

World Maritime University

The Maritime Commons: Digital Repository of the World Maritime University

World Maritime University Dissertations

Dissertations

10-31-2021

Assessing the effectiveness of community action on marine and coastal litter: case study through the prism of social media groups in a Maltese locality (Mellieha)

Tessy Umbuwa Anjide

Follow this and additional works at: https://commons.wmu.se/all_dissertations



Part of the [Natural Resources and Conservation Commons](#)

Recommended Citation

Anjide, Tessy Umbuwa, "Assessing the effectiveness of community action on marine and coastal litter: case study through the prism of social media groups in a Maltese locality (Mellieha)" (2021). *World Maritime University Dissertations*. 1671.

https://commons.wmu.se/all_dissertations/1671

This Dissertation is brought to you courtesy of Maritime Commons. Open Access items may be downloaded for non-commercial, fair use academic purposes. No items may be hosted on another server or web site without express written permission from the World Maritime University. For more information, please contact library@wmu.se.

WORLD MARITIME UNIVERSITY

Malmö, Sweden

**ASSESSING THE EFFECTIVENESS OF COMMUNITY ACTION ON MARINE
AND COASTAL LITTER: CASE STUDY THROUGH THE PRISM OF SOCIAL
MEDIA GROUPS IN A MALTESE LOCALITY (MELLIEHA)**

By

**TESSY UMBUWA ANJIDE
NIGERIA**

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the award of the degree of

**MASTER OF SCIENCE
in
MARITIME AFFAIRS
(MARITIME LAW AND POLICY)**

2021

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.
The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

Signature:

A handwritten signature in blue ink, appearing to read 'Tessa' followed by a stylized flourish.

Date: 21st September 2021

Supervised by: Professor Aref Fakhry

Maritime Law and Policy (MLP)

Supervisor's affiliation: World Maritime University Malmö
Sweden.

Acknowledgements

I am most grateful to God Almighty for giving me the strength and zeal to work so hard in achieving this Master's degree.

A special thank you to my dear supervisor Professor Aref Fakhry, who stood by me during the challenging times of writing my dissertation, even times that I got quite emotional and almost gave up. Thank you sir for encouraging me and assuring me that everything will be okay and yes everything is okay now.

My sincere acknowledgement goes out to the Norwegian Government for fully sponsoring my Master's degree and finding me worthy to be awarded this scholarship. I am forever grateful.

Thank you Fr. Peter Genger, for encouraging me to apply to the World Maritime University. I am forever grateful for this initiative.

My acknowledgement also goes out to my darling late mother, Mrs. Lily Anjide who passed on the 18th of June 2019. She would be so pleased. I will continue to make you proud.

To my dear father, Mr. Timothy Anjide (Former Secretary to the state government of Nasarawa State). Thank you for your support and encouragement as always.

To my dearest Aunt, who has stepped into the shoes of my late mother, Mrs. Tani Jitong. God bless you and I appreciate you.

To my dear brothers, John and Barrister Alex Anjide. Thank you for your love and kindness and to my only sister Barrister Marie Anjide. Thank you for standing by me all the time and thank you to all extended families.

To my best friend, Mansur Yusuf Jamoh, who helped all through my trying times and encouraged me to continue to forge ahead, and wished me nothing but the best and always made certain I take my academic pursuits very seriously. I appreciate you forever.

To my dear brother Yakubu Abubakar, who has supported me through this journey and guided me. Thank you very much.

To my Mentor, Ambassador Samuel Jimba, thank you for always listening to me, encouraging me and ensuring that I am on the right path. I appreciate you sir.

To Navy Captain Abel Memuduaghan Rtd, thank you for providing me with the necessary materials for my dissertation and always encouraging me to keep pushing hard. I appreciate you sir.

Abstract

Title of Dissertation: **ASSESSING THE EFFECTIVENESS OF COMMUNITY ACTION ON MARINE AND COASTAL LITTER: CASE STUDY THROUGH THE PRISM OF SOCIAL MEDIA GROUPS IN A MALTESE LOCALITY (MELLIEHA).**

Degree: **Masters of Science**

There is a wide spread of plastic pollution found in the marine environment and this is as a result of indiscriminate disposal of wastes by individuals in Mellieha locality and even globally. The negative impact of plastic pollution is that it results in marine and coastal litter and also has profound effects on the marine ecosystems and its living resources. For example, sea birds, turtles which hampers the progress of ocean sustainability.

There are International legal and policy frameworks in place to ensure that plastic pollution is combatted and they include; The International Convention for the Prevention of Pollution from Ships (MARPOL) 1973/1978, The "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972", the "London Convention" for short and a host of others laws which will be discussed in the dissertation.

There is a community action group (a nongovernmental organization) called Din-I-Art Helwa Mellieha located in Mellieha Malta with the aim and objectives of achieving a cleaner and sustainable ocean in Mellieha and other extended localities in Malta. The community action group carry out cleanups regularly and ensure that plastic pollution and litter management awareness is created to the public on the need to ensure that the marine environment is clean and plastic free. The community action groups also make certain that the activities carried out by them translates the intentions of the aforementioned International legal and policy frameworks for ocean governance.

The aim of the dissertation is to assess how effective the community action group is using the social media platform/outlet as a publicizing tool for the prevention of plastic pollution.

Data was collected during the interview conducted with the leaders/members of the community action group which was conducted via zoom and was scheduled on the 2nd and 3rd September 2021. Questions asked were regarding aims and objectives, the challenges faced and the recommendations for the betterment of the community action group were addressed.

KEYWORDS: Marine and coastal litter, plastics, single use plastics (SUPs), Community action group, indiscriminate disposal, social media platforms, cleaner, raising awareness, and sustainable ocean, Mellieha.

Table of Contents

Declaration.....	2
Acknowledgements	3
Abstract.....	4
List of Tables	9
List of Figures.....	10
List of Abbreviations	11
Chapter 1	13
1.1 Introduction and Background.....	13
1.2 Problem Statement.....	19
1.3 Aim and Objectives of the Study	22
1.4 Research Questions	23
1.5 Research Methodology.....	23
1.6 Limitation of Study	24
1.7 Structure of the Dissertation	24
Chapter Two.....	26
2.1 Review of the International Legal and Policy Frameworks that Addresses the Issues of Marine and Coastal Litter	26
2.1.1 The London Convention 1972 and the London Protocol 2006	26
2.1.2 MARPOL Annex V.....	28
2.2 The International Legal and Policy Frameworks Put in Place to Regulate Marine and Coastal Litter in Malta and its Effectiveness	30
2.2.1 The International Convention for Marine Pollution (MARPOL) 1973/1978	30
2.2.2 The Convention on the London Convention 1972 and the London Protocol 1996/2006	31
2.2.3 The Barcelona Convention 1978, 1995, 2004	32
2.2.4 Dumping Protocol 1976.....	33
2.2.5 Land - Based Sources Protocol (LBS) 1980, 1996 and 2008	33
2.2.6 The United Nations Sustainable Development Goal 14 Conserve and Sustainably Use the Oceans, Seas and Marine Resources.....	34
2.2.7 Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the Reduction of the Impact of Certain Plastic Products on the Environment	35

2.2.8	Recent Development of the European Union Calling for a Legally Binding International Agreement to Mitigate Plastic Pollution	36
Chapter Three	.....	37
3.1	Relevant Social Media Posts on Marine and Coastal Litter in the Observed Facebook Group Called Din 1- Art Helwa- Mellieha	37
Chapter Four	.....	50
4.1	Analyses of Methodology and Translation of Policies into Action	50
4.2	Interaction with Public Authorities Regarding Marine and Coastal Litter	51
4.3	European Union Directive 2019/904 and Recycling.....	52
4.4	Fishing Nets and its Negative Impact on the Marine Environment	52
4.5	The United Nations and Communities of Ocean Action.....	53
4.6	The Need for Safety Sign Posts and Removal of Abandoned Boats at Sea.....	54
4.7	Stakeholders Participation in Environmental Management.....	54
4.8	The Translation of Legal and Policy Frameworks into Action by the Community Action Group	55
Chapter 5	.....	56
5.1	Challenges, Recommendation and Conclusion.....	56
5.2	Inadequate Human Resources-	56
5.3	Inadequate Financial Resources:	57
5.4	The Need for a Continuous Recycling System:.....	57
5.5	Lack of Freedom of Communication:	57
5.6	Creating Awareness Is Not Effective Enough;	58
5.7	The Need for the Involvement of More Non-Governmental Organizations and Sponsors	58
5.8	Lack of Stronger Enforcement System:	59
5.9	Poor Societal Attitudes Towards Indiscriminate Disposal of Plastics :.....	59
5.10	Kiosks Around the Beaches;.....	59
5.11	Plastic Coated Bullets Used by Hunters;.....	60
5.12	Dumping of Unwanted Fish (High Grading);.....	60
5.13	Covid 19 Restrictions:	60
Conclusion	.....	61
References	.....	63

List of Tables

Table 1: Statistics of Plastic Pollution in the Ocean	13
Table 2: Statistics on How Plastics Threaten Marine Life in The Oceans	14
Table 3: Types of Single Use Plastics and their Natural Decomposition	15
Table 4: Diving and Snorkeling to Prevent Marine and Coastal Litters Date of Facebook post 7th April 2020	37
Table 5: 350 Recycling Beverage Machines to be Distributed by the End of the Year (2020) Facebook Post Made on the 19th of May 2020	38
Table 6: A Post Made by a Member Encouraging Other Members of the Facebook Group to Engage in Community Cleaning of the Beach in Mellieha. Facebook Post Made on the 25th June 2020.....	40
Table 7: St. Paul Bay Clean up Session Facebook Post Made On 30th June 2020	41
Table 8: Government to Put Out More Warning Sign Posts for Cars Parked at the Edge of the Quayside. Facebook Post Made on 29th November 2020.....	42
Table 9: Malta Sustainability Forum Conducted an Interview with the President of Malta on Plastic Litter Management on the 25th January 2021	43
Table 10: The Involvement of Government Officials at the Bugibba Jetty Cleanup Malta Facebook Post Made on 10th February 2021	45
Table 11: The Negative Impacts of Plastics on Marine Life. Facebook Post Made on the 21st February 2021	46
Table 12: Collaborations Between Community Action Groups to Prevent Land Based Pollution Facebook Post Made on the 21st April 2020	47
Table 13: Abandoned Wrecks on Sea Causing Marine Debris and Navigation Hazards for Vessels on Sea. Facebook Post on 25th April 2021.....	48

List of Figures

Figure 1: Geographical Location of Mellieha in Malta.....	17
---	----

List of Abbreviations

BARCELONA CONVENTION	The Convention for the Protection of the Mediterranean Sea Against Pollution
ERA	Environmental Resources Authority
EPR	Extended Producer Responsibility
EPA	Environmental Protection Act
EU	European Union
HSBC	The Hong Kong and Shanghai Banking Corporation limited
IMO	International Maritime Organization
ILO	International Labour Organization
IAS	National Strategy for Preventing and Mitigating the Impact of invasive Alien Species (IAS) in the Maltese Island
KG	Kilogramme
KM	Kilometre
LC	London Convention
LDC	London Dumping Convention
LP	London Protocol
LSBP	Land- based sources Protocol
MT	Metric Tonnes
MARPOL	The International Convention for the Prevention of Pollution from Ship
MAP	Mediterranean Action Plan
MEA	Multilateral Environmental Agreement
MEDPOL	The Mediterranean Pollution Assessment and control Programme
SUPs	Single Use Plastics
St	Saint
SOLAS	Safety of Lives at Sea
NTM	Nature Trust Malta

NTFM	Nature Trust Fee Malta
NBSAP	National Biodiversity Strategy Action Plan
NGO	Non-Governmental Organization
NAO	National Audit office
OPRC	The International Convention on Oil Pollution preparedness, Response and Cooperation
UN	United Nations
UN SDG	United Nations Sustainable Development Goals
UNCLOS	United Nations Convention on the law of the sea
VLCC	Very large crude carrier.

Chapter One

This chapter gives an overview of the study covering introduction, background, problem statement, aims and objectives, the research methodology to be employed and the limitations of the study.

1.1 Introduction and Background

Since the 1950s, over 6.3 billion worth of plastics have been produced. The problem of plastic pollution and its burgeoning threat to the marine environment have called for concern. The majority of the plastics consumed are SUPs (Single Use Plastics) such as straws, plates, cups, food containers, carrier bags, water bottles, which are to be used once and afterwards discarded (Adam, I., Walker, T. R., Bezerra, J. C., & Clayton, A. 2020).

According to The United Nations Environment, Marine litter can be defined as any persistent, manufactured or processed solid material discarded, disposed of or abandoned in a marine and coastal environment (Bergmann, et al., 2015).

Statistically, 80% of plastic pollution results from the land which makes it a major source of plastic pollution because the impacts of SUPs are seen on land and then connect to the marine environment which then serves as the sink (Jambeck et al., 2015). Over 4.8 and 12.7 million tonnes of plastic pieces are disposed into the oceans yearly (Condor Ferries, 2021).

