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BLUE ENTREPRENEURSHIP: A NEW AGENDA FOR SUSTAINABILITY OF SEAS AND OCEANS

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ABSTRACT

The concept of sustainability, which has become increasingly important in recent years, has been examined in different dimensions and disciplines. The works of international organizations such as the UN in the field of sustainability and the goals of sustainable development have enabled the emergence and spread of studies on the environment and sustainability. The two elements particularly emphasized in the scope of the study are "clean water and/or sanitation" and "life in water," The concept of blue entrepreneurship has been brought to the fore within the framework of blue growth. While studies within the framework of the concept of green growth and green entrepreneurship were carried out widely, the seas and oceans remained in the background in connection with the climate crisis. The fact that aquatic life is under threat due to the pollution of the seas and oceans and the increase in water temperature is a turning point in terms of sustainability. With this consciousness, while the oceans and seas came to the forefront, the concept of blue growth gained importance. For this reason, to ensure sustainable development and blue growth within the scope of the climate crisis, the concept of "blue entrepreneurship" should be brought to the fore and studied from a broad perspective. This study aims to define the concept of blue entrepreneurship and determine its general framework. Accordingly, suggestions were presented to future researchers for the conceptual and multidisciplinary examination of blue entrepreneurship.

Keywords: *Blue Entrepreneurship, Blue Economy, Sustainability.*

JEL Codes: *Q53, Q56, Q25.*

MAVİ GİRİŞİMCİLİK: DENİZLERİN VE OKYANUSLARIN SÜRDÜRÜLEBİLİRLİĞİ İÇİN YENİ BİR GÜNDEM

ÖZET

Son yıllarda önemi giderek artan sürdürülebilirlik kavramı farklı boyutlarıyla ve farklı disiplinlerce ele alınmaktadır. Birleşmiş Milletler gibi uluslararası kuruluşların sürdürülebilirlik

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alanında yaptığı çalışmalar ve ortaya konulan sürdürülebilir kalkınma amaçları, çevre ve sürdürülebilirlik üzerine olan çalışmaların ortaya çıkmasına ve yaygınlaşmasına olanak sağlamıştır. Çalışma kapsamda özellikle vurgulanan iki unsur "temiz su ve/veya sanitasyonu" ve "sudaki yaşam" olup mavi büyüme çerçevesinde mavi girişimcilik kavramı ön plana çıkarılmıştır. Yeşil büyüme ve yeşil girişimcilik kavramı çerçevesindeki çalışmalar yaygın olarak yürütülürken iklim kriziyle bağlantılı olarak denizler ve okyanuslar ikinci planda kalmıştır. Deniz ve okyanusların kirliliği ve su sıcaklığının artması nedeniyle sudaki canlı yaşamının tehdit altında olması sürdürülebilirlik açısından bir dönüm noktasıdır. Bu farkındalıkla okyanus ve denizler ön plana çıkarken mavi büyüme kavramı önem kazanmıştır. Bu sebepten iklim krizi kapsamında sürdürülebilir kalkınma ve mavi büyümenin sağlanması için "mavi girişimcilik" kavramın ön plana alınması ve geniş bir perspektifte çalışılması gerekmektedir. Bu çalışmada mavi girişimcilik kavramının tanımlanması ve genel çerçevesinin belirlenmesi amaçlanmaktadır. Bu doğrultuda, gelecek araştırmacılara mavi girişimciliğin kavramsal açıdan ve multidisipliner olarak incelenmesi için öneriler sunulmuştur.

Anahtar Kelimeler: *Mavi Girişimcilik, Mavi Ekonomi, Sürdürülebilirlik.*

JEL Kodları:*Q53, Q56, Q25.*

1. INTRODUCTION

Throughout human history, settlements were established in areas close to water, and water resources usually demonstrated the existence of civilization. While many cities were built around the sea, stream, lake, and river, cities continued to live and expand their lives in these areas. In addition to this, it is observed that maritime masses are the symbols of civilizations. Great importance has been attached to the sea because it is seen as a symbol of fertility, offers food without being planted and sowed, and meets many people's needs. The sea is not only a cultural symbol but also has a place in many religious arguments.

