Committee: United Nations Environment Programme (UNEP)

Agenda Item: Water Security and Pollution Control for Blue and Freshwater Economies

Under Secretary General: Begüm Demirörs

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1) Letter From the Secretary-General

Dear Participants,

As the Secretary-General of MedTrain’26, I am deeply honored and delighted to invite you to the first edition of this conference.

MedTrain’26 is a conference driven by the motivation of diplomacy, politics, and academic development. Throughout our preparation process, our primary motivation has been to bring innovation to your past experiences within the MUN community, to allow you to fully experience an academic MUN conference in every aspect, and I am honored to present to you the academic rigor of a MUN conference in its entirety.

By combining the expertise of our academic team with the tireless energy of our organizing team, we are committed to delivering an unforgettable experience. Whether you are a first-time delegate or an experienced one, MedTrain’26 has been designed to offer you the opportunity to learn the dynamics of MUN through its committees, engage in constructive debates, and witness the finest examples of the art of diplomacy.

Thank you for joining us on this unique journey. I look forward to the unforgettable memories we will create together.

With warm regards,

Mustafa Aslan

Secretary General of MedTrain’26

2) Letter From the Under Secretary-General

Distinguished Delegates,

My name is Begüm Demirörs, and I am honored to serve as your Academic Assistant for the UNEP Committee at MedTrain’26. I am currently a first-year student at Antalya Bilim University, studying Political Science and International Relations. It is a pleasure to welcome you all.

In this session, UNEP will address the agenda item “Water Security and Pollution Control for the Blue and Freshwater Economies.” This topic highlights the urgent need to protect aquatic ecosystems while ensuring sustainable economic use of water resources. Delegates are

expected to approach the issue with strong research, environmental awareness, and a solution-oriented mindset.

This agenda requires analytical thinking, policy-driven solutions, and an understanding of global environmental challenges. I encourage active participation, diplomacy, and collaboration throughout the committee.

Please feel free to reach out with any questions. I look forward to a productive and engaging session with all of you.

Kindest regards,

Under-Secretary General of UNEP

Begüm Demirörs

3) Letter From the Academic Assistant

Dear Participants,

First of all I would like to introduce myself with a few short sentences. I am Mehmet Yıldırım who studies at Antalya Erünal Social Sciences High School as a 10th grade student. To be honest, it really gives me the utmost pleasure to serve as the Academic Assistant of the United Nations General Assembly, the second Committee (UNEP) at this prestigious training conference. One of the largest problems in the environment is water pollution. In our agenda item (Water Security and Pollution Control for Blue and Freshwater Economies); We did our best and give an unique effort to make everyone understand the contexts and the mechanisms of UNEP and our World's critical but at the same time, hopeful condition to bring up developments around the globe by understanding and reading the study guide . Therefore, as the committee, we must think with consciousness and find various solutions. Every single

delegate is encouraged to read this study guide carefully, conduct further and extra research specifically on their country, and come prepared for the committee. I sincerely hope that this committee will be an unforgettable experience for all of you. For my closing remarks, I would like to express my thanks to the hardworking Executive Team . I also want to welcome each and every one of my delegates. Last but not least, I would like to thank Our nonstop and experienced Under-Secretary General, Begüm Demirörs, for giving me this great and unforgettable chance to be your academic assistant and such an enjoyable committee.

Best Regards Academic Assistant of the UNEP Mehmet YILDIRIM

4) Introduction to the Committee

The United Nations Environment Programme (UNEP) is headquartered in Nairobi,Kenya which is the United Nations' leading global authority on the environment, driving transformational change on the triple planetary crisis: the crisis of climate change, the crisis of nature, land and biodiversity loss, and the crisis of pollution and waste such as Water Pollution and its future negative effects.Since The United Nations Environment Programme was founded in 1972, UNEP has served as a neutral convener of Member States, civil society, the private sector and UN agencies to address humanity's most pressing environmental challenges. From protecting species to restoring the ozone layer, UNEP-facilitated international agreements have made global environmental action possible throughout the years. Today, UNEP hosts the United Nations Environment Assembly, the world's highest-level decision-making body on the environment, with a universal membership of all 193 United Nations' Member States.