Table 1: Statistics of Plastic Pollution in the Ocean

Below are the statistics of the level of plastic pollution in the ocean which demonstrates a better understanding of an accurate description of how the ocean is polluted with plastics.

1. Over 8 million pieces of plastics make their way into our ocean.	4. Plastics have been seen as far as 11 km deep which contaminates the majority of the remote places on earth.
2. About 2.5 trillion macro and 51 million	5.it is predicted that plastics in the ocean

microplastics litter our ocean.	would continually increase and outweigh the number of fishes by 2050.
3. About 165 million tonnes of plastic currently circulate in earth's marine Environment.	6. Just about 1% of marine litter floats, the remaining sinks to the sea floor.

Source: <https://www.condorferries.co.uk/plastic-in-the-ocean-statistics>

There are several causes of plastic pollution such as continuous production and consumption of plastics. Most jurisdictions have the problems of inadequate prevention and waste management systems for plastics, inadequate awareness and sensitization on the use of plastic and plastic pollution policies that are less effective in mitigating its harmful effects or with lesser enforcement systems. Plastic pollution negatively affects livelihoods, coastal tourism. (Miezah et al., 2015; Walker, 2006).

The issue of plastic pollution is ubiquitous and travels across all oceans as a result of its properties of buoyancy and durability which is broken down to fragments and debris littering the marine environment and its living resources. The issue of plastic pollution is even more problematic because it is ingested by marine biota and it also entangles for example fauna, zooplankton, cetaceans, seabirds and marine reptiles (Gregory, 2009) and this does not meet the objective of Sustainable Development Goal (SDG 14) "below water" which emphasises the need to conserve and sustainably use the oceans, seas and marine resources for a sustainable development (Teuten et al., 2007).

Table 2: Statistics on How Plastics Threaten Marine Life in The Oceans

A table illustrating the statistics of how marine biota are dying and threatened as a result of plastic pollution in the ocean (2021).

1. One in three fishes caught for human consumption contains plastic.	6. About 2-thirds of the World's fish stocks are threatened by plastic ingestion.
2. Over one million seabirds, 100,000 Marine animals die from plastic pollution every year.	7. Sea Turtles have up to 74% (by dry weight) of their diets composed of ocean plastics.

3. Over 59% of whales are affected by plastic pollution.	8. When coral reefs are affected by plastics. The likelihood of it becoming diseased increases from about 4% to 89% and this has had effects especially as coral reefs house more than 25% of marine lives.
4. Over 36% of seals are affected by plastic pollution.	9. Two species of marine animals are in danger of extinction due to plastics.
5. Over 90% of all seabirds have ingested plastics in their stomachs.	10. The population of tuna has drastically declined by 74% and about 1 in 4 shark species are threatened by plastic pollution in the ocean

Source: Condor Ferries, <https://www.condorferries.co.uk/plastic-in-the-ocean-statistics>

Table 3: Types of Single Use Plastics and their Natural Decomposition

The natural decomposition of plastics is dependent on the type and kind of material used which is a determining factor for a faster or slower biodegradable process (Tokiwa et al., 2009).

Types of Single Use Plastics	Life Cycle of Plastics (Decomposition)
1. Plastic Bag	20 years
2. Coffee Cups	30 years
3. Plastic Straw	200 years
4. 6- Pack plastic rings	400 years
5. Plastic water bottle	450 years
6. Plastic cup	450 years
7. Disposable Diapers	300 years

8. Plastic Toothbrush	300 years
9. Coffee pod	500 years

Source: Zumstein, et al., (2018). Biodegradation of synthetic polymers in soils: Tracking carbon into CO₂ and microbial biomass. *Science advances*, 4(7), eaas9024.

The commencement of the dissertation focused on a general introduction of plastic pollution globally. However, the major focus will be on a particular jurisdiction in Malta called Mellieha, Although Malta and Mellieha will be used interchangeably and that is because plastic pollution affecting Mellieha definitely has an effect on Malta (Vice versa). Malta is a country in Europe and it is also an archipelago in the central Mediterranean between Sicily which is 93 Kilometers (Km) and the North of African Coast which is 288 (Km) (Malta.com, 2109

Mellieha is a large town located in the Northern Region of Malta and it has the largest beach which is known as the Mellieha Bay and Mellieha is also a tourist attraction (Malta.com, 2019)

As of September 12, 2021, based on the World meter elaborations of the latest United Nations data, the current population of Malta is 442, 948 and the population in Mellieha as of 2021 is 7549 (Malta.com, 2019).



Figure 1: Geographical Location of Meliieha in Malta.

Source: Marie Cassar Google Photos 2021.

Meliieha currently has a community action group in Malta, which is known as Din l-Art Helwa-Meliieha. It is a Non-Governmental Organization (NGO) and also operates in person and on social media; it has a public Facebook page with over 1,100 members, although not all the members are active. The community action group is committed to an understanding of engagement and empowerment to prevent the indiscriminate disposal of plastic pollution and its negative impact to humans and the marine environment, its ecosystems, goods, and services. The Community action group also creates awareness by campaigning and sensitization on the need to fight marine litter. The community action group is known for ensuring community resilience and community capacity building for a litter-free environment in Meliieha (Haward, 2018).

There are International legal and policy frameworks targeting plastic debris in Malta and the laws include Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters (London Convention 1972). Malta is a State party to this Convention because it ratified the Convention on the 28th December 1989 and entered into force on January 27th 1990 (IMO, 2019).

Also, Malta is a State party to The International Convention for the Prevention of Pollution from Ships 1973/1978 (MARPOL). It ratified the Convention on the 27th September 2010 and entered into force on the 27th December 2010 (IMO, 2019).

Malta is a State party to the Barcelona Convention, Malta signed the Convention on the 16 February 1976, ratified the Convention on the 30th December 1977 and entered into force on the 12th February 1978.

Malta also signed the Directive of the European Union (EU) 2019/904 of the European Parliament and of the Council on the reduction of the impact of certain plastics on the environment. This Directive focuses on Single -Use Plastics and it has been formulated because of the effects of plastic pollution facing Europe. The Directive is majorly concerned about the fact that the Single-Use Plastics are not tailored for reuse and recycling that is cost effective. The European strategy is aiming to ensure that there are other sustainable alternatives available as this would reduce marine and coastal litter (European Union Law [EUL], 2019).

There is also the problem with the approach of plastic production and its consumption patterns because it is increasingly inefficient and linear and this does not meet the Sustainable Development Goal (SDG) 12 which emphasises sustainable consumption and production patterns. This is pivotal because it is in tandem with the 2030 Agenda for SDG adopted by the United Nations General Assembly on the 25th September 2015 (EUL, 2019).

It is worthy to note that, more discussion will be attributed to the Facebook group called Din I-Art Helwa - Mellieha, although there is a WhatsApp group called DLH-Coast/Marine but very limited or no discussion will be attributed to it because it is not entirely active and it is mainly for the management and decision making by the leaders/Members of the community action group.

1.2 Problem Statement

According to TimesMalta 2019, Malta has been revealed as one of the biggest offenders of plastic in Europe and this is as a result of Malta's approach towards plastic wastes management which has not been entirely successful (TimesMalta, 2019).

As of February 2021, The National Audit Office (NAO) recorded that over 58% of plastic waste ends in landfills and about 1% is recycled. The report acknowledged that Malta's waste separation system from the source which is supposed to be compulsory is ineffective and Landfilling costs are also a problem for the country (TimesMalta, 2019).

There is also the issue of inadequate recycling of plastic waste facilities because the process is costly including plastic wastes treatment costs. Malta's exported plastic wastes was revealed to have reached over 42, 800 tonnes of plastic waste as of 2019 (TimesMalta, 2019).

The NAO revealed that Malta has suffered setbacks in meeting the National and European Waste Union and European Union waste plastics management standards (Cedric Farrugia, 2021).

The need to combat the threats caused by plastic pollution has been recognized by the International Maritime Organization(IMO) and some of its legislations for example, Malta is a State party to the London Convention 1972 and the MARPOL Convention 73/78, Barcelona Convention 1978, 1995, 2004 and its Protocols, United Nations Sustainable Development Goal 14, European Union Directive 2019/904. However, Malta believes that these laws are not effective enough and is not merely putting laws in place but the need to ensure its practicality and effectiveness. (Environmental and Resources Authority, 2020).

The inadequacies of the above legislation have made Malta to strategize, formulate and implement a measure that would specifically address the problem of single use plastics in Malta especially as Single use plastics have a lower level of reuse, recovery and recycling compared to other options which are more sustainable. Since the laws that are already in place are not working effectively The single use plastic products strategy will be a ladder to achieving lower consumption of plastic products and thus leading to a plastic free environment and this is to say that laws are not enough but the laws in place must be operative enough for its aim and object to be met (Environmental and Resources Authority, 2020).

By virtue of the character of issue of marine litter facing local communities and global levels, community action groups are established and are very vital groups who work together as a community to ensure that their communities are focused on meeting measurable targets to reduce

the issue of both macro and micro marine pollution. It is essential to emphasize the importance of these community action groups because The United Nations Environment Assembly is focused on the commitments of supporting the implementation of the Sustainable Development Goal 14 held at the ocean's conference in New York in June 2017 (Haward, 2018).

One of the significant outcomes of the ocean's conferences was the establishment of Communities of Ocean Actions to aid in fighting marine pollution which aligns with the aim of SDG 14 to conserve and sustainably use the oceans and seas (Haward, 2018).

One of the significant outcomes of the ocean's conferences held in New York was the establishment of Communities of Ocean Actions to fight the issues of marine pollution whilst meeting the focus and target of SDG 14. It was emphasized at the United Nations Environment Assembly that governments, non-governmental organizations and civil society groups are encouraged to proffer solutions and act as a local community to mitigate marine litter and this can be achieved through voluntary actions by the members of the communities' action group (Neumann, 2019).

There is a community action group focusing on the reduction of marine and coastal litter called Din I-Helwa-Mellieha in Malta which is the focus of this dissertation. There are different problems associated with this community action group which hamper the efforts of the group to carry out set aims and objectives in ensuring a cleaner and sustainable ocean both in Mellieha, its extended localities and globally. Some of these includes lack of volunteers, current Covid-19 restrictions which prevent frequent cleanups, financial constraints, Kiosks at the beaches selling plastics instead of other sustainable alternatives. Awareness is not going a long way, lack of involvement of adequate non-governmental organizations, lack of stronger enforcement in place, frequent use of plastic coated bullets by hunters, dumping of unwanted fish.

Another challenge faced by the community action group is the issue of inadequate community stakeholders because with their engagement the process and progress of mitigating the catalyst caused by marine litter will be facilitated especially as the community stakeholders may be the driving force behind ensuring a change in the reduction of plastic pollution by ensuring that best practices and successes will be vastly distributed not just at the local level (Mellieha) also at the global level. Although an engagement of producers and commerce is essential for effective measures (Urbina et al., 2021).

Societal behaviour plays a significant role as determining factor on the level of plastic pollution and this is because from the commencement of plastic production to its consumption and the manner in which it is disposed results from human decisions leading to plastic pollution in the marine environment (Pahl, 2021).

Societal attitudes towards plastics is a problem because the purchasing powers and the disposal after each use lies in consumers. Therefore, social and behavioural sciences are necessary to correct the consumer's decisions on the indiscriminate disposal of plastics and it will be a guide for social change processes and it will establish and evaluate communication that is effective and bring about interventions in behavioral changes which can reduce the menace of plastic pollution (Pahl, 2017). There is also the issue of inadequate awareness and sensitization to individuals on the risk and dangers of plastic pollution and how plastics should be properly disposed of after each use instead of disposing indiscriminately and causing marine litter to the beaches, coastlines, landfills, and seas. A lack of awareness of the environmental and potential health dangers of marine litter. There is the need for sufficient interactive programs, campaigns and education on the effects of micro plastics on humans and the marine environment including its living resources (Dumbili et al., 2020).

Creating adequate awareness will establish a far reaching public and societal engagement which will correct societal attitudes towards plastic pollution (Soares et al.,2021).

Human behaviour related with lifestyles and consumption patterns, among other contributory factors leads to marine litter. It is pertinent to develop insights on perceptions, attitudes, and behaviours related to plastics (Henderson et al., 2020).

Increasing public awareness and the need for more effective marine environmental protection has promoted the use of eco-friendlier alternatives to traditional plastics (Pahveli et al., 2021).

However, bioplastics (plastics that are for example bio based, biodegradable, or have both properties) are slowly gaining market share specifically in consumer packaging applications (Dilkes, 2019). More so, the price of these products are considerably higher than conventional plastics, which is limiting its market (Pahveli et al., 2021).

Inadequate waste management and untimely litter collection potentially aggravates the scale of the problem and the poor resourcing of waste management and recycling infrastructure facilities to an unskilled/insufficient waste collection workforce. The effect of this is that when plastic litter degrades in an environment, it may be incorporated by a larger number of organisms which

threatens the lives of aquatic biotas, diminishing the commercial value of species consumed as human food. It negatively impacts the revenue of fishing activity leading to losses in tourism, among other economic impacts (Silva et al., 2020).