With the climate crisis experienced today, natural events are happening faster and harder, and the decrease of water resources day by day has brought the oceans, seas, and other water resources (rivers, lakes, rivers, streams) to the fore within the framework of sustainability. Accordingly, a critical awareness has emerged about the steps to be taken toward the oceans, seas, and other water resources. In this framework, within the scope of this study, the concept of sustainability and its perspective is emphasized, and sustainability, which prioritizes ocean-sea areas, is conceptually brought to the fore. This conceptual framework is determined in parallel with developing practices that will prevent pollution in the seas and the adverse effects on living life. In this direction, the concept of blue growth and blue entrepreneurship can be shown as issues that need to be investigated with sustainability.

Within the scope of the study, the pollution of the seas and the causes of pollution are explained in detail, and the precautions to be taken against pollution are specified. The problem and the efforts to

solve the problem need suggestions, especially in an industrial and theoretical framework. In this context, there is a need for a specific concept that prioritizes water resources, such as green entrepreneurship aiming at sustainable development. The aim of this study is to define the concept of blue entrepreneurship and to establish its conceptual framework in order to meet this need. The concepts of blue economy and blue growth, which are in the background of the concept of blue entrepreneurship, are also explained, and many aspects of the concept that need to be investigated are brought to the fore. In this way, a definition and conceptual framework suitable for development and analysis will be brought to the literature by enabling the concept of blue entrepreneurship to work with different interdisciplinary disciplines.

2. LITERATURE

2.1. Sustainability

The concept of sustainability is one of the most widely used concepts in recent years. On the other hand, the concept of sustainability was first defined by Hans Carl von Carlowitz in 1712 (Scoones, 2007: 589-590). However, the definition of the concept in a broad framework and gaining an interdisciplinary identity coincides with the 1980s. The concept of sustainability, whose popularity has increased over time with the birth and growth of environmental movements, has progressed rapidly in the theoretical dimension and many different sectors from the 1950s to the 1980s (Jones and Lubinski, 2014: 623). The concept of sustainability is a subject that has been researched by many disciplines recently, together with the impact of the climate crisis. In this context, the concept of sustainability has been expanded in the form of a sustainable economy, sustainable city, sustainable business (Scoones, 2007: 590), and sustainable energy. Because global warming, the melting of glaciers, and the threat of extinction of natural resources have made it an undeniable problem to many scientists. In this context, the dilemma of environmental sustainability and economic development has been discussed. In this discussion, environmental sustainability has made positive progress in the economic context (Daly, 2002: 39) by expressing the concept of sustainability as a “border term” (Scoones, 2007: 589) and defining sustainable development.

After the active environmental movements, the concept of sustainability has begun to be considered by many international organizations and states. This is a manifestation of the concept of sustainability being expressed as a “border term” between science and politics. In addition, sustainability, which has made progress in the economic context, has led to the emergence of the concept of "sustainable development," which is also accepted as a major science today. The studies carried out in the field to realize sustainable development, solution proposals, and applications have prepared the ground for the emergence of specific phenomena. These specific concepts are; linear economy, circular economy, green management, eco-innovation, green entrepreneurship, etc. (Geissdoerfer, Savaget,

Bocken and Hultink, 2017: 758-759; Rodríguez-García, Guijarro-García and Carrilero-Castillo, 2019: 2910).

Another specific issue that needs to be explored is the sustainability of the oceans-seas and water resources. Because 71% of the earth's surface is covered by seas. This rate differs in the northern hemisphere and the southern hemisphere according to the positioning of the continents. The area covered by the seas is 61% in the northern hemisphere and 81% in the southern hemisphere (Bagg, 1933: 1001; Hernandez, 2003: 15). These rates affect climates by forming temperature belts. In this context, considering the importance of land-sea distribution and ocean currents (Aksay, Ketenoğlu and Kurt, 2005: 36) in climate changes, seas are of great importance in the global climate crisis.

Despite the proportional size of the seas in the world, it is also important because of its position in the global climate crisis. Even though the seas have an important place in the climate crisis, the sustainability of the seas does not take much place in studies on environmental sustainability. Issues that need to be addressed within the scope of the sustainability of the seas are pollution, global warming, extinction of sea creatures and marine fauna, and so on. Generally, studies in this context are legal studies for protecting the seas and reducing pollution (Gollasch et al., 2007: 585). Legal studies lay the groundwork for awareness activities of public institutions and/or international organizations for the sustainability of the seas.