5) Introduction to the Agenda Item

-Role of The UNEP

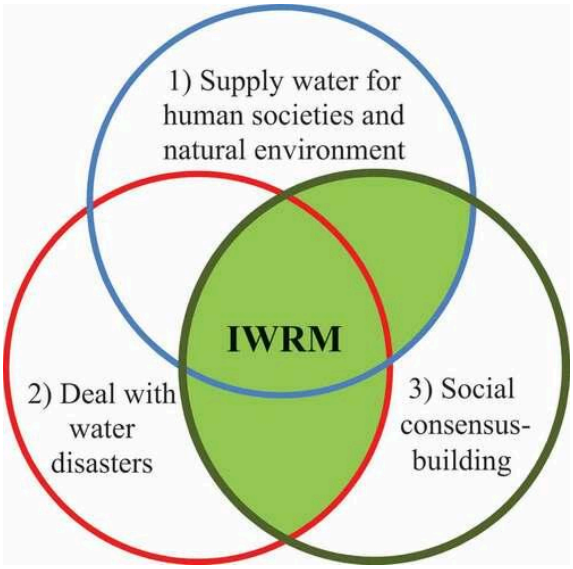
UNEP's work is categorized into seven broad, independent from each other thematic areas: climate change, disasters and conflicts, ecosystem management, environmental governance, chemicals and waste, resource efficiency and environment under review. In all of its work, UNEP maintains an overarching commitment to sustainability. The UNEP committee on water pollution and the contamination of water resources focuses on taking precautions against water pollution, developing control strategies against water pollution, and water quality management. The committee also addresses water security, water pollution in clean waters, and the effects of water pollution.The UNEP committee's priority is water security, ensuring access to sufficient clean water and managing water-related risks (floods, drought, pollution). Water pollution originates from various sources, including agricultural, mining, and industrial waste, urban wastewater discharges, and waste management facilities. Preventing this pollution is a more effective approach than simply investing in treatment plants.Water security and pollution control strategies should be developed within the framework of guiding principles in policy documents. An effective strategy should guarantee the coordinated use of financial resources, institutional capacity, and regulations; otherwise, expenditures may be ineffective. Furthermore, the strategy should provide general directions to water quality managers on how to implement policy objectives and translate theguiding principles into practical management practices. Sufficient detail in the strategy helps in identifying and implementing concrete actions and projects. The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. UNEP’s one of the main focus tree and working place is SDGs. United Nations has pointed 17 different Sustainable Development Goals in 2015 and it proceeds with the same number since Goals and related programmes and work processes has been announced and started to be made. Some specific Goals are directly connected and related to UNEP programmes and UNEP’s partners. as Agenda Item of our committee is “Water Security and Pollution Control for Blue and Freshwater Economies” There more than one directly related and connected Goals which is compatible to work and bring up solution ideas to previous and current global or regional problems by combining and generating as general common global environment issues and risk which UNEP has to challenge and must handle by getting assistance of cooperated partners.

-Background Information

The term ‘blue economy’ broadly relates to a sustainable ocean economy (the economic activities associated with the ocean, seas and coastal regions) which allows resource use while preserving the health of the ocean ecosystem. However, there is no universally agreed definition.

The United Nations Environment Programme (UNEP) has played a crucial role in addressing water security and pollution control to support sustainable blue and freshwater economies. Since the United Nations Conference on Environment and Development the issues related to freshwater resources management have taken on an increasingly prominent role in the international arena. UNEP has reacted to this through various initiatives and activities. UNEP must continue to evolve its programming to address freshwater issues and has thus developed the present policy and strategy.

The overall goal for the UNEP water policy and strategy is: to contribute substantially to environmental sustainability in the management of water resources, utilizing integrated ecosystem approaches, as a contribution to the internationally agreed targets and goals relevant to water and socio-economic development. Three key components of UNEP freshwater work are identified as assessment, management and cooperation are tied together within a framework of Integrated Water Resources Management (IWRM).



IWRM is based on four principles which is called and known as “the Dublin Principles”

Principle 1 is focused on Water’s role in sustaining life in all its forms and is required for many different purposes, functions and services; holistic management, therefore, has to involve consideration of the demands placed on the resources and the threats to it. Holistic management not only involves the management of natural systems; it also necessitates coordination between the range of human activities which create the demands for water, determine land uses and generate water borne waste products. Creating a water sensitive political economy requires coordinated policy making at all levels (from national ministries to local government or community – based institutions). There is also a need for mechanisms

which ensure that economic sector decision makers take water costs and sustainability into account when making production and consumption choices. The development of such an institutional framework capable of integrating human systems – economic, social and political – represents a considerable challenge.