The community action group is using its collective voices which deepens calls for action and this is imperative in ensuring that all these inadequacies are addressed and it would lead to a marine and coastal litter free environment in Mellieha (Surfers Against Sewage, 2020).

1.3 Aim and Objectives of the Study

The aim and objective of this research is to assess how effective community action groups (Din I-Art Helwa- Mellieha) uses their social media platforms and outlets to prevent the issue of marine and coastal litter in Mellieha. The community action groups are vital because the activities carried out by them translates the intention of the international and policy legal frameworks into actions by so doing it will ascertain the pragmatism of the group as the actions of these groups demonstrates understanding, engagement and empowerment of communities regarding the indiscriminate disposal of plastics and its negative impacts on marine environment, its ecosystem goods and services. The research will also be vital because it will demonstrate how the action groups create awareness to communities on the negative effects of plastic and the need to ensure frequent cleanups of beaches and sea and this will develop better societal attitudes and perceptions of the need to avoid indiscriminate disposal of litter.

The aim of the study is to also access all the relevant International legislations and policy frameworks that focuses on ocean governance and whether or not it is effective for marine and coastal litter management. In the cause of doing this, the importance of the EU Directive on the reduction of the impact of the single use plastic would be discussed as it focuses purely on single use plastics.

Another aim and objective of this study is to outline the challenges faced by the community action group whilst carrying out the set aims and objectives of their group.

Another objective of the research is that there are so many challenges that the community action group is facing which hampers the need to achieve a cleaner and sustainable ocean in Mellieha. In order to address these challenges, the research aims to proffer solutions on how the community action groups can move forward in ensuring the burgeoning threats of marine and coastal litter are mitigated.

1.4 Research Questions

- 1 How operative is the Din I-Art Helwa - Mellieha Facebook group and DLH-Coast/Marine WhatsApp Group?
- 2 How does the object and purpose of the community action group translate the legal and policy frameworks governing marine and coastal litter?
- 3 What are the challenges faced by the community action group?
- 4 What are possible recommendations to improve the challenges faced by the community action group in ensuring a cleaner and sustainable ocean?

1.5 Research Methodology

The study employed both primary and secondary sources.

The primary source involved collecting data by interview which was done via zoom on the 2nd and 3rd September 2021 with the leadership/members of the Din I-Art Helwa - Mellieha community action group and the following questions were asked.

- 1 How operative is the Din I-Art Helwa - Mellieha Facebook group and DLH-Coast/Marine WhatsApp Group?
- 2 How does the object and purpose of the community action group translate the legal and policy frameworks governing marine and coastal litter?
- 3 What are the challenges faced by the community action group?
- 4 What are possible recommendations to improve the challenges faced by the community action group in ensuring a cleaner and sustainable ocean?

Data was also collected by observation from the daily Facebook posts of the community action group called Din I-Art Helwa - Mellieha. These methods of collecting data were significant because they provided the researcher with first hand observation and information necessary to answer the research questions especially as these are key leaders/members who are directly involved in the community action group. Legal instruments such as International Maritime Organizations Conventions (IMO) which includes The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/79, London Convention 1972 and Malta is a State Party to the Conventions and other relevant legislative instruments regarding marine and coastal litter were considered.

Secondary Sources will also be used because the issue of community action groups and its approaches to curb marine and coastal litter has attracted and is still attracting well written and reviewed scholarly articles. The study will collect data from internet sources, published journal articles, relevant publications, previous researches, newspapers and YouTube videos so as to gather information necessary for the study which would also address some of the gaps that have been identified by the research questions.

1.6 Limitation of Study

The researcher is resident in Malmo, Sweden. Therefore, collating data and using a third party was challenging.

The researcher is pressed by time constraints which will limit the progress of the study to an extent. The research was conducted during the global pandemic, resultantly, the researcher is unable to travel to Malta to collate data as a result of travel restrictions.

1.7 Structure of the Dissertation

Chapter 1

This chapter gives an overview of the study covering introduction, background, problem statement, aims and objectives, the research methodology to be employed and the limitations of the study.

Chapter 2

This chapter consists of the international legal and policy framework governing marine and coastal litter in Malta and their effectiveness.

Chapter 3

This chapter focuses on the data collected from observations from the daily activities of the community action group on Facebook and interview via zoom from the leaders/members of the social media platform.

Chapter 4

The chapter covers analysis of data collected under chapter three (methodology) from the social media groups and this will be achieved by accessing how the activities of the community action group translates the intention of the International legal frameworks and policy frameworks that govern marine and coastal litter.

Chapter 5

The last chapter summarized the findings of the collated data which was achieved through an interview with the members/leadership of the Din-I-At Helwa Mellieha and it was conducted via zoom on the 2nd and 3rd September 2021. Some of the questions asked during the interview conducted are as follows:

- 1 How operative is the Din l-Art Helwa - Mellieha Facebook group and DLH-Coast/Marine WhatsApp Group?
- 2 How does the object and purpose of the community action group translate the legal and policy frameworks governing marine and coastal litter?
- 3 What are the challenges faced by the community action group?
- 4 What are possible recommendations to improve the challenges faced by the community action group in ensuring a cleaner and sustainable ocean?

The researcher outlines recommendations that are practical and necessary to continually improve the empowerment and engagement of community members whose activism is for the successful reduction of the impact of marine and coastal litter in Mellieha and even extending to other localities and the world at large.

Chapter Two

This chapter consists of the review of international legal and policy framework governing marine and coastal litter in Malta and their effectiveness.

2.1 Review of the International Legal and Policy Frameworks that Addresses the Issues of Marine and Coastal Litter

The issue of marine and coastal litter is increasingly alarming in the oceans especially as different kinds of plastics which are either macro, micro and nanoplastics are consistently damaging the health and state of the marine environment (Sheridan et al., 2020).

There are numerous International legal and policy frameworks that focuses on ocean governance which aims to regulate the indiscriminate disposal of wastes in the ocean causing marine and coastal litter. International legal frameworks have been adopted to regulate marine and coastal litter. They are adopted in the forms of conventions, agreements, regulations, strategies, action plans programs and guidelines (Chen, 2015). For the purposes of this research not all of them would be reviewed due to the limitation on word count.

With these in place there are still some inadequacies that needs to be rectified which includes, wider focus on sea based sources and land based sources of pollution, the prevalence of soft law instruments and the fragmentation of the existing international laws (Feraro et al., 2020).

2.1.1 The London Convention 1972 and the London Protocol 2006

In the 1950s, many countries became overly concerned with the negative impacts of human activities on the marine environment as a result of the unmanaged disposal of wastes which ended up in the oceans and seas (Adam et al., 2021)

Malta is a State party to the London Convention 1972 and this means Mellieha is party to the Convention. This convention is also referred to as the London Convention and it is one of the earliest global conventions with the objective of protecting marine environment caused by human activities and entered into force in 1975 (Adam et al., 2021).

The goal is to promote an effective solution for all the sources of marine pollution and to take all pragmatic steps to prohibit pollution caused by indiscriminate dumping of wastes and other matter

which is capable of creating hazard to human health, endangering marine ecosystem goods and services that will encroach with the legitimate use of the ocean (Hong, 2015).

According to Gjerde, Dotinga, and Molenaar, (2008), The Convention should incorporate an approach that is modern towards waste management based on precaution and prevention. as The London Protocol has incorporated more recently developed environmental approaches such as the precautionary principle and polluter pays' principle. According to Annex 1 which outlines wastes or other matters that may be considered for dumping.

The dumping of single use plastics was not included in the lists of wastes or other matters and this is an inadequacy because the indiscriminate disposal of single use plastics after each use is on the rise and this is a major cause of plastic pollution. Malta is a country party to this convention and with a major issue of plastic pollution especially in Mellieha which the community action group have consistently advocated against dumping and encouraged the frequent use of prevention and waste management facilities put in place to avoid indiscriminate disposal by the society.

However, the convention has progressed since 1972 because it has succeeded in establishing environmental awareness regarding the consequences of indiscriminate dumping and how it affects biodiversity of the world's oceans, ecosystem goods and services and ensuring its sustainability.

It is a welcome development The London Protocol parties have established a compliance mechanism that is well-functioning and addresses newly emerging gaps which have a burgeoning threat to the marine environment.

Although there is no evidence that The London Convention intends to be amended further. The researcher is proposing some transitional measures to make certain that The London Convention is eventually replaced with the London Protocol which becomes the single global dumping treaty. According to Jambeck, (2015), 80% of plastic pollution is land based, this is as a result of inadequate prevention and waste management and recycling systems for an increasing production and consumption of plastics.

However, there is still plastic pollution resulting from ships. According to Nyka, (2018) as a result of the demand for plastics over the years, plastic wastes currently constitute a large share of global litter from both the land and seas which is a global threat to the environment.

2.1.2 MARPOL Annex V

According to Annex V prevention of pollution by garbage from ships, it focuses on different kinds of garbage, the proximity from land and the manner in which garbage is to be disposed of. The significant part of this Annex is that it prohibits the disposal of all types of plastics into the sea.

According to Raha et al., (2021), Annex V of the MARPOL Convention is a panacea for the issue of plastic pollution. A closer evaluation of this Annex illustrates that international agreement does not necessarily address many activities resulting in the issue of plastic pollution and the scope and enforceability of Annex v might be quite difficult against the polluters because plastic refuse can be indiscriminately dumped from coastal transports and recreational vessels which goes further to accumulate on shore in vast amounts.

According to Nyka, (2018), in the situation of plastic litter, it was challenging to establish a relatively effective system that prohibits pollution from ships than when its sources are land based. Therefore, the practicality of land based pollution is more difficult to mitigate without adequate legislation in place because hard laws have a stronger enforcement system which means it will have a greater impact on the method in which member states implement these laws and member states expressly commit to interchange in their various domestic jurisdictions international regulations that they have accepted at the international level. (Vince et al., 2018).

In the same vein, according to Hugo, (2018), the governance of marine litter is based on various legal frameworks and political initiatives but inadequate in a harmonious policy frameworks and an international legal framework that is legally binding, most especially land based sources of plastic pollution have been ignored for a long time and only considered on the basis of soft law. Hugo, (2015) went further to make two recommendations on how to improve the international frameworks on marine litter for better operation and practicality.

Firstly, another international legislation on marine litter should be adopted with a main focus on land based sources of marine litter including sea based sources (Tessnow-Von et al., 2019, UN 2017), The second option proposed is to amend the existing frameworks on marine litter and create a legal framework that is comprehensive and that strikes a balance for land based sources and sea based sources. (Raubenheimer and McIlgorm, 2017; UN Environment, 2017).

Also, Chen, 2015; (2019); Vince and Hardesty, (2016) and Worm et al., (2017) suggested that the majority of institutional challenges in respect to marine plastic pollution governance can be addressed by international agreements that are legally binding. They further stated that a

ubiquitous plastic legal framework is pivotal to ensure that policy changes both at international and national level.

At the international level, legal frameworks would encourage and enhance synergies among the existing initiatives. On the other hand, at the national level it will foster reforms on the current system of production and consumption and the approach of managing plastic wastes. The immediacy of solving marine plastic pollution was confirmed by the Sustainable Development Goal (SDG) and this could be a new initiative on moving forward a new international policy on plastics especially as SDG 14, fosters the need to conserve and sustainably use the oceans, seas and marine resources which in turns prevent marine pollution.

According to Vince and Hardesty, (2018), formulation of international legal framework with a legal binding force which targets plastic debris will undoubtedly take a long time to come into place because each member state will have to come to an agreement as to whether or not to ratify it which is dependent on different factors such as the level of capacity, both human and financial resources, prevention of waste management infrastructures or facilities in that particular jurisdiction.

According to Haward, (2018), international agreements are not easily formulated and are mostly criticised for taking quite a long time to reach agreements and the inclination for a minimum tolerable consensus to ensure outcomes of the international legal frameworks are well shaped.

According to Hugo, (2018), implementing new global legislations on the issue of plastic marine litter and the already existing international legislations will not immediately address the issues of marine litter and it will take time to be rectified because there is need to avoid overlapping, duplication, inconsistencies and contradictions and this is because the time needed for formulation and implementation of a treaty that is new is not in consistency with the urgency of the problem. Therefore, the first option of striking a balance between the land based sources and sea based sources of pollution is plausible.

On the other hand, Hugo, (2018), also suggested that a more feasible approach is to follow a double track which pursues an alignment between the existing legal frameworks in the short time while considerations are given to the development of new global treaties on plastic.

2.2 The International Legal and Policy Frameworks Put in Place to Regulate Marine and Coastal Litter in Malta and its Effectiveness

Below are the international legal and policy frameworks that are put in place to regulate marine and coastal litter in Malta. This chapter will ascertain the effectiveness of these legislations in regulating ocean governance in Malta. By so doing it will outline possible recommendations to ensure that the set intention and objectives in ensuring a cleaner and sustainable ocean is achieved. The recommendation would be a welcome development because the purpose of the legislation would be easily translated by Din I Art- Helwa-Mellieha as a community action group.