Many factors need to be evaluated in studies on the sustainability of ocean, sea, and water resources. One of these factors is the existence and sustainability of marine and aquatic ecosystems. In addition, people should evaluate solutions to flood, drought, and water scarcity problems and possible investments. Reducing pollution by explaining the causes of sea and water pollution, wastewater treatment, and efficient use of source water (United Nations Conference on Sustainable Development, 2012: 37) are important in terms of sustainability studies.

Within the scope of sustainability studies, the sustainability of the seas should be seen not only in terms of climate but also as a habitat that offers rich biodiversity. Oceans and seas, which are rich sources of biodiversity, are now under significant threat due to destructive hunting, pollution, and climate change (WWF, 2022).

2.2. Sea Pollution

One of the most discussed issues within sustainability studies examining ocean, sea, and water resources is marine pollution. Marine pollution has been showing itself more in recent years both in the world and in Turkey. The rapid increase in globalization, the spread of consumption patterns all over the world and the logistics activities that develop in parallel increase sea pollution. In particular, the oceans and seas (Keser and Çetin, 2016: 201-202), which have an important point in the development of countries, are affected by many pollutants (wastewater discharge, mining residues, agricultural and

domestic wastes), especially sea transportation. As a result of various pollutants, both marine fauna and sea coasts are exposed to pollution (Kiessling, Salas, Mutafoglu and Thiel, 2016: 82-83).

Marine pollution is defined in a broad perspective by the United Nations as a concept. According to this definition; marine pollution is the abandonment of all kinds of substances and energy that can harm biological creatures and the marine environment, endanger human health, restrict economic use of the sea, prevent the use of the sea for human purposes, and leave the marine environment (Subaşı, 2010: 3; Yılmaz and Sönmez, 2018: 69).

In order to talk about marine pollution, which is a dimension of environmental pollution, the sea must experience pollution beyond its cleaning capacity. In ancient times, it was thought that pollution could be diluted due to the wideness of the oceans and/or seas. However, since many wastes, especially plastics, take many years to dissolve in nature, a cumulative pollution layer occurs on the sea. This shows that it is necessary to take steps to prevent pollution and sustainability. In addition, garbage accumulated in the sea poses a danger to sea creatures (WWF, 2021). The factors that cause marine pollution can be handled under three separate headings as those originating from air, land and sea. On the other hand, polluting sources can be classified as domestic waste, nuclear waste, pollution from maritime transport, residential and industrial pollution, pollution from ballast and sinist waters of ships, pollution from accidents at sea (Boyle, 1985: 347; Özdemir, 2012: 373-375; Willis et al., 2021: 3).

The factors causing marine pollution are classified as physical, chemical, and biological factors (Goel, 2006: 2). The causes of pollution are discussed in the context of these factors; mixing of industrial metals into water resources and/or heavy metal pollution, microplastic pollution, oil pollution, and the like.

Pollution in the oceans and seas is not only polluted by the sea but also by pollutants coming from land and air. Plastics, permanent organic pollutants, heavy metals, nitrogen-based compounds, acid rain, and sea debris cause sea pollution (United Nations Conference on Sustainable Development, 2012: 47; Karaca and Turgay, 2012: 17-18).

The main problem in the pollution of the seas is the industrial pollution of the seas (Subaşı, 2010: 10). When we look at the causes of pollution of the seas, it varies in the form of garbage, domestic waste, wastewater from touristic facilities, pollution from maritime transport (Subaşı, 2010: 10), apart from industrial wastes.

The main point in marine pollution, which is the result of rapid pollution in many parts of the world, is that oceans, rivers, and water resources lose their absorption capacity due to industrial wastes and cause 2/3 of the carbon dioxide to mix with the earth (Crecente, Sarabia and del Val, 2021: 910). In this direction, marine pollution causes global warming and its effects to increase.

Turkey, which has the longest coastline in the European continent (Doğan-Sağlamtimur and Subaşı, 2018: 481), is one of the countries where sea pollution is discussed. In this context, as an example of the pollution experienced in the sea area and coasts of Turkey; The mucilage encountered in the Marmara Region, marine pollution in Çanakkale, and the pollution experienced in Mersin Port show the levels of pollution caused by different pollutants (Özden, 2013: 74-75; Birkan, 2019: 36; Öztürk and Şeker, 2021: 26-27).