Principle 2 is about Water development and management ways to be based on a participatory approach, involving users, planners and policy-makers at all levels

As Principle 2 Water is a subject in which everyone is a stakeholder. Real participation only takes place when stakeholders are part of the decision making process. This might occur directly when local communities come together to make water supply, management and use choices. Participation also occurs if democratically elected or otherwise accountable agencies or spokespersons can represent stakeholder groups. The type of participation will depend upon the spatial scale relevant to particular water management and investment decisions and upon the nature of the political economy in which such decisions take place

Principle 4: Water has an economic value in all its competing uses and should be recognised as an economic good

Within this principle, it is vital to recognise first the basic right of all human beings to have access to clean water and sanitation at an affordable price. Past failure to recognise the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources. Value and charges are two different things. The value of water in alternative uses is important for the rational allocation of water as a scarce resource, whether by regulatory or economic means. Charging (or not charging) for water is applying an economic instrument to support disadvantaged groups, affect behaviour towards conservation and efficient water usage, provide incentives for demand management, ensure cost recovery and signal consumers willingness to pay for additional investments in water services.

IWRM has the main aim of assisting to protect the world's environment, foster economic growth and sustainable agricultural development, promote democratic participation in governance, and improve human health. Water policy and management are beginning to reflect the fundamentally interconnected nature of hydrological resources, and IWRM is emerging as an accepted alternative to the sector-by-sector, top-down management style which has dominated in the past worldwide.

The basis of IWRM is that the many different uses of finite water resources are interdependent. High irrigation demands and polluted drainage flows from agriculture mean less freshwater for drinking or industrial use; contaminated municipal and industrial wastewater pollutes rivers and threatens ecosystems; if water has to be left in a river to protect fisheries and ecosystems, less can be diverted to grow crops. There are plenty more

examples of the basic theme that unregulated use of scarce water resources is wasteful and inherently unsustainable.

Integrated Water Resources Management is a cross-sectoral policy approach, designed to replace the traditional, fragmented sectoral approach to water resources and management that has led to poor services and unsustainable resource use. IWRM is based on the understanding that water resources are an integral component of the ecosystem, a natural resource, and a social and economic good.

Extreme hydrological events such as floods and droughts, other natural and man-made hazards and accidental pollution of water bodies pose major risks to growth and sustainable development. Additionally, climate change and variability may aggravate extreme events or require long-term planning for effects such as sea-level rise. These events should be addressed in the context of an integrated approach to water resources management geared towards developing prevention and preparedness measures along with strategies for risk reduction and disaster prevention, efforts are focused on strengthening the prevention and control of pollution from wastewater, solid waste, and industrial and agricultural activities.

Partnership is essential for addressing complex and interlinked water issues. Neither UNEP nor any other organization can alone fully support governments in meeting the monumental requirements and challenges. Being with this mentioned case, UNEP shall build on existing programmes and partnerships while establishing new ones where it is appropriate.

As the principal body within the United Nations system in the field of environment, UNEP will work closely with other United Nations agencies through UN-Water and with regional bodies, local authorities, scientific institutions, non-governmental organizations, UNEP committee and relevant sectoral ministries to ensure that ecosystem-based approaches are fully integrated into water resource managements. Participation by all stakeholders is fundamental to sustainable water resources management. Active consultation and transparency significantly increases the likelihood of the implementation of water resources management initiatives. Integrated water resources management provides an ecosystem-based approach to water resource management which encompasses both water quality and quantity. It builds on the linkage between the various components of ecosystems natural resource base, and connects it with the institutional, social and economic elements of water resource management to provide the integrated management framework needed to deal

with the particular problems related to the sustainable maintenance of ecosystems and the services which they provide.

UNEP Finance Initiative (UNEP FI) has developed guidance on the Sustainable Blue Economy Finance Principles that are the foundational keystone to invest in the ocean economy. Launched in 2018, they are the world's first global guiding framework for banks, insurers and investors to finance a sustainable blue economy. They promote the implementation of SDG 14 (Life Below Water),and set out ocean-specific standards allowing the financial industry to mainstream sustainability of ocean-based sectors.