2.2.1 The International Convention for Marine Pollution (MARPOL) 1973/1978

Malta is a State party to the numerous legal and policy frameworks that target marine and coastal litter. Firstly, the International Convention for the Prevention of Pollution from ships (MARPOL). Malta ratified the MARPOL Convention on 27th September 2010 and entered into force on 27th December 2010 (IMO, 2019). The MARPOL Convention is a major international convention which focuses on prevention of pollution of the marine environment by ships from operational or accidental causes. It encompasses two treaties adopted in 1973 and 1978 respectively, Malta is part of the Mediterranean Sea and the Mediterranean Sea seen as a crucial sea lane for cargo and passengers' transportation (Bublyk et al., 2020). The frequencies of ships going on a voyage in the Mediterranean Sea would simply mean that there is a higher probability for pressures on the marine environment such as collisions, intentional and unintentional discharges of oil, air pollution and incidents with tankers, like VLCC MT Haven on 11 April 1991 (Brooijmans et al., 2009). The discharge of various substances from ships on a day to day basis is the leading cause for the challenges posed to the aquatic environment. operational oil spills, chemical cargo residues, anti-fouling paint, sewage. There are other particular legislations aside from MARPOL which are put in place to address these issues on an international level, namely, The International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC Convention) which Malta ratified in 2003, Also Malta ratified the United Nations Convention on the Law of the Sea 1982 (UNCLOS) on 10 December 1982 and it entered into force on the 20th May 1993.

MARPOL as an international convention for targeting pollution from ships is a welcome development because it recorded success in ensuring a cleaner and sustainable ocean. This

convention is highly needed because global commerce has grown over the past years. For example, there is high demand for oil and it takes large tons of oil to satisfy the demands for oil (Kostianoy, 2018).

The high volume of oil shipped between ports of shippers and the consuming nations sometimes finds its way into the ocean instead and the release is in relation to ship operations or even accidental spills. However, in both circumstances the marine environments are impacted with the negative effects of the spills and not only has this convention prevented oil spills but it has established a ship waste standard (Lost-Siemińska, (2020). Although this convention has been a success so far, if there is the need to prevent ship spills then there is also a need to have an equal or greater approach that would prohibit operational or accidental discharges (Aldosari, 2021).

2.2.2 The Convention on the London Convention 1972 and the London Protocol 1996/2006

Malta is a State party to The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 because it ratified the Convention on 28th December 1989 and it entered into force on 27th January 1990.

The above Convention is also called the London Convention for short. The London Convention is one of the earliest conventions put in place to ensure that the marine environment is protected from human activities and it has been in force since 1975. The object and purpose of this convention is to foster an effective control for combatting all the sources of marine pollution and the need to take efficient steps in prohibiting pollution of the sea by dumping of wastes and other matters which pose a burgeoning threat to the environment (Stokke, 2018).

However, in 1996, The London Protocol was agreed to make the Convention more modern thereby replacing it. The London Protocol prohibits all kinds of dumping but the exception to the general rule are wastes which are outlined in the reverse list (Birchenough, 2020).

The London Convention and The London Protocol are two International legal frameworks that govern ocean sustainability by ensuring prevention and control of pollution by ocean dumping. However, The London Convention and the London Protocol are two distinctive legislations which focus on ocean dumping problems (Martini, 2021).

The International Maritime Organization held a meeting in 1996 with the intention to amend The London Convention by integrating it into a single instrument so as to set forth the altered provisions of The London Convention by thoroughly reviewing the agreement and that the unaltered

provisions be repeated so as to ensure flow and consistency. It was agreed that the integrated instrument would be called The London Protocol 1996 to The Convention On the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972. The London Protocol 1996 was adopted because its procedures for adoption and enforcement have lesser hurdles than that of the London Convention 1972 (Martini, 2021).

Conclusively, The London Convention 1972 and London Protocol 1996 govern ocean dumping also known as ‘‘two treaties in one family’’ approach and according to the rules of procedure since London Protocol 2006 entered into force. The inadequacies between the two global ocean dumping treaties has broadened especially as the London Protocol Parties have taken measures to establish a compliance mechanism that is effective and strategies that will be proactive in rectifying problems that pose threats to the marine environment. There is currently no intention by the London Convention Parties to amend the London convention just yet (Martini, 2021)

2.2.3 The Barcelona Convention 1978, 1995, 2004

The Convention for the Protection of the Mediterranean Sea Against Pollution also known as Barcelona Convention was adopted in Barcelona on 16th February 1976 and then entered into force in 1978. Malta is a State party to the Barcelona Convention, Malta signed the Convention on the 16 February 1976, ratified the Convention on the 30th December 1977 and entered into force on the 12th February 1978. The Barcelona Convention followed the procedures of amendment in 1995 and was further renamed The Protection of the Marine Environment and the Coastal Region of the Mediterranean. The amendments of the Barcelona Convention were successful and entered into force in 2004 (UN Environmental Programme, 2021).

The Barcelona Convention had seven different protocols which were adopted in the framework of the Mediterranean Action Plan also called (MAP) also constitutes the major regional legally binding Multilateral Environmental Agreement also called (MEA) in the Mediterranean (Carpenter, 2017).

Countries that are State Parties to the Barcelona Convention have consented to individually or collectively take proper measures in conformity with the provisions of the Conventions and the protocols that are in force to which they are State party to in order to prohibit, abate, mitigate and the maximum possible eliminate pollution occurring in the Mediterranean Sea Area and to safeguard and enhance the marine environment in the Mediterranean Area so as to make a

contribution towards sustainable development. State parties to the Barcelona Convention cooperate in the formulation and adoption of protocols, specifying measures and procedures that are agreed and ensuring standards for the implementation of this Convention (Fossi et al, 2021). There are seven Protocols which were adopted in the framework of the Mediterranean Action Plan also called (MAP) but for the purpose of this research, only the applicable and relatable protocols will be discussed (Cramer, 2020).

2.2.4 Dumping Protocol 1976

The first Protocol to be discussed is known as The Protocol for the Prevention of the Mediterranean Sea by Dumping from Ships and Aircraft was adopted in 1976 and came into force in 1978. The purpose of this protocol is for states parties to ensure proper measures are adhered to in order to prevent, mitigate and eliminate possible pollution in Mediterranean Sea by dumping of wastes or other matter to a reasonable extent (Trouburst, 2011).

The Mediterranean Pollution Assessment and Control Programme (MED POL) renders assistance to countries who are State party to the protocol in achieving their responsibilities under the Dumping Protocol, through the establishment of specific Guidelines detailing step-by-step processes to access wastes and other matters that are been considered for disposal at sea (Layglon, 2020).

2.2.5 Land - Based Sources Protocol (LBS) 1980, 1996 and 2008

The Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-Based Sources was adopted in 1980 and came into force in 1983. However, in 1996, the Land-Based Protocol was amended and currently called Protocol for the Protection of the Mediterranean Sea Against Pollution from Land- Based Sources and Activities. The amendments of the Land-Based Sources Protocol entered into force in 2008 (Raha et al., 2021).

The main purpose of the Land-Based is to ensure that adequate measures are adhered to so as to prevent, abate and eliminate pollution to a very large extent in the Mediterranean Sea from land based sources and activities by reducing and phasing out of substances which are toxic, persistent and liable to bio accumulate in the protocol. The Protocol also states that source discharges and pollutants which are released are subject to permission or regulation system by various countries taking into consideration some factors which range from characteristics and composition of the discharges to the potential impairment of marine ecosystems and sea-water uses. Regional Action

Plans and National Action Plans entail particular measures and timetables that have been established to implement the Land- Based Protocol which addresses the management of marine litter (United Nations 2021).

This Land-based protocol is a welcome development because 80% of marine pollution starts from the land as a result of poor societal attitudes and indiscriminate disposal of wastes after each use. It could also be as a result of inadequate prevention and waste management facilities in place. The implementation of this protocol is a notable achievement because it will help in combating the negative impacts of land based sources of pollution which goes further to create marine and coastal litter. The Land-Based Sources Protocol is a proper legal framework because it has set out particular measures and operational targets with the aim of achieving good environmental status in the Mediterranean Sea, also basin-wide marine litter reduction targets of over 20% beach litter by 2024 (Kosior 2020).

2.2.6 The United Nations Sustainable Development Goal 14 Conserve and Sustainably Use the Oceans, Seas and Marine Resources

The SDG 14 is a vital United Nations Sustainable Development Goal because it focuses on the need to preserve and conserve marine resources which is also known as'' Life Below Water'' and this is particularly important because the ocean drives global systems that makes the earth habitable for humans (Merken et al., 2016).

The oxygen that we breathe, climate, seafood, coastlines are provided and regulated by the sea. Marine resources can only be preserved and conserved if there is careful management of the oceans and seas which is a paramount attribute of a sustainable ocean. Marine and Coastal litter is a ubiquitous issue because pollution has adversarial impacts on the functioning of ecosystems and biodiversity (Kildow et al, 2010).

SDG 14 encourages the need for humankind to save the ocean and that this must remain a priority especially as marine biodiversity is crucial to the health of humans and the planet. SDG 14 also fosters the need for marine protected areas to be effectively and sustainably managed and regulations should continue to be put in place to mitigate marine pollution. On the other hand, poor planning, insufficient land-sea governance, improper and inadequate awareness and sensitization, regulations and lack of stringent enforcement system will continue to hamper the intent and purpose of the SDG 14 (Visbeck, 2014).

2.2.7 Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the Reduction of the Impact of Certain Plastic Products on the Environment

The European Union also known as the EU Directive aims to reduce the negative impacts of specific types of plastic products on the environment commonly called the Single Use Plastics (SUP) Directive. The SUP Directive seeks to achieve the reduction of pollution from the single-use plastics found in the environment. This Directive entered into force on 3 July 2019.

The SUP Directive lays out a progressive phase out of single-use plastics, to be replaced by reusable products and systems. It goes further to address single-use plastic items through a range of complementary policy measures. Which includes;

1. EU-wide bans of over 15 items e.g. plates, cutlery, straws, cups made of expanded polystyrene, food and beverage containers made of expanded polystyrene commencing from 3 July 2021,
1. Reduction of consumption for food containers and beverage cups, by 2026 compared to 2022.
2. Fee-modulated Extended Producer Responsibility (EPR) schemes for numerous items such as packets, wrappers, wipes, tobacco products, etc. also the costs of clean-ups.
3. Particular requirements of design for beverage containers and bottles, including recycled content integration and attachment of the cap to the container, separate collection of bottles - 77% of bottles put on the market by 2025 and 90% by 2030.
4. Labelling requirements; which includes the presence of plastic and its impact on the environment for items such as beverage cups, wet wipes and tobacco products etc.
5. The need for awareness raising measures; It is necessary that there should be awareness on the impacts of single-use plastic on the environment and the need to foster the use of reusable alternatives (Syberg et al., 2021).

In December 2020, The government of Malta transposed the EU Directive on the reduction of the impact of single use plastics on the environment into law by adopting its national law "Restrictions on Placing on the Market of Single-Use Plastic Products Regulations, 2020". The draft of this legal framework was published in October 2020 for public consultation until the end of November 2020. This public consultation included a public event coordinated by the Maltese authorities and numerous targeted one-to-one meetings with relevant stakeholders (Aristei, 2020).

The European Union single-use plastics directive is a significant legislation because it targets the reduction of the impact of single-use plastics on the environment across the EU. The EU Directive sets out different types of plastics and how they negatively impact the environment, labelling requirements and even the need to create awareness. The laid-down measures are proactive because it looks at the long term rather than the short-term approaches of combating pollution in the marine environment. Therefore, this is effective in achieving a cleaner and sustainable ocean (Elliot et al., 2020).

2.2.8 Recent Development of the European Union Calling for a Legally Binding International Agreement to Mitigate Plastic Pollution

According to the United Nations environment, since the 1950s, over 8.3 billion tonnes of plastics have been produced and about 60% end up in the landfills or find its way to the natural environment and the negative impact of this is that it causes more than a million seabirds and about 100,000 marine mammals to die every year (EURACTIV, 2021).

On the 2nd of September 2021, a German official reported that about 75 countries fully supported a draft resolution which was in circulation during a United Nations hosted conference in Geneva, over 1,000 delegates from about 140 countries, including numerous non-governmental organizations took part in the Geneva conference (EURACTIV, 2021).

The programme is hosted by the United Nations Environment programme and it was expressed during the conference that the planet is suffering from plastic pollution and statistically over 300 million tonnes of plastics wastes are generated every year (EURACTIV, 2021).

The leadership of France in charge of biodiversity emphasized that there is the need for the world to act responsibly and failure to do so would mean that there would be more plastics in the ocean than fish by the year 2050 (EURACTIV, 2021).

