to get addressed first. Malaysia may have problems with irresponsible civilians, but the job of educating them should not be ferried by fellow civilians who are adversely, cruising the day-to-day life mindlessly too.

It is about time that industry players and conglomerates get called out for their thoughtless manufacturing under the capitalistic assumption that consumers are demanding more single-use plastics to be produced, at the rate higher than their means of using it. Despite the economic prosperity these plastic industries may have promised a nation, they are progressing at the expense of the environment, which is sadly not ours alone. Regardless of the economic model introduced, an ecologically sustainable future remains unachievable for as long as the political, economic and social systems linger in their refusal to comply to a more comprehensive transformation. Circular economic model may have created a long-term solution albeit its false illusion of tackling ecological problems with engineering approach.

There is no doubt that environmental crisis as such of plastic waste pollution is deeply intertwined with other issues of social injustice, such as ecological inequality, climate migration, and environmental democracy. Yet even until today, environmental approaches are still being based on the shallow idea that human beings are necessarily destructive toward nature, and it is humans that need to be contained, instead of those in power of making better judgement. When the industry's production is curbed by consumers' decision to reduce their single-use plastic consumption, the industry players come up with creative ways to maintain their revenue; trash for cash. In this article's defense, the constant blame on the civil society will be exemplified below:

"We must address the issue of human behavior, and not demonize any particular material or industry." (C. C. Cheah, Vice President of MPMA).

As Malaysia is being ranked 8th (eighth) among the top ten highest offending plastic polluters globally, it has to be understood that the transformation towards eco-effective nation does not happen overnight. The researcher believes that it takes plenty of trial and error, time, effort, money and creativity, as described by [54] in their book Cradle to Cradle. However, the remodeling of the economic system has to be based on an unsullied intention of environmental protection, without misguiding the public. In which case, the concept of degrowth will release the society from the market-serving obligations to consume more single-use plastic than they actually need, hence providing a realistic solution to the crisis of plastic waste pollution. On a similar note, this research will conclude with another realistic approach of command-and-control regulation through the restoration economy, which creates a system that coerces polluters to either fix what they have ruined, or innovate something better that what they have destroyed.

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