UNEP Finance Initiative is Convened by a Geneva, Switzerland-based secretariat, more than 550 banks and insurers are individually implementing UNEP FI's Principles for Responsible Banking and Principles for Sustainable Insurance. Financial institutions work with UNEP FI on a voluntary basis to apply these industry frameworks and develop practical guidance and tools that drive institutional change, shaping the future of sustainable finance and positioning their businesses for the transition to a sustainable and inclusive economy. In parallel, UNEP FI also drives systems change and fosters enabling conditions in service of the broader mission to mobilize and align private finance to help achieve the UN Sustainable Development Goals (SDGs).

UNEP FI was Founded in 1992, UNEP FI was the first organization to engage the finance sector on sustainability and incubated the Principles for Responsible Investment, in current days the world's leading proponent of responsible investment.

Today, United Nations Environment Programme Finance Initiative cultivates leadership and advances sustainable market practice while supporting the implementation of global

programmes at a regional level across Africa & the Middle East, Asia Pacific, Europe, Latin America & the Caribbean, and North AmericaThe principles were developed by the European Commission, WWF, the World Resources Institute (WRI) and the European Investment Bank (EIB) and are hosted by UNEP FI as part of the Sustainable Blue Economy Finance Initiative.

-The Importance of Sustainability on Blue Economy

Sustainable Blue Economy is a marine-based economy that Provides social and economicbenefits for current and future generations, by contributing to food security, poverty eradication, livelihoods,income, employment, health, safety,equity, and political stability.Restores, protects and maintainsthe diversity, productivity, resilience,core functions, and intrinsic value ofmarine ecosystems – the natural capi-tal upon which its prosperity depends. It is based on clean technologies, renewable energy, and circular materialflows to secure economic and socialstability over time, while keeping within the limits of one planet. The Importance of Sustainability in the Blue Economy refers to the strong balance between the economic return of ocean and marine resources and the biological health of related ecosystems. Without sustainability, the "Blue Economy" transforms into "Blue Plunder," leading to the depletion of the oceans. Here are the details explaining the importance and sources of this concept: The Importance of Sustainability in the Blue Economy Continuity of Ecosystem Services would collapse due to lack of absorbed carbon emissions Food Security which affects Billions of people who are dependent on the sea as a source of protein. Overfishing and pollution (both freshwater and marine) disrupt this chain without mercy.Economic Resilience would be broken without Sustainable fishing and tourism which provides long-term employment. A polluted sea destroys tourism revenues and local economies. Financial Risk Management is as stated in UNEP FI's guidance, unsustainable investments such as projects that destroy coral reefs) carry the financial risk of becoming "bad assets."

-Coordination Systems of UNEP mechanisms and Strategic Partnerships

The role of UNEP’s six regional offices was enhanced by decision 22/14 of the Governing Council that requested the United Nations Environment Programme (UNEP) to establish and strengthen partnerships at the regional and sub-regional levels with other UN bodies, development banks and other institutions, including Major Groups and Stakeholders, with a view to enhance the effectiveness of development and delivery of its programme of work in the regions.

As mentioned previously The six UNEP regions include Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, North America and West Asia.

Given their work at the national and regional levels, Major Groups and Stakeholders are well placed to participate in the implementation of UNEP’s work through co-operation with the regional offices.

The Regional Facilitators, previously known as “Regional Representatives”, provide varied views from their regions; these geographically diverse perspectives complement the Major Groups and Stakeholders model, allowing civil society to substantively contribute to the UN Environment Programme processes.

Two Regional Facilitators per region are selected by accredited organizations, with attention to gender and sub-regional balance with the overall mission to coordinate and facilitate the engagement of the major groups from their region in UNEA and UNEA processes. The Regional Facilitators are therefore asked to attend UNEA, and to have the relevant expertise of thematic issues to be dealt with at the upcoming session, if the theme is already known.

They participate as observers in the Major Groups Facilitating Committee. Regional Facilitators play a purely facilitating and expert role and have no mandate to formally represent their region or Major Groups and Stakeholders from their region but may present agreed positions from the region when appropriate.

The Regional Consultative Meetings (RCMs)

RCMs take place at least once during the inter-sessional period between sessions of UNEA and are organized by the UNEP Regional Offices in close cooperation with the Regional Facilitators. Those one- to three-day meetings are held, whenever possible, prior to, or in conjunction with relevant major regional meetings/fora or events, including at the ministerial level.