The text of the agreements outlined the tiny fragments that have been discovered in every ocean and even at the bottom of the world's deepest trench. The objective of the resolution is to foster a circular economy that would address the full-cycle of plastics from the level of production, consumption and design to waste, management and treatment. The resolution would be discussed in the year 2022 during the United Nations Environment Assembly in Nairobi. Although it may take a long time for the agreement to be implemented. It is believed that in years the convention will come into force and its sets object and purpose would be met (EURACTIV, 2021).

Chapter Three

3.1 Relevant Social Media Posts on Marine and Coastal Litter in the Observed Facebook Group Called Din 1- Art Helwa- Mellieha

This chapter describes social media posts activity in the observed Facebook group called Din-1 Art Helwa Mellieha. Given the vastness of the groups' coverage, there are numerous posts, however it was important to select certain relevant posts based on criteria which includes, pertinence to the research questions, posts applicable to the relevant legal and policy frameworks and posts significant to the overall findings of the study. The posts are described summarily within tables and some of these tables focuses on social media platforms as a tool for publicizing environmental awareness, beach cleanup sessions, collaborations between community action groups, negative impact of plastics on marine biota, the need for recycling, members of the community action groups encouraging each other to engage in beach cleanups.

The tables describing the selected social media posts under observation are set out one after another in no particular order. It is also worthy to note that the tables will contain quite a number of pictures and the essence is to demonstrate some of the environmental cleanups carried out by Din I-Art Helwa-Mellieha community action group.

Table 4: Diving and Snorkeling to Prevent Marine and Coastal Litters Date of Facebook post 7th April 2020

TITLE OF POST.	Likes and comments	References
DIVING AND SNORKELLING		
A member shared on the Facebook page of how a member went diving into the beautiful Mediterranean Sea to clean up wasteful materials in the marine environment. Other members were also encouraged to act within the moment and take up harmful wastes whilst diving or snorkeling and dispose of it adequately as this is	7 likes	https://www.facebook.com/groups/621813388456579/search/?q=snorkeling%20and%20diving

another way of prevention and management of wastes from the marine environment.		
---	--	--

Source: Author, 2021.

**Table 5: 350 Recycling Beverage Machines to be Distributed by the End of the Year (2020)
Facebook Post Made on the 19th of May 2020**


TITLE OF POST: RECYCLING MACHINES	IMAGES	LIKES AND COMMENTS	REFERENCES
<p>A post was made on the community action Facebook group by a former Mayor who serves as a minority leader at the St Paul's Bay Council in Malta. The mayor stated the intention of the government to recycle plastics by the end of the year (as of 2020) and that May 2021 may be the lucky year. she explained that in the year 2015 when she was still the Mayor, a plastic recycling system was</p>	<p>Below is the image of how much progress recycling has attained in Malta as of the year 2020:</p>  <p>The infographic displays the following recycling statistics for 2020:</p> <ul style="list-style-type: none"> 30.6 MILLION FOOD CANS 5 MILLION CARDBOARD BOXES 24 MILLION PLASTIC BOTTLES 4 MILLION SOFT DRINK/BEER CANS 1 MILLION DETERGENT BOTTLES 47 MILLION GLASS BOTTLES <p>At the bottom, it says 'THANK YOU FOR SORTING IT RIGHT' and includes the logos for WASTESERV MALTA (WASTESERV.MALTA.COM) and WASTESERV (CREATING RESOURCES FROM WASTE).</p>	<p>8 likes and 3 shares</p>	<p>https://www.facebook.com/groups/621813388456579/search/?q=july%202020</p>

<p>introduced but for some strange reason they were stopped from continuing the scheme.</p> <p>However, in 2017, it was announced by the government that there would be an initiative focusing on plastic bottles.</p> <p>In 2019, she stated that the scheme will commence by the end of 2020 with some machines that would be installed as a pilot project.</p> <p>However, that same year 2020, it was stated that the scheme may have to be delayed and that Six years later, the scheme may be in place. The main reasons why the St Paul's Bay local council was stopped from continuing this</p>			
---	--	--	--

<p>initiative is unknown</p> <p>This initiative would have by now reached a much higher level of plastic recycling than what it is now.</p>			
---	--	--	--

Source: Author, 2021.


Table 6: A Post Made by a Member Encouraging Other Members of the Facebook Group to Engage in Community Cleaning of the Beach in Mellieha. Facebook Post Made on the 25th June 2020

TITLE OF POST	IMAGES	LIKES AND COMMENTS	REFERENCES
<p>BEACH CLEANUP</p> <p>A post was made by one of the members on the community's action Facebook platform encouraging other members who are willing to be part of the cleanup at Manikata, a small village within the limits of Mellieha. The member stated that cleaning equipment such as gloves, boros and 'pickers' will be provided.</p>		<p>11 likes and 2 comments by the members stating that they would sustain the effort of the community action group by carrying plastic bags with them wherever they go especially as bins are not so frequent.</p>	<p>https://www.facebook.com/groups/621813388456579/posts/622525635052021</p>

Source: Author, 2021.

Table 7: St. Paul Bay Clean up Session Facebook Post Made On 30th June 2020

TYPES AND TONNES OF LITTERS FOUND AT ST. PAUL BAY MALTA	IMAGES	LIKES AND COMMENTS	REFERENCES
<p>The 2020 clean-up session has officially kicked-off at St. Paul's bay in Malta. It was considered by the members of the Facebook group the toughest and most rewarding cleanup.</p> <p>The cleanup session took over 5+ hours of hard work, with the help of 100+ divers, snorkel and coastal volunteers, the harmful wastes collected amounted to 3092.78 kg / 3.09 tonnes of waste.</p> <p>The members stated that St Paul Bay was definitely better than how it was before the cleanup and the members then appreciated everyone that participated in the beach cleanup. The Recyclable Ocean Plastics</p>	 	<p>10 likes and 2 shares</p>	<p>https://www.facebook.com/groups/621813388456579/search/?q=30th%20june%202020</p>

<p>also found included 175 kg</p> <p>Recyclable Ocean Plastic Bottles* 27 kg</p> <p>🍷 Glass 25.85 kg</p> <p>🔩 Metal 19.48 kg</p> <p>🗑️ General 286.03 kg</p> <p>🚗 Tyres 101.5 kg</p> <p>🎣 Fishing Gear 347.54 kg</p> <p>📦 Bulky Waste 2105 kg</p>			
---	---	--	--

Source: Author, 2021.


Table 8: Government to Put Out More Warning Sign Posts for Cars Parked at the Edge of the Quayside. Facebook Post Made on 29th November 2020

TITLE OF POST WARNING SIGN POSTS	LIKES AND COMMENTS	REFERENCES
<p>A post was made by one of the members of the group saying there are not enough warning signs placed at the South Quay, Cirkewwa in relation to safety during the stormy weather for Maltese citizens and even for foreigners. The post was necessitated by cars washed away by the storms. The post also commended the individual whose car was affected by the storm for taking the responsibility to hire people to remove the car from the</p>	<p>9 likes and 3 comments by members stating that car owners are quite careless because they parked so close to the quayside and another comment stating that there should be some signs to warn car owners against parking close to the quayside and that this kind of incident should be reported frequently to the local authorities.</p>	<p>https://www.facebook.com/groups/621813388456579/posts/732042294100354</p>

<p>seabed of South Quay. The post further stated that cars yet to be removed should emulate the behaviour of the individual who had his car removed immediately. The prevention of marine and Coastal litter is not the duty of the government alone but it is a collective act.</p>		
--	--	--

Source: Author, 2021.

Table 9: Malta Sustainability Forum(MSF) Conducted an Interview with the President of Malta on Plastic Litter Management on the 25th January 2021

INTERVIEW WITH THE MALTESE PRESIDENT ON ENVIRONMENTAL SUSTAINABILITY	IMAGES	LIKES AND COMMENTS	REFERENCES
<p>A member of the Din l-Art Helwa- Mellieha community action group posted on the Facebook book page that other members should join the livestreaming involving the President of Malta and a non-governmental organization called Malta Sustainability Forum with the motto: Learn, Engage and Act. The forum’s main objective is to raise awareness on the subject</p>		<p>4 LIKES</p>	<p>https://www.facebook.com/groups/621813388456579/posts/762427564395160</p> <p>https://bit.ly/msf-agenda</p>

<p>matter of sustainability with the purpose of empowering citizens in making conscious decisions regarding a more sustainable environment.</p> <p>On 25th of January 2021, an interview was conducted by MSF. The interview was on environmental sustainability. The president stated that the first step is to create awareness from the grass root and that SDG 4 which targets global education inclusive, equitable and quality education. The president stated that the involvement of pupils at primary schools is necessary because it will from a very young educate them on appropriate disposal of waste, encourage recycling and create awareness of plastics and this will give the younger generation a place in nature. The president also stated that there is a need for education to be used as a tool in achieving a sustainable environment which can be in the form of education</p>			
---	--	--	--

<p>by example, education by legislation, including concept and practices in order to give good results. He stated that sustainability dialogue and social dialogue is also necessary in the promotion of marine and coastal litter free environments.</p> <p>The involvement of these pupils at a very tender age will encourage decision making for the betterment of a cleaner and sustainable environment as they are the future and the future of the environment belongs to them. The president said.</p>			
--	--	--	--

Source: Author, 2021


Table 10: The Involvement of Government Officials at the Bugibba Jetty Cleanup Malta Facebook Post Made on 10th February 2021

LEADERSHIP BY EXAMPLE	LIKES AND COMMENTS	REFERENCES
<p>A post was made by one of the members of the Din l-Art Helwa-Mellieha Face group informing other members on how a cleanup was carried out at the Bugibba jetty Malta and how participatory some government officials were in the cleanup activities such as the Shadow Minister</p>	<p>11likes,8comments and 2 shares.</p>	<p>https://www.facebook.com/groups/621813388456579/search/?q=bugibba%20jetty</p>

Environment and Climate change, Mellieha Local Councilor, St Paul's Bay Councilor and Green MT Ltd a waste management service in Malta.		
---	--	--

Source: Author, 2021.

Table 11: The Negative Impacts of Plastics on Marine Life. Facebook Post Made on the 21st February 2021

NEGATIVE IMPACT OF PLASTICS ON MARINE LIFE	IMAGES	LIKES AND COMMENTS	REFERENCES
<p>A member of the community action group posted that a juvenile loggerhead was rescued in Gozo within Malta on 21st February 2021. The turtle named Joan was seen entangled in net marine debris ashore the beach. Joan the turtle had expelled 3 pieces of plastic the day after her arrival and 2 other pieces a few days after. As the negative impacts of marine and coastal litters is on the rise. There is the need for the public to appropriately dispose of litters in a manner that is responsible. Marine and coastal litters are the major</p>	 <p>The image is a composite of three parts. The top part shows a person in blue overalls holding a brown turtle. The middle part is a blue rescue card with white text: 'TURTLE RESCUE', 'Name: Joan', 'Species: loggerhead', 'Rescue date: 14/02/2021', 'Location: Gozo', and 'Emergency line: 99999505'. The bottom part shows three pieces of plastic debris on a light surface, with the caption 'Pieces of plastic expelled by Joan'.</p>	<p>14 likes, 2 comments and 3 shares.</p>	<p>https://www.facebook.com/groups/621813388456579/posts/777295182908398</p>

<p>cause of casualties of marine life. Fishing gear floating in the oceans should be collected and disposed of adequately and timely.</p> <p>Nature Trust Malta appeals to the public to dispose of litter in a responsible manner. Marine litter is the cause of many casualties of marine wildlife. If you see some fishing gear floating at sea, please collect it.</p> <p>The community action group appreciated their members who called the wildlife Rescue Team. Joan the turtle is under observation at Rehab center at San Lucjan.</p>			
---	--	--	--

Source: Author, 2021.

Table 12: Collaborations Between Community Action Groups to Prevent Land Based Pollution Facebook Post Made on the 21st April 2020

TITLE OF POST COMMUNITY ACTION GROUPS AND COLLABORATIONS FOR A CLEANUP	LIKES AND COMMENTS	REFERENCES
A post was made by one of the members of the Facebook	15 likes and 2	https://www.face

<p>group on a cleaning collaboration between another community action group called Raniero's Adventures - Live Life a Non-Profit organization and a Non-Governmental organization who strive to ensure a cleaner and sustainable ocean by organizing numerous cleanups and creating awareness on the need to protect our environment. Raniero's Adventures -Live Life also collaborates with community action groups who share common interests with them. To demonstrate this, on 21st April 2020, there was a cleanup between the two community action groups going up the hill from Xemxija to Mellieha, Raniero's Adventures - Live Life joined Din l-Art Helwa - Mellieha for a land clean-up. A large mattress and large quantities of disastrous wastes were found along the road. As shown in the video, there is a small side road on the left and all the waste materials could be found there and a lot of litter was gathered(video in the reference link) Both community action groups call for more help by asking if Parks Malta could kindly assist and tackle the problem found at Mellieha because they could not have done that alone even as a group of two.</p>	<p>comments.</p>	<p>book.com/groups/621813388456579/search/?q=large%20mattress</p>
--	------------------	--

Source: Author, 2021.