One of the essential factors causing marine pollution is the pollution caused by oil and its derivatives. One of the most damaging activities on the sea is oil tanker spills and tanker accidents, which are used effectively in maritime transportation (Yalçın Erik, 2015: 2; WWF, 2021). Tanker accidents are crucial due to the quantitative size of tanker accidents globally. As a result of these accidents, high rates of petroleum compounds are mixed into the seas. In addition, other factors that cause pollution of the sea in terms of oil and its derivatives are refinery facilities, oil discharge facilities, oil production at the bottom of the sea, exhaust gases, and other types.

One of the leading causes of industrial pollution, effective in the pollution of the Black Sea, Aegean, and the Mediterranean, is maritime transport and tanker accidents. In other words, the factors that cause marine pollution both in Turkey and in the world are maritime transport and oil accidents and spills. In this context, it can be stated that the pollution in the seas is mainly caused by economic activities such as shipping activities and oil transportation. In addition, tanker accidents cause long-term and/or permanent pollution of the sea. In this direction, living space in the seas, fishing activities, and irrigation in agriculture face many problems and constitute an important dimension in the climate crisis (Steele et al., 1973: 153; Kınacıgil and İlkyaz, 1997: 363; Aras, 2001: 401-403; Reçber, 2022: 81).

The effects of tanker accidents that cause marine pollution are experienced in many parts of the world, and the impact of damage to the environment is given below with some examples;

March 18, 1967: As a result of the accident on the southwest coast of Britain, the cargo ship Torrey Canyon spilled 117 thousand tons of oil into the sea.

May 12, 1976: As a result of the burning of the tanker Urquiola off the coast of Spain, 95 thousand tons of oil was mixed into the sea.

March 16, 1978: While the Liberian-flagged tanker Amoco Cadiz, off the coast of France, 223,000 tons of oil in the tanker polluted the sea coast, and many living things were directly affected.

July 19, 1979: As a result of the collision of two oil-laden tankers near Venezuela, 300 thousand tons of oil spilled into the sea.

March 24, 1989: As a result of an accident in the port of Alaska, a major environmental disaster occurred, and 42 thousand tons of oil leaked into the sea, damaging both marine pollution and living life. As a result, many bird species, otters, and gray whales perished.

December 12, 1999: As a result of the separation of the ship Erika in two, a coastline of 500 km was polluted and 1 million birds perished.

In addition to the above-mentioned tanker accidents, there have been many tanker accidents in Turkey, and environmental pollution has occurred as a result of these accidents, especially in the straits. The most important of these accidents was the Independenta tanker accident on November 15, 1979. The effects of the Independenta accident, which took place in the Bosphorus and resonated in the international arena, were great. As a result of the accident, 93.000 tons of oil was mixed into the sea, and 96% of the sea creatures died together with the pollution; it also affected the air pollution as a result of the ongoing fire (Türkmen, Şener and Arıkan, 2010: 9; Yalçın Erik, 2015: 6). This accident is not the only accident in the Bosphorus, and especially the Marmara Sea and its surroundings are open to tanker accidents and environmental pollution in this direction.

One of the factors affecting marine pollution is ballast waters, which are common in the maritime business. Ballast waters can be expressed as a system that provides the driving and maneuverability that keeps a ship in balance (IMO, 2021). However, the discharge of ballast water into the sea, which contributes to the balance system of the ships, has a high impact on marine pollution. In addition, the pollution resulting from washing the tanks is also effective in the formation of sea pollution (Erik, 2015: 2). It is important to have certain rules and to consider sustainability at the point of sea and marine management.

2.3. Ways to Prevent and Reduce Pollution

Pollution can be prevented and/or reduced by reducing pollution in the seas and oceans, protecting natural resources, and ensuring the sustainability of the marine ecosystem. Countries accept some conventions to reduce marine pollution and protect the vitality and diversity of marine ecosystems and fauna. In this context, the United Nations Conventions on the Law of the Sea (UNCLOS) and other international conventions of the International Maritime Organization (IMO) are prominent examples (Smith-Godfrey, 2016: 58).