Table 13: Abandoned Wrecks on Sea Causing Marine Debris and Navigation Hazards for Vessels on Sea. Facebook Post on 25th April 2021

NEGATIVE IMPACT OF ABANDONED WRECKS	LIKES	REFERENCES
<p>A clean-up was organized at Bugibba Jetty area and there was a sunken boat which was abandoned. The boat had first been found back in October 2020 and was still abandoned as of January 2021</p>	<p>4 LIKES</p>	<p>https://www.facebook.com/RanierosAdventure</p>

<p>which is still attached to the buoy/ mazra of the original owner. There was no effort to have it removed by the owner.: https://www.facebook.com/RanierosAdventures/videos/427278068509039</p> <p>One of the members took the responsibility to remove the full tank of petrol and dispose of it adequately. It can clearly be observed from the video that petrol was leaking in the sea. By April 2021, the boat was found to be breaking into pieces due to the storm, the outboard engine was destroyed and there was debris all around. If the boat is not removed as soon as possible the boat would be nothing but debris, causing immense damage to the seabed and this will be considered marine and coastal litter. The member is calling on Transport Malta and ERA to take action and find the owner of the boat so he can do the needful. The member also stated that if the owner is unable to be contacted then the member could be reached in order to help with the removal of the sunken boat. The member also call for all individuals to be responsible and avoid littering the marine environment.</p>		<p>s/videos/427278068509039</p>
--	--	--

Source: Author, 2021.

Chapter Four

4.1 Analyses of Methodology and Translation of Policies into Action

Facebook as a Medium for Raising Awareness on Marine and Coastal Litter

The chapter covers analysis of data collected under chapter three (methodology) from the social media groups and this will be achieved by accessing how the activities of the community action group translates the intention of the International legal and policy frameworks that govern marine and coastal litter.

Social media platforms are now part of an everyday lifestyle for individuals, government, community action groups and other entities. This is particularly pivotal because with the advancement of industrialization, science, technology and globalization, different environmental problems are taking place locally and globally (Hamid, 2017).

The Din I-Art Helwa-Mellieha Facebook group was established on the 24th June 2020 with the objective of ensuring frequent cleanups in the beaches and seas located at Mellieha, the social media platform is also a medium used to raise awareness on the negative impact of marine and coastal litter (Albert, 2020).

There are collaborations and partnerships with other bodies and agencies such as Mellieha Local Council, Clean Malta, other Government entities and private companies so as to be part of the fight against marine and coastal litter in Mellieha and extending to other localities in Malta. The Facebook group currently has 1,200 members although not all the members are active. But a number of active members are very diligent and committed to the cause of fighting marine and coastal litter in Mellieha (Din I-Art Helwa-Mellieha, 2020).

The community action group seems to be functioning well because there is a high frequency of significant Facebook posts regarding cleanups, awareness and sensitization of marine and coastal litter, the fight against indiscriminate disposal of wastes which litter the marine environment. There are also positive responses in the comment section on most of the Facebook group posts demonstrating the willingness to work and achieve the object and purpose of the Din I-Art Helwa-Mellieha as a community group.

The Din I- Art Helwa-Mellieha community action group is currently utilizing the social media platform as a tool to foster environmental awareness and education following the current trends of

environmental issues. The use of this social media platform by the community action group is necessary because information regarding mitigating environmental issues is published quickly to a large mass and the span of time used is very short. The significance of environmental education in ascertaining the value of social media can be achieved through interaction between environmental educators, groups, government and the society locally and globally (Rangel, 2020).

Social media platforms also give an insight and the ability for the masses to track the quality of the climate, sea, ocean which is further shared with other individuals with common goals and interests (Malick et al., 2019).

The Din I- Art Helwa -Mellieha social media platform has provided its members with the ability to change poor societal attitudes and behaviours towards marine and coastal litter. The Facebook platform is a pertinent tool in creating space and alternatives for the public to be participatory in influencing the decision or sabotaging the environmental decisions made by the governments and corporations that will affect all individuals. (Warner et al., 2014).

4.2 Interaction with Public Authorities Regarding Marine and Coastal Litter

On 17th June 2021, a post was made by a member of the Din I - Art Helwa -Mellieha Facebook group showing how some young students are organizing cleanups in their schools. This is a significant step in the right direction because it reiterates the interview of the President of Malta conducted on the 25th of January 2021 expressing that pupils, students and younger generation should be targeted as individuals from grassroots who will create direct impact on changing the behavioural pattern of parents, relatives, families and community members on how to protect the environment (Daniela, 2021).

The younger generation are using both conventional and unconventional approaches in ensuring the environment we live in is protected and cared for. The engagement of the younger generation in environmental management is pivotal because youths will mobilize their peers on social platforms to deliberate and advocate for a better environment (Chawla, 2008). The post was to encourage students, parents, staff to ameliorate the environment we all live in by being participatory in environmental cleanups (Daniela, 2021).

4.3 European Union Directive 2019/904 and Recycling

On 19th May 2020, a post was made by a member of the Din- I Art Helwa Mellieha regarding the need to recycle as enshrined in the European Union Directive 2019/904 which focuses on the reduction of pollution from single use plastics and the importance of recycling single use plastics, the government of Malta fully supports the directive. Statistically, over 47 million plastics were recycled in Malta by virtue of this directive (Graziella, 2021).

This also enhances the reuse and recycle system which is a step in the right direction for combating a plastic free environment in Mellieha. The Maltese Government has halted the import of single-use plastics as of 1 January 2021 (Schnurr et al., 2018).

According to the Minister for Environment, this is a welcome development because Malta will be among the first countries to prohibit particular types of single use plastics and the ban is applicable to plastic products such as cutlery, plastic bags, cups, cotton buds (Koundari, 2021)

Similarly, a published legal notice stated that the placing on the market of a number of other single-use plastic products that have caps and lids which are made of plastic shall be banned as from 3 July 2024. However, those who are found breaking the law will have an action instituted against them and if found guilty in court, they will be liable to a maximum fine of €1,500 after the first offence. The maximum fine will rise to €2,500 in the case of subsequent offences (Koundari, 2021)

A post made on the 30th June 2020 encouraged members to come together and clean the marine environment. Collectively, the community action group cleaned up the beach. Different types and tonnes of harmful wastes were found in the ocean and it weighed 3092.78kg. This particular action of the group is in tandem with the dumping of wastes and other matters Protocol. Although this may be applicable to ships, the intention of the convention is to ensure that human activities that increase pollution are minimized (Daniela, 2020).

4.4 Fishing Nets and its Negative Impact on the Marine Environment

The large tonnes of harmful wastes found in the marine environment such as fishing gears are known to entangle turtles and this in turn does not meet the UN SDG 14 which encourages the preservation and conservation of Life below water and against marine pollution. This is a step in the right direction and needs to be commended but this alone may not address the issue of marine plastic debris which ends up in the stomach of thousands of marine animals, either killing them immediately or causing them to wither away in extreme pain. In the case of seafood that people consume, micro-plastics are

now ending up in our plates and system too and this is a problem because we humans are now poisoning ourselves (Smith, 2018).

The Nature Trust FEE Malta is a non-governmental organization appealing to fishermen to try and recover lost fishing gear and to avoid using nylon nets causing the living resources to die. The NGO is also calling on the Prime Minister to ensure that adequate attention will be given to the environment and that efforts will be made to promote more sustainable alternatives for fishing. This is necessary because it will save hundreds of marine animals that will otherwise lose their lives (Daniela, 2020).

4.5 The United Nations and Communities of Ocean Action

The collaborations between Raniero's Adventures - Live Life and Din l-Art Helwa - Mellieha community action groups is of great importance because it demonstrates commitments for our oceans, our future and the call for action which marks a global breakthrough on the road to sustainable management and the need to conserve our oceans, seas and marine resources which is the objective of UN SDG 14. The United Nations in an effort to generate new voluntary commitments and to facilitate collaborations and networking among various actors who are in support of UN SDG 14 have launched nine thematic multi-stakeholder communities of ocean action but for the purposes of this research there will be a focus on marine pollution community of ocean action as established by the United Nations whose objective is to support its members in ensuring an exchange in progress reports, experiences, lessons learnt and even good practices when fighting marine pollution(United Nations 2020).

Din l-Art Helwa Mellieha as a community action group has similar objectives to the community ocean action created by the United Nations. It would be ideal for Din l-Art Helwa Mellieha to continue to emulate the good practices of the community of ocean action in ensuring cleaner and sustainable oceans. Land based sources is the major source of pollution therefore The Land based sources pollution protocol is implemented to ensure adequate measures are adhered to in order to prevent, abate and eliminate the Mediterranean Sea from land based sources of pollution and human activities which will reduce basin wide marine litter of over 20% by 2024.

4.6 The Need for Safety Sign Posts and Removal of Abandoned Boats at Sea

On 16 December 2020, members expressed that the government of Malta needs to put out more signs for cars parked at the edge of the quay side as cars end up in the sea (Raniero, 2020).

Also, on the 25th of April 2021, a sunken boat was abandoned in the sea at the Bugibba Jetty and the petrol from the sunken petrol leaked into the sea (Raniero, 2021)

The members of the community action group took it upon themselves to clean all the litters done by other individuals. The community action group therefore calls on all individuals in Mellieha, Malta and around the world that it is time to be responsible and avoid littering the marine environment. Malta is a State party to the Safety of Life at Sea Convention also known as SOLAS 1974 which is an International Convention that sets out the minimum requirements for safety standards in the construction, equipment and operation of merchant ships. It focuses on safeguarding human life and marine environment from all accidents. Malta ratified SOLAS 1974 on 8th August 1986 and it entered into force on the 8th of November 1986. By virtue of chapter V of SOLAS which focuses on safety of Navigation while at sea. Applying this to the sunken boat that was abandoned at Bugibba jetty this can be considered a wreck and a potential danger for navigation. Therefore, not in compliance with the SOLAS Convention 1974. Relevant bodies in Malta should take into consideration all abandoned boats so as to ensure that it does not cause marine or coastal litter and if need be there should be stronger enforcement in place to prohibit such actions.

4.7 Stakeholders Participation in Environmental Management

It is worthy to note that stakeholder participation in environmental management by the Mellieha Local Council, Clean Malta, Cleansing and Maintenance Division is a welcome development because it is a remediation to the activism of the community action group's target towards achieving a cleaner and sustainable ocean which can be met by ensuring behavioural change from community members through the local acceptance of project activities as demonstrated by the Din l-Art Helwa Mellieha Community action group. The involvement of the members of the community action group and the government officials is a step towards the right direction because it demonstrates the fact that the legislations put in place by the government to mitigate marine and coastal litters are not just symbolic but needs to be practiced which is what the government officials have demonstrated and this is encouraging as it strengthens the cooperation of other individuals to follow suit.

The events carried out by Din I- Art Helwa-Mellieha as a community action group is even more evident because its object and purpose are demonstrated through the photos of various environmental actions such as cleanups, the types and tonnes of litter found on beaches and seas. This is an effective and pragmatic approach because it will continually result in prompt awareness of all the environmental challenges and this will promote timely response from different bodies and agencies responsible for mitigating marine and coastal litter within Mellieha as a locality (Roshandel et al., 2016).

4.8 The Translation of Legal and Policy Frameworks into Action by the Community Action Group

It is worthy to note that the Din I Art Helwa-Mellieha community action group translates the intention of the international legal frameworks that deals with global ocean governance for example, MARPOL focuses on the prevention of marine and coastal litter either operational or accidental discharges. Also, The Barcelona Convention which has various protocols aiming to prevent dumping, land based sources of pollution, The United Nations Sustainable Development Goal (SDGs) in particular SDG 14 with the purpose of preserving and conserving marine resources. The Din I- Art Mellieha as a community action group have made a major contribution to the implementation of these policies because the community groups are continuously creating awareness, sensitization, and campaigns through their platform. The Community action group is also promoting the object and purpose of the laws governing marine and coastal litter because of the frequent cleanups by the members which results in removal of different types and tonnes of litter from the marine environment in Mellieha and other localities in Malta.

On the 22nd April 2021, Members of the community action group were advised to engage in personal cleanups for the celebration of the Earth day due to Covid 19 restrictions in place. A member of the Facebook group encouraging individuals to clean up different localities is a welcome development because it meets the objectives of the International Maritime Organization which is safe and clean oceans. This can be achieved through coordination and collaboration as demonstrated by the members of the Din I-Art Helwa Mellieha community action group. The efforts of the Din I- Art Helwa Mellieha as a community action group in ensuring a cleaner and sustainable marine environment demonstrates a major contribution to the public policies put in place to prevent marine and coastal litter (Raniero Borg, 2021)

Chapter Five

5.1 Challenges, Recommendation and Conclusion

The Din I-Art Helwa community action group is pragmatic in ensuring that marine and coastal litter is tackled. However, there are certain challenges faced by the community action group when translating the international legal and policy frameworks into action. Although observation was also a means of collating data for the purposes of this research but It was necessary to get first-hand information regarding these challenges and this was achieved through interviews conducted with key members/leaders of the Din I-Art Helwa community action group on the 2nd and 3rd of September 2021 via zoom platform and each interview session lasted for an hour. The importance of the interview is that the collated data would be used as analysis to answer the research questions.

The researcher also focused on some reliable materials on google scholar that focuses on challenges similar to that of Din- I-Art Helwa community.

5.2 Inadequate Human Resources-

One of the major challenges faced by the community action group is the issue of inadequate human resources which can also be considered as volunteers, the interviewee mentioned that most individuals are very reluctant to be part of the community action group mainly because they lack interest in community action groups that focuses on environmental awareness and there is no provision for incentives or other financial benefits.

The interviewee mentioned that most of the volunteers who are actively involved in the community action group are from other countries and there are just few Maltese and the reason for this was that the attitudes of the locals in Mellieha regarding the indiscriminate disposal of plastics and other litter is discouraging.

The researcher recommends that It would be ideal if volunteer motivation is the key phenomenon to encouraging more and active participation as this will give the volunteers bonds of perceived obligation which will motivate them to commence and continue their involvement in community action groups that focus on promotion of environmental awareness. The community action group

encourages the need for young people to be involved in volunteering as this will enhance prosocial behaviors that will impose normative constraint on behaviours that are delinquent especially when it relates to environmental pollution (Wilson 2000).

5.3 Inadequate Financial Resources:

According to the interviewee, the community action group is facing the challenge of inadequate financial resources to be able to cater for some of the activities such as cleanups, transportation to the venues of the cleanups and this is a challenge because the community action group is a nonprofit making organization.

5.4 The Need for a Continuous Recycling System:

The interviewee expressed that due to the sharp rise in the volume and also variety of plastic wastes in the ocean both in Malta and across the world the policy makers have encouraged recycling and the significance of reuse strategies so as to reduce the quantity of plastic wastes that end up in the landfill. The interviewee stated that it is necessary that recycling should be encouraged and practiced because recycling is the suitable solution for plastic waste management especially as it has lower environmental impact (Al-Maaded, et al., 2012).

5.5 Lack of Freedom of Communication:

According to the interviewee there is the challenge of communication and this means that members of the community action group are limited to what they can say or post regarding environmental pollution especially as top officials in the country do not want to be criticised and the interviewee mentioned that the community action group made some practicable solutions regarding environmental challenges to some top officials but they were rather defensive and did not listen to their problems on how to address the issue of plastic pollution.

5.6 Creating Awareness Is Not Effective Enough;

According to the interviewee the community action group uses social media platforms as a tool in publicizing the need to prevent land based pollution which leads to marine litter. However, creating awareness might not be enough especially when the society is not responding positively to environmental education and awareness. This can be addressed if continuous outreach and educational activities are evaluated so as to ascertain their successes and this will pave the way for best future practices (Veiga et al., 2016).

5.7 The Need for the Involvement of More Non-Governmental Organizations and Sponsors

The interviewee mentioned that another challenge faced by the community action group was the lack of involvement of more Non-governmental organization, the interviewee stated that the involvement of non-governmental organisations is pivotal because environmental issues are rapidly growing and the burden of promoting sustainable environment and its resources can be effectively achieved by NGOs because they would create a broad audience through the effective use of social media platforms in promoting beach cleanups and awareness to the public and reaching out to the government to enact and implement policies that are environmentally friendly and this will go further in sustaining the environment and its resources.

According to the interviewee, other NGOs and government organizations should emulate the leadership of The Hong Kong and Shanghai Banking Corporation Limited (HSBC) bank in Malta because it is known for supporting Malta's heritage, the marine environment and its living resources such as turtles that are entangled in plastics and are cared for and sent to rehabilitation centers when the need arises.

5.8 Lack of Stronger Enforcement System:

According to the interviewee there is a low level of compliance by some individuals that is why the issue of marine litter in Mellieha is difficult to control and keeps reoccurring. The interviewee stated that a regulatory system needs to be enforceable and that effective administrative and enforcement procedures are pivotal. The Interviewee recommends that effective enforcement would require a system of realistic penalties for all infringements and when this is viable compliance may not be an issue.

5.9 Poor Societal Attitudes Towards Indiscriminate Disposal of Plastics

According to the interviewee the society has very poor attitudes towards the environment and the interviewee narrated an incident where the community action group went to the beach for a cleanup and while they were in the process of cleaning an individual lighted a cigarette and threw right in the ocean and when the members of the community action groups asked why he would do that when he can clearly see them trying to cleanup and the individual stated ‘‘why do you care about the environment, you should not care about the environment and their response was, we care because you do not care’’

The interviewee also mentioned that tourists leave a large amount of rubbish piles at the sea front and always have the belief that there are people who could clean up the rubbish piles they have created. According to the interviewee, it is important that society think about such actions and begin to care for the environment and begin to take responsibility.

5.10 Kiosks Around the Beaches;

According to the interviewee some of the kiosks sell plastic products such as coffee cups, bottle water, disposable plates and even cutleries and when used by individuals at the beach it is disposed indiscriminately. According to the interviewee it would be a good recommendation that instead of

plastic products to be sold there should be an alternative such as paper products as this will mitigate marine and coastal litter.

5.11 Plastic Coated Bullets Used by Hunters;

According to the interviewee, one of the causes of plastic pollution is as a result of hunters who are hunting for animals and this act can have a negative impact on the environment. The interviewee stated during the interview that during cleanups at the beach many plastic coated bullets used by hunters are found littered on the beach while some in the oceans and this is a challenge for them.

5.12 Dumping of Unwanted Fish (High Grading);

According to the interviewee, dumping of unwanted fish not only in the ocean but even ashore is a challenge because fishermen fish for varieties of fish and when not pleased with the sizes they simply throw away and look for bigger fishes so as to increase their revenues. According to the interviewee, high grading is a problem because fishermen keep dumping dead fishes by the ocean and the members of the community action group will have no option other than to have it cleaned up.

5.13 Covid 19 Restrictions:

According to the interviewee, the restrictions put in place for Covid 19 has posed a challenge during the lockdown and as a result litter was accumulated on the beaches. According to the interviewee the restrictions are now relaxed but the rules on social distancing are to be adhered to. The interview expressed that all the volunteers of the Facebook group are determined to take up the challenge and even mobilize for more volunteers to carry out beach cleanups.

Conclusion

The writer would also recommend that societal attitudes needs to be changed as this will go a long way to addressing the issue of marine and coastal litter and this would mean that there is a continuous need to educate the individuals and this should not be targeted at a particular group of people but to all people and at all levels in the society.

Conclusively, after collating the relevant data and analyzing how effective Din-I-Art Helwa Mellieha as a community action group is. It is right to say that the community action group is very effective in using the social media platform as a medium for promoting a cleaner and sustainable ocean.

The community action group is also effective because they are committed to attaining the objects and purposes of the community action group and it can be said that the community action group is not just symbolic because the object and purpose is demonstrated from the activism of the community action group which involves frequent cleanups, raising awareness, environmental campaigns, management and decision makings on how to make Mellieha seas, beaches and ocean a marine and coastal litter free locality.

Although, the international legal and policy frameworks have its strengths and shortcomings when addressing the issue of marine and coastal litter. There is an urgent need for the gaps to be filled especially as this will ensure compliance of the set legislations. The effectiveness of the international and policy frameworks governing marine and coastal litter is significant because it will be a determining factor on how well the community action groups translates the set objectives of the legislations in ensuring a cleaner and sustainable ocean in Malta, Mellieha, other localities and globally.

Despite the shortcomings, the community action group is dedicated in carrying out its activism of environmental awareness and translating the intentions of the international legal and policy framework put in place for ocean governance.

It is pertinent that the above recommendations and societal interventions be taken into consideration as this will encourage the members of the community action group in Mellieha and across the globe and it will also foster the activism carried out by the community action group in ensuring that the sources and negative impact of marine and coastal litter is combatted.

However, when these possible recommendations will come into place is unknown but it is necessary that it should be treated as a matter of urgency and priority.

References

- Adam, I., Walker, T. R., Bezerra, J. C., & Clayton, A. (2020). Policies to reduce single-use plastic marine pollution in West Africa. *Marine Policy*, 116,
- Albert Attard (2020) frequent clean ups and social media as a medium for raising awareness <https://www.facebook.com/groups/621813388456579/search/?q=%20june%20%202020> accessed 7 september 2021.
- Aldosari, K. R. (2021). The Applicability of the International and Regional Efforts to Prevent Oil Pollution: Comparative Analysis Between the Arabian Gulf Region and the North Sea. In *Sustainability in the Maritime Domain* (pp. 199-221). Springer, Cham.
- Al-Maaded, M., Madi, N. K., Kahraman, R., Hodzic, A., & Ozerkan, N. G. (2012). An overview of solid waste management and plastic recycling in Qatar. *Journal of Polymers and the Environment*, 20(1), 186-194
- Altenburg, T., & Assmann, C. (2017). *Green industrial policy. Concept, Policies, Country Experiences*. Geneva, Bonn: UN Environment.
- Aristei, L., Villani, L., & Ricciardi, W. (2020). Directive 2019/904/EU. The need to raise awareness on plastic misuse and consequences on health. *European Journal of Public Health*, 30 (Supplement_5), 166-138.
- Bergmann, M., Gutow, L., & Klages, M. (2015). Marine anthropogenic litter (p. 447). Springer Nature.
- Birchenough, A., & Haag, F. (2020). The London Convention and London Protocol and Their Expanding Mandate. *Ocean Yearbook Online*, 34(1), 255-278.
- Bublyk, M., Matseliukh, Y., Motorniuk, U., & Terebukh, M. (2020). Intelligent System of Passenger Transportation by Autopiloted Electric Buses in Smart City. In *COLINS* (pp. 1280-1294).
- Brooijmans, R. J., Pastink, M. I., & Siezen, R. J. (2009). Hydrocarbon-degrading bacteria: the oil-spill clean-up crew. *Microbial biotechnology*, 2(6), 587-594.
- Daniela Cini 2020, 2020 cleanup session has officially kicked off <https://www.facebook.com/groups/621813388456579/posts/625608048077113> Accessed 17th September 2021
- Chen, C. L. (2015). Regulation and management of marine litter. In *Marine anthropogenic litter* (pp. 395-428). Springer, Cham.
- Close J.R. Jambeck, R. Geyer, C. Wilcox, T.R. Siegler, M. Perryman, A. Andrady, R. Narayan, K.L. Law Plastic waste inputs from land into the ocean *Science*, 347 (2015), p. 6223

- Cedric Farrugia 2021, 58% of plastics wastes was landfilled in 2019 only 1% recycled
<https://newsbook.com.mt/en/malta-lagging-behind-on-waste-management-targets-nao/>
 Accessed 3rd July 2021
- Condor Ferries 2021, Plastic Pollution in the Ocean facts. How much plastic is in the ocean/
<https://www.condorferries.co.uk/plastic-in-the-ocean-statistics> Accessed 29th June 2021
- Condor Ferries, 2021 How many fish and marine life die from plastic pollution in the ocean
 Source:CondorFerries, <https://www.condorferries.co.uk/plastic-inr-the-ocean-statistics>
 Accessed 29th of June 2021.
- Chawla, L. (2008). Participation and the ecology of environmental awareness and action. In Participation and learning (pp. 98-110). Springer, Dordrecht.
- Carpenter, A., & Johansson, T. (2017). The Barcelona Convention and its role in oil pollution prevention in the Mediterranean Sea. In Oil Pollution in the Mediterranean Sea: Part I (pp. 129-166). Springer, Cham.
- Cramer, W., Guiot, J., Marini, K., Secretariat, M., & Bleu, P. (2020). Climate and environmental change in the mediterranean basin–current situation and risks for the future.
- Din I- Art Helwa-Mellieha
<https://www.facebook.com/search/top/?q=din%20i%20art%20helwa%20mellieha> Accessed 18 September 2021
- Dilkes-Hoffman, L., Ashworth, P., Laycock, B., Pratt, S., & Lant, P. (2019). Public attitudes towards bioplastics–knowledge, perception and end-of-life management. Resources, Conservation and Recycling, 151, 104479.
- Dumbili, E., & Henderson, L. (2020). The challenge of plastic pollution in Nigeria. In Plastic Waste and Recycling (pp. 569-583). Academic Press.
- Elliott, T., Gillie, H., & Thomson, A. (2020). European Union's plastic strategy and an impact assessment of the proposed directive on tackling single-use plastics items. In Plastic waste and recycling (pp. 601-633). Academic Press.
- Environmental and Resources Authority, Single-Use Plastics Products Strategy for Malta 2020-2030 <https://era.org.mt/single-use-plastic-products-strategy-for-malta-2020-2030/>
 Accessed 3rd of July 2021.
- European Union Law (2019) Single-Use Plastic ban,
<https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX%3A32019L0904> Accessed 1st of July 2021.