In order to reduce pollution in the sea, ocean, and water resources, action should be taken on a national basis first. States, initiatives, and international and/or transnational organizations have important duties. In this context, the necessary action plans for the reduction and prevention of marine pollution are put forward by the International Maritime Organization (IMO). In this context, one of the well-known programs is the Global Action Plan for the Protection of the Marine Environment from Land-Based Activities. With the guides and conventions prepared on the seas and water resources in the international framework, the ground is prepared for the sustainability of the seas and water resources. The Intergovernmental Oceanographic Commission Criteria and Guidelines on Marine Technology Transfer prepared to increase marine biodiversity and support research in this field, is one of the most basic examples.

Goal number 14, within the scope of the 17 Sustainable Development Goals adopted by the United Nations (UN) and put into effect on January 1, 2016, is related to the oceans and seas. This goal numbered 14 includes seven sub-targets (Desa, 2016) under "To protect and sustainably use the oceans, seas and marine resources for sustainable development." While these goals provide a roadmap for the sustainability of the seas, they determine both the stakeholders and the distribution of tasks.

The United Nations Convention on the Law of the Sea dated 10 December 1982 (Wolfrum and Matz, 2000: 447) and the systematic established to realize its provisions, ensure environmental responsibility and sustainable development. This convention provides the legal framework for conserving and sustainable use of the oceans and their resources. Accordingly, the contracting parties are obliged to accept the regulations and laws presented to control the pollution of the sea (Nathan, 2017: 36).

In order to reduce marine pollution, it is necessary to determine the problems that cause pollution and find suitable solutions for the source of the problem. In this context, entrepreneurs also have significant responsibilities. It is essential to prevent pollution and carry out activities that will purify the sea from pollution. For example, business areas such as the construction of a ship to clean oil pollution, which is one of the most important causes of pollution in the seas, and the design and design of an oil ship suitable for oil transportation (Türkmen et al., 2010) should be considered.

The duties of entrepreneurs are not only to prevent marine pollution, but also to ensure marine biodiversity and to organize economic activities by sustainable development. In this context, it is important to research, support, and expand the field of blue entrepreneurship, which is one of the sustainable entrepreneurship types, for the future of the oceans and seas. This situation provides the spread of ocean (sea) based economies. The ocean (based) economy includes all commercial ocean-based activities with a mix of established and emerging industries (Veríssimo et al., 2021: 9378).

2.4. Blue Economy

Increasing globalization and increasing international trade activities bring the sea/ocean existence to the fore. In particular, the economic activities handled within the framework of sustainable growth bring the concept of "blue growth" to the fore. To achieve blue growth, the blue economy must operate effectively. The blue economy is a new topic discussed at the United Nations Sustainable Development Conference held in Rio de Janeiro in 2012 (Smith-Godfrey, 2016: 59). The concept of a blue economy plans to realize the environmental goal of a green economy and circular economy. The blue economy attaches importance to sustainability management to create a healthy marine ecosystem.

In connection with sustainable development goals, oceans, seas, and water resources are discussed, and even water is shown as the basis of sustainable development. In addition to this, the continuity of environmental factors is emphasized, and holistic water resources management for the fight against poverty and social public health. For holistic and successful water resources management,

investment in water and sanitation services is required (United Nations Conference on Sustainable Development, 2012: 36-37).

The United Nations Environment Program (UNEP) deals with the oceans under a broader title and this framework is defined as the blue world. In this context, according to the report named Green Economy in a Blue World: Synthesis Report (UNEP, 2012) prepared by the United Nations in 2012; the study, which deals with the key sectors (UNEP, 2012: 1) in the blue world (sea, ocean and coastal environment) and their connection with the green economy, has opened the door to the blue economy today.

"The Blue Economy is a sea-based economic development that improves human well-being and social equity while significantly reducing environmental risks and ecological scarcity" (Everest-Phillips, 2014: 9-12). All economic activities related to the sea and/or ocean constitute the value chains of the blue economy. In the literature, this economic activity is also referred to as the ocean economy instead of the blue economy (Vega and Hynes, 2017; Winther et al., 2020). In particular, the United Nations deals with its studies in this field under the title of the ocean economy. In addition, ocean, sea, and water resources within the scope of European countries are handled within the framework of the blue growth concept for a sustainable economy, and this is accepted as a key concept introduced by the European Commission in 2012 (European Commission, 2021). Studies carried out in this context have enabled the value of the oceans to be given importance in decision-making and policy development. However, in studies to be carried out, it may be more appropriate to use the name blue economy in a broader perspective due to seas and other water areas as well as oceans.

It is important for international institutions to focus on the blue economy concept and bring it to the forefront to ensure sustainability. This aspect of the blue economy stems from the impact of the seas on both the climate crisis and the food crisis. The effective realization of the blue economy has an important role in preventing the climate crisis and food crisis (Techera, 2018: 9). This economic structure, which has an active sustainability aspect, offers the realization of activities based on the renewal model and/or where the economic activities carried out produce lower greenhouse gas (GHG) emissions. At the same time, this situation ensures the continuation of life in the marine ecosystem and constitutes an essential and healthy food source for both animals and humans.

The concept of blue growth, which is examined concerning the blue economy, can be defined as ensuring the growth of the maritime economy. Examples of the blue economy are generally examined in the context of Greece (Kyvelou and Ierapetritis, 2019: 249). Within the scope of the European Union, firstly Greece, the Greek Cypriot Administration of Southern Cyprus (GCASC), Malta, and Ireland are the countries where blue growth is the subject of research (Schultz-Zehden, Weig and Lukic, 2019).

The blue growth idea's origin is that maritime economic activities cannot be adequately developed with a sectoral approach but rather through holistic management of complex marine social-ecological

systems (Kyvelou and Ierapetritis, 2019: 250). Because of this consideration, blue growth should be considered and studied multifacetedly.

2.5. Blue Entrepreneurship

Recently, it has been accepted that there is a trend towards a more sustainable and environmentally friendly economy worldwide. Accordingly, this trend has paved the way for ecologically-based businesses, which are the intersection of sustainability and entrepreneurship (Rodríguez-García et al., 2019: 2909). In addition, with the strategies focusing on the environmental dimension, sustainability has gained more importance.

Within the scope of sustainability studies, the entrepreneurship literature examines theoretical strategies focusing on the environmental dimension (Rodríguez-García et al., 2019: 2909). On the other hand, these corporate strategies allow the formation of sub-units under the umbrella of sustainability. The work of certain institutions in this area has led to the emergence of lower-level types of entrepreneurship. The most obvious example of this situation is the 17 sustainable development goals accepted by the European Commission and enabling the emergence of the "Blue Growth Strategy." This strategy is a long-term strategy put forward by the European Union for the sustainability steps in the maritime field (Kontakos, 2019:165). In the context of this strategy, to protect the oceans, seas, and water resources in accordance with sustainable development (United Nations Conference on Sustainable Development, 2012: 47), the business areas handled under the umbrella of the blue economy form the foundations of blue entrepreneurship today.

As the awareness that developed after green entrepreneurship showed a tendency in the field of ocean and sea, activities in this field have been included in many studies under the name of "green entrepreneurship of the blue world" (UNEP et al., 2012: 1). This nomenclature may be due to the earlier emergence of green entrepreneurship literature and the more significant interaction in the terrestrial area. However, a conceptual framework is needed to raise awareness of the seas and oceans and support the aquatic ecosystem. The concept of blue entrepreneurship shapes this conceptual framework. In addition, the inclusiveness of blue entrepreneurship must be broad. In this context, examples of blue entrepreneurship can be presented in many fields and dimensions. The examples to be discussed in the context of blue entrepreneurship can be classified in a wide range, from aquaculture to seabed mining (Lodge, 2016; Kontakos, 2019: 166).

On the other hand, according to the studies accepted within the framework of sustainability activities blue entrepreneurship includes all kinds of projects and actions related to access to clean-quality water and the protection and restoration of marine fauna (Crecente et al., 2021: 910).

All kinds of initiatives carried out in maritime under the umbrella of sustainability to ensure blue growth constitute blue entrepreneurship. All kinds of economic activities that allow the development of the blue economy with the motive of ensuring and protecting sustainability in the management of the

maritime area can be considered blue entrepreneurship. In this context, it is important to determine the scope of the maritime field. The maritime field can be handled narrowly within the scope of maritime transportation and/or fisheries, or it can be handled in a way that covers marine ecology or the marine environment (Smith-Godfrey, 2016: 59). In addition, all kinds of entrepreneurial activities to be carried out both on land and at sea related to the tools and equipment used in maritime activities can be included in this scope.