- Eriksen, M., Lebreton, L. C., Carson, H. S., Thiel, M., Moore, C. J., Borerro, J. C., & Reisser, J. (2014). Plastic pollution in the world's oceans: more than 5 trillion plastic pieces weighing over 250,000 tons afloat at sea. *PloS one*, 9(12), e111913.
- EURAKTIV Countries eye UN deal to rein in plastic pollution (2021) <https://www.euractiv.com/section/energy-environment/news/countries-eye-un-deal-to-rein-in-plastic-pollution/> Accessed 3rd September 2021.
- Ferraro, G., & Failler, P. (2020). Governing plastic pollution in the oceans: Institutional challenges and areas for action. *Environmental Science & Policy*, 112, 453-460.
- Gregory, M. R. (2009). Environmental implications of plastic debris in marine settings—entanglement, ingestion, smothering, hangers-on, hitch-hiking and alien invasions. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 2013-2025.
- Graziella Galea 2021, Recycling <https://www.facebook.com/groups/621813388456579/posts/827675274537055> Accessed 1st July 2021.
- Gjerde, K. M., Dotinga, H., Hart, S., Molenaar, E. J., Rayfuse, R., & Warner, R. (2008). Regulatory and governance gaps in the international regime for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. IUCN, Gland, Switzerland.
- T.G. Hugo The Case for a Treaty on Marine Plastic Pollution Norwegian Academy of International Law (2018)
- TimesMalta, Plastic waste in Malta increased by nearly a third over the past decade <https://timesofmalta.com/articles/view/malta-one-of-europes-worst-offenders-for-plastic-waste.713197> Accessed 7th of July 2021.
- Hamid, S., Ijab, M. T., Sulaiman, H., Anwar, R. M., & Norman, A. A. (2017). Social media for environmental sustainability awareness in higher education. *International Journal of Sustainability in Higher Education*.
- Henderson, L., & Green, C. (2020). Making sense of microplastics? Public understanding of plastic pollution. *Marine Pollution Bulletin*, 152, 110908.
- Haward, M. (2018). Plastic pollution of the world's seas and oceans as a contemporary challenge in ocean governance. *Nature communications*, 9(1), 1-3.
- Hong, G. H., & Lee, Y. J. (2015). Transitional measures to combine two global ocean dumping treaties into a single treaty. *Marine Policy*, 55, 47-56.
- International Maritime Organization (2019) Prevention of Marine Pollution by Dumping Of Wastes and other Matter <https://www.imo.org/en/OurWork/Environment/Pages/London-Convention-Protocol.aspx> Accessed 1st of July 2021

International Maritime organization 2019

<https://www.imo.org/en/KnowledgeCentre/ConferencesMeetings/Pages/Marpol.aspx>

Accessed 1st of July 2021

- Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223), 768-771.
- Koundouri, P., Papadaki, L., Guittard, A., Demian, E., & Akinsete, E. (2021). Tackling Single-Use-Plastic Products in the Eastern Mediterranean Sea: The BL. EU. Climate and MEDfreeSUP Projects. In *The Ocean of Tomorrow* (pp. 135-151). Springer, Cham.
- Karim, M. S. (2010). Implementation of the MARPOL convention in developing countries. *Nordic Journal of International Law*, 79(2), 303-337.
- Kildow JT, McIlgorm A (2010) The importance of estimating the contribution of the oceans to national economies. *Mar Policy* 34(3):367–374. doi:[10.1016/j.marpol.2009.08.006](https://doi.org/10.1016/j.marpol.2009.08.006)
- Kostianoy, A. G., & Carpenter, A. (2018). History, sources and volumes of oil pollution in the Mediterranean Sea. In *Oil Pollution in the Mediterranean Sea: Part I* (pp. 9-31). Springer, Cham.
- Layglon, N., Misson, B., Durieu, G., Coclet, C., d'Onofrio, S., Dang, D. H., ... & Garnier, C. (2020). Long-term monitoring emphasizes impacts of the dredging on dissolved Cu and Pb contamination along with ultraplankton distribution and structure in Toulon Bay (NW Mediterranean Sea, France). *Marine Pollution Bulletin*, 156, 111196.
- Lost-Siemńska, D. (2020). Implementation of IMO treaties into domestic legislation: Implementation and enforcement as the key to effectiveness of international treaties. In *Maritime Safety in Europe* (pp. 3-21). Informa Law from Routledge
- Martini, N., & Allnutt, S. R. (2021). Maritime Transport and Sustainable Fisheries: Breaking the Silos. In *Sustainability in the Maritime Domain* (pp. 103-118). Springer, Cham.
- Mallick, R., & Bajpai, S. P. (2019). Impact of social media on environmental awareness. In *Environmental awareness and the role of social media* (pp. 140-149). IGI Global.
- Malta.com 2019, <https://www.malta.com/en/about-malta/city-village/mellieha>, Accessed 6th July 2021
- Marie Cassar Google Photos 2021. Geographical location of Mellieha in Malta. <https://br.pinterest.com/pin/449585975275298607/>. Accessed 11th of July 2021.
- Merkens J-L, Reimann L, Hinkel J, Vafeidis AT (2016) Gridded population projections for the coastal zone under the Shared Socioeconomic Pathways. *Glob Planet Change* 145:57–66. doi:[10.1016/j.gloplacha.2016.08.009](https://doi.org/10.1016/j.gloplacha.2016.08.009)

- Miezah, K., Obiri-Danso, K., Kádár, Z., Fei-Baffoe, B., & Mensah, M. Y. (2015). Municipal solid waste characterization and quantification as a measure towards effective waste management in Ghana. *Waste management*, 46, 15-27.
- Nyka 2018, Legal approaches to the problem of pollution of marine environment with plastic” *Scientific Journals of the Maritime University of Szczecin*, 59 (131) (2018), pp. 162-167
- Neumann, B., & Unger, S. (2019). From voluntary commitments to ocean sustainability. *Science*, 363(6422), 35-36.
- Pahl, S., Wyles, K. J., & Thompson, R. C. (2017). Channelling passion for the ocean towards plastic pollution. *Nature human behaviour*, 1(10), 697-699.
- Pahl, S., Richter, I., & Wyles, K. (2020). Human Perceptions and Behaviour Determine Aquatic Plastic Pollution.
- Pahlevi, M. R., & Suhartanto, D. (2020). The integrated model of green loyalty: Evidence from eco-friendly plastic products. *Journal of Cleaner Production*, 257, 120844.
- Raniero Borg 2021, Earth day
<https://www.facebook.com/groups/621813388456579/search/?q=earth%20day>
- Accessed 7th July 2021.
- Raniero Borg 2021, Sunken boat,
<https://www.facebook.com/groups/621813388456579/posts/814451925859390>
- Accessed 7th July 2021.
- Raniero Borg, the need to put up sign posts 2020,
<https://www.facebook.com/groups/621813388456579/search/?q=QUAY%20SIDE>
- Rangel-Buitrago, N., Williams, A., Costa, M. F., & de Jonge, V. (2020). Curbing the inexorable rising in marine litter: an overview. *Ocean & Coastal Management*, 188, 105133.
- Raubenheimer, K., & McIlgorm, A. (2017). Is the Montreal Protocol a model that can help solve the global marine plastic debris problem? *Marine Policy*, 81, 322-329.
- Raha, U. K., Kumar, B. R., & Sarkar, S. K. (2021). Policy framework for mitigating land-based marine plastic pollution in the Gangetic Delta region of Bay of Bengal-a review. *Journal of Cleaner Production*, 278, 123409.
- ROSHANDEL, A. T., Labafi, S., & Robati, M. (2016). Effects of social media on the environmental protection behaviour of the public (Case study: Protecting zayandeh-Rood river environment).
- Stokke, O. S. (2018). Beyond dumping? The effectiveness of the London convention. *Yearbook of International Cooperation on Environment and Development* 1998–99, 39-49.

- Schnurr, R. E., Alboiu, V., Chaudhary, M., Corbett, R. A., Quanz, M. E., Sankar, K., ... & Walker, T. R. (2018). Reducing marine pollution from single-use plastics (SUPs): A review. *Marine pollution bulletin*, 137, 157-171.
- Smith, M., Love, D. C., Rochman, C. M., & Neff, R. A. (2018). Microplastics in seafood and the implications for human health. *Current environmental health reports*, 5(3), 375-386.
- Syberg, K., Nielsen, M. B., Clausen, L. P. W., van Calster, G., van Wezel, A., Rochman, C., ... & Hansen, S. F. (2021). Regulation of plastic from a circular economy perspective. *Current Opinion in Green and Sustainable Chemistry*, 100462.
- Sheridan, H., Johnson, K., & Capper, A. (2020). Analysis of international, European and Scot's law governing marine litter and integration of policy within regional marine plans. *Ocean & Coastal Management*, 187, 105119.
- Silva, M. S. S., Oliveira, M., Lopéz, D., Martins, M., Figueira, E., & Pires, A. (2020). Do nanoplastics impact the ability of the polychaeta *Hediste diversicolor* to regenerate?. *Ecological Indicators*, 110, 105921.
- Surfers Against Sewage, Grassroots Community Action Steps up Pressure for Plastic Reduction Targets, <https://www.sas.org.uk/news/grassroots-community-action-steps-up-pressure-for-plastic-reduction-targets/> Accessed 3rd July 2021.
- Soares, J., Miguel, I., Venâncio, C., Lopes, I., & Oliveira, M. (2021). Public views on plastic pollution: Knowledge, perceived impacts, and pro-environmental behaviours. *Journal of Hazardous Materials*, 412, 125227.
- Tessnow-von Wysocki, I., & Le Billon, P. (2019). Plastics at sea: Treaty design for a global solution to marine plastic pollution. *Environmental Science & Policy*, 100, 94-104.
- Times Malta, Only one percent of Malta's plastic wastes was recycled in 2019 <https://timesofmalta.com/articles/view/only-one-per-cent-of-maltas-plastic-waste-was-recycled-in-2019.848807> Accessed 3rd July 2021
- Teuten, E. L., Rowland, S. J., Galloway, T. S., & Thompson, R. C. (2007). Potential for plastics to transport hydrophobic contaminants. *Environmental Science & Technology*, 41(22), 7759-7764.
- Tokiwa, Y., Calabia, B. P., Ugwu, C. U., & Aiba, S. (2009). Biodegradability of plastics. *International journal of molecular sciences*, 10(9), 3722-3742.
- Trouwborst, A. (2011). Managing marine litter: exploring the evolving role of international and European law in confronting a persistent environmental problem. *Merkourios-Utrecht J. Int'l & Eur. L.*, 27, 4.
- Urbina, M. A., Luna-Jorquera, G., Thiel, M., Acuña-Ruz, T., Amenábar Cristi, M. A., Andrade, C., & Vargas, E. (2021). A country's response to tackling plastic pollution in aquatic ecosystems: The Chilean way. *Aquatic Conservation: Marine and Freshwater*

- Ecosystems, 31(2), 420-440. Urbina, M. A., Luna-Jorquera, G., Thiel, M., Acuña-Ruz, T., Amenábar Cristi, M. A., Andrade, C., ... & Vargas, E. (2021). A country's response to tackling plastic pollution in aquatic ecosystems: The Chilean way. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 31(2), 420-440.
- United Nation 2021, Mediterranean Action Plan and Barcelona Convention
<https://www.unep.org/unepmap/who-we-are/barcelona-convention-and-protocols>
Accessed 9th August 2021.
- Vince, J., & Hardesty, B. D. (2018). Governance solutions to the tragedy of the commons that marine plastics have become. *Frontiers in Marine Science*, 5, 214.
- Veiga, J. M., Vlachogianni, T., Pahl, S., Thompson, R. C., Kopke, K., Doyle, T. K., ... & Alampei, I. (2016). Enhancing public awareness and promoting co-responsibility for marine litter in Europe: The challenge of MARLISCO. *Marine pollution bulletin*, 102(2), 309-315.
- Visbeck M, Kronfeld-Goharani U, Neumann B, Rickels W, Schmidt J, van Doorn E, Matz-Luck N, Ott K, Quaas MF (2014) Securing blue wealth: the need for a special sustainable development goal for the ocean and coasts. *Mar Policy* 48:184–191.
doi:[10.1016/j.marpol.2014.03.005](https://doi.org/10.1016/j.marpol.2014.03.005)
- Wilson, J. (2000). Volunteering. *Annual review of sociology*, 26(1), 215-240.
- Warner, A., Eames, C., & Irving, R. (2014). Using social media to reinforce environmental learning and action taking for school students. *International Electronic Journal of Environmental Education*, 4(2), 83-96.
- Walker, T. R., Grant, J., & Archambault, M. C. (2006). Accumulation of marine debris on an intertidal beach in an urban park (Halifax Harbour, Nova Scotia). *Water Quality Research Journal*, 41(3), 256-262.
- WWF, The Life cycle of plastics <https://www.wwf.org.au/news/blogs/the-lifecycle-of-plastics#gs.4ki43g> Accessed 29th June 2021
- Zumstein, M. T., Schintlmeister, A., Nelson, T. F., Baumgartner, R., Wobken, D., Wagner, M., & Sander, M. (2018). Biodegradation of synthetic polymers in soils: Tracking carbon into CO₂ and microbial biomass. *Science advances*, 4(7), eaas9024.