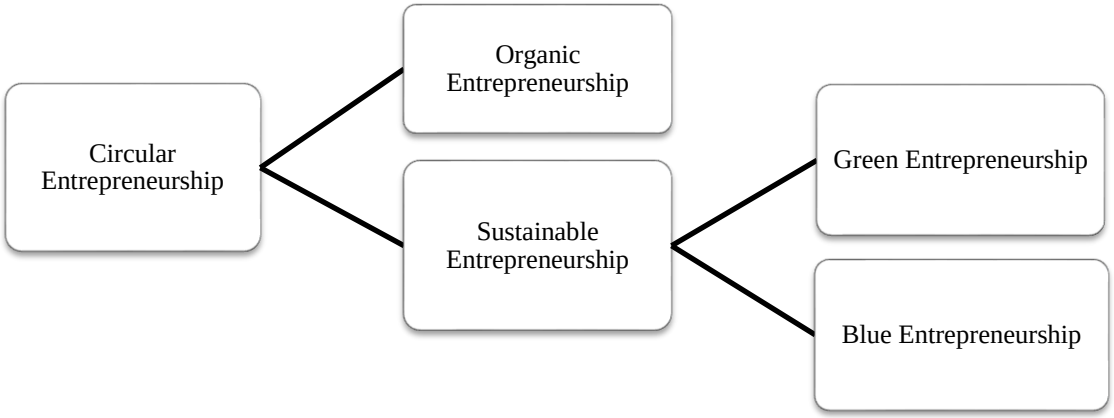
Beyond the studies on the scope of the concept of blue entrepreneurship, this concept could not find a place for itself in the Turkish literature, while it found its place in a limited number of studies in the English literature. The concept of blue entrepreneurship was first included in the study "Towards an Integrated Participatory Marine/Coastal And Territorial Spatial Planning Approach at The Local Level – Planning Tools and Issues Raised" by Panagou, Kokkali and Stratigea (2018). In these studies, although a definition of the concept of blue entrepreneurship was not made, it emerged conceptually. Apart from this, the number of studies1 in the literature on the concept of blue entrepreneurship is very limited. In this respect, blue entrepreneurship can be defined as all entrepreneurial activities that prioritize the sustainability of water areas such as the sea and ocean, which are put forward within the framework of the blue economy.

Another issue that is as important as revealing the conceptual framework of blue entrepreneurship is that blue entrepreneurship should be studied and developed by coastal countries. It is observed that the concept of blue entrepreneurship, which is discussed after the studies of the European Union on the concept of blue growth, is generally considered to be limited in the context of Greece and Portugal (Santos, 2021: 50) and Southern Cyprus.

When the roots of blue entrepreneurship are examined and the first studies are evaluated, it is seen as an element of sustainable entrepreneurship. According to this understanding, sustainable entrepreneurship is also a sub-title of circular entrepreneurship. Accordingly, the draft prepared in line with sustainable entrepreneurship goals is as follows;

[1] "How to make blue growth operational? A local and regional stakeholders perspective in Greece" written by Kyvelou ve Ierapetritis (2019), "Blue Growth and Entrepreneurship: Opportunities and Challenges in Cyprus" written by Kontakos (2019), "Knowledge-Intensive Entrepreneurship and S3:Conceptualizing Strategies for Sustainability" written by Gifford and McKelvey (2019), Trends in Maritime Spatial Planning in Europe: An Approach to Governance Models" written by Casimiro and Guerreiro (2019), "The Blue Economy–Cultural Livelihood–Ecosystem Conservation Triangle: The African Experience" written by Okafor-Yarwood et al. (2020), "Sustainable Entrepreneurship in the 2030 Horizon" written by Crecente et al. (2021), "The Integrated Maritime Policy in the European Union and The Portuguese Experience over The Past 14 Years" written by Santos (2021), Women's Blue Entrepreneurship Economic Empowerment Strategy" written by Raheem (2022) named works.

Table 1. Concepts Related to Sustainable Entrepreneurship



Source: Crecente et al., 2021: 911

According to the table above, blue and green entrepreneurship appears to be two concepts that develop in the same direction and complement each other. However, the blue entrepreneurship literature is more limited than the green entrepreneurship literature.

The development and examination of the concept of blue entrepreneurship should be addressed in other issues related to the concept. In this context, blue energy and blue biotechnology concepts should be addressed within the scope of blue entrepreneurship.

Blue biotechnology, or sea biotechnology, is concerned with studying sea biodiversity and the management of sea organisms. Here, especially renewable sea organisms and their operation are important for blue entrepreneurship. When the literature is examined, blue biotechnology is considered a developing and promising sector. The content of this sector covers a wide area and is closely related to sectors such as food, cosmetics, and pharmaceuticals. In addition, it is stated that blue biotechnology contributes to energy studies and will provide more oil production by using micro-algae in the sea beds. Blue biotechnology is growing rapidly in the sea basin where Cyprus is located (Kontakos, 2019:170-171). It will also increase offshore oil and gas potential if blue biotechnology advances further technologically.

The energy factor alone plays a key role in sustainable development. In addition to the difficult and costly access to energy and energy resources, more sustainable energy sources are needed. It is expected to provide energy diversity with sustainable focused energy sources from traditional energy types to advanced energy technologies. In this direction, the United Nations works under sustainable energy for energy accessibility, energy efficiency, and renewable energy development. He states that within the scope of these studies and for sustainable development, it is necessary to act in the direction of sustainable energy sources (United Nations Conference on Sustainable Development, 2012: 39). In this context, one of the crucial steps for renewable energy is blue energy. “Blue Energy” is an important concept that emerged from the idea that water and energy are an inseparable whole. It is seen as a

complementary duo rather than a link between water and energy. Blue energy is a method of creating electricity through electrochemistry. This method is achieved by exchanging molecules between fresh water and salt water. Due to this system, it is seen that blue energy is embodied in the form of "salinity energy" (Jia, Wang, Song and Fan, 2014: 91). Clean water resources and seawater are needed for blue energy, a type of renewable energy.

Blue energy is also an important requirement for a sustainable world. It is expressed as one of the sustainable development sectors in the European Union's strategic documents (Sedlar, Vulin, Krajačić and Jukić, 2019: 159). In this direction, individuals and societies should turn to blue energy for clean energy and water resources (Brodd, 2022).

3. CONCLUSIONS

The importance of sustainability and the principles set forth by the United Nations have laid the groundwork for developing the concept of blue growth. The sea area and water resources, which have been included in the scope of Sustainable Development activities that have been worked on for a while, will gain more value only after they are addressed in a conceptual plan. It is observed that the studies on this subject are handled in a limited framework, the number of studies is low, and the a lack of conceptual definitions. Sustainability in the seas and its entrepreneurial activities are considered green entrepreneurship of the blue world, emphasizing that this nomenclature is insufficient. One of the primary purposes of this study is to raise awareness for sustainability activities and blue growth in the seas and define this situation with a unique concept such as green entrepreneurship. Within the scope of sustainability studies, the concept of "blue entrepreneurship" has started to be discussed, with the seas in the background and the lack of research in this field. In this context, the conceptual framework of the sustainability of the sea in the economic field has been drawn, and the gap in the field has been tried to be completed. The need for the concept of blue entrepreneurship arises from the economic consideration of factors such as marine biodiversity destroyed for the development and prevention of pollution in the seas. The increase in marine pollution, the decrease in life in the seas, the increase in seawater temperature, and the climate crisis, it has begun to bring more to the fore all water areas such as the sea and the ocean, which are discussed more. However, many factors such as the wastewater given to the seas by the enterprises, the accidents in maritime transport, the life in the seas, and the misfishing in the fishing sector have revealed the question of what should be done for the water areas. Accordingly, the concept of blue entrepreneurship was presented with its predecessors and successors, and its conceptual framework was drawn by considering the sectors. It is important to consider all kinds of activities within the scope of blue entrepreneurship, from more basic activities such as aquaculture to marine tourism and even the sale of products to be used in the sea. In addition, the importance given to blue entrepreneurship will ensure sustainability and enable the positive growth of marine activities and sustainable development. It has been stated that although the sea covers 71% of the world, the studies in this field

are more limited, and this situation will expand the framework of blue entrepreneurship by turning to studies such as blue energy and blue biotechnology.

In order to develop the concept of blue entrepreneurship, it is necessary to carry out new studies with this name and to deal with maritime and economic activities more together. In addition, it is important to fill the gaps in the field by preparing multi-disciplinary studies in many fields, such as innovation, biology, and political science, and addressing all aspects of blue entrepreneurship. In this regard, future researchers can expand their fields of study by defining the duties of enterprises, international institutions, and states together with their common areas for the development of blue entrepreneurship.

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