Each region engages in a substantive dialogue on environmental issues that will be discussed during the next UNEA and produces a regional statement or key messages following the meeting. The compilation of all statements and recommendations is made available before the start of the UNEA session as an Information document.

As Other regional activities could be done While the RCMs constitute the main platform for the Major Groups to engage with each other as well as with partners and UNEP’s Regional Offices on an annual basis, they may be complemented by additional meetings, workshops, consultations, either self-organized by Major Groups or facilitated by UNEP’s Regional Offices by taking permission from UNEP.

-Historical background of Water Security

The current phase of global economic expansion has been accompanied by a significant increase in the demand for water resources, which can be attributed to several factors, including extensive resource development, rapid urbanization, and population growth. These factors have contributed to the persistent occurrence of water resource shortages, water-related calamities, contamination of water environments, and other associated challenges, resulting in significant concerns about water security.

Water security challenges can be considered deliberate or inadvertent outcomes of the gradual development of culture, including social norms, values, ideologies, and political institutions.

These issues are often unforeseen or are overlooked in the context of water-related issues. Water culture, a fundamental aspect of human origin, reflects of the intricate connection between individuals and water. Consequently, the significance of water culture in addressing water crises and guaranteeing water security has emerged as a prominent concern and focal point in contemporary global change and water science.

During the nascent stages of human civilization, water security concerns primarily stemmed from natural occurrences, such as droughts, floods, and river diversions. However, in contemporary times, water security issues have predominantly arisen owing to factors. These issues manifest in various forms, including water scarcity, water pollution, aquatic environment degradation, flood disasters, ecological and social instability, and threats to national security. The fundamental objective of water culture is to examine the relationship between people, water, and the change resulting from feedback from the human water system.

Research on water culture is currently mainly conducted through social surveys from the perspectives of risk perception, social norms and values, environmental awareness, people's response to drought , household consumption behavior, and attitudes towards policies. Domestic and foreign scholars have endeavored to investigate the influence of water culture on human systems and the water cycle through quantitative analysis of its evolution. The above research suggests that social surveys, media, and policies can be used indirectly to generalize the relationship between changing values and norms and human behavior concerning the environment.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is the one of the most related and focused organizations which has programmes and projects on water culture. UNESCO is the organization which strongly emphasizes the concept of “water culture” at the global level through its UNESCO-IHP (Intergovernmental Hydrological Programme). It publishes reports on the cultural heritage of water and societies' ethical approach to water.

It is clearly obvious to realize and see in ease that UNESCO's main areas of focus regarding water culture are water ethics, cultural water heritage, and social awareness.

Stockholm International Water Institute (SIWI) is an organization which organizes World Water Week, focusing on the social dimension of water governance. In particular, This Organization focuses on community participation in policy-making and social norms.

SIWI's main working fields and sectors are Water governance, social justice, and community attitudes toward water policies.

Although Blue Circle is generally known for its focus on humanitarian aid activities, it is also one of the institutions that best analyzes social norms and behavioral changes (Behavior Change) regarding water and hygiene in local communities.

Circle Blue's main working places are Social norms, values, and societal behavior change.

-Water Pollution in Freshwater Ecosystems

Healthy ecosystems, drinking, sanitation, farming, industry, energy production, and recreation all depend on clean water. European waters must have a good chemical and ecological status, according to the EU Water Framework Directive (WFD). A variety of complementary laws must be implemented in a way that complements one another in order to achieve these objectives. Chemicals, agriculture, drinking water, nutrient management, urban wastewater treatment, and marine environment protection are all covered by these laws.

Freshwater pollution is mostly caused by urban wastewater discharges, industrial emissions, mining, agriculture, and waste management facilities like landfills. Farming-related pollution is still the most difficult to manage due to its dispersed nature (such as a sewer pipe that empties into a river at a fixed point).Recently, the European Commission suggested a "zero pollution" package that deals with pollution in water. The package includes a new list of pollutants that are found in surface water and groundwater and need to be more tightly controlled. It also includes a new version of the Urban Wastewater Treatment Directive that has new rules, like the need to keep an eye on microplastics and new standards for micropollutants.

In water bodies, an excess of nutrients leads to the growth of algae, which affects water quality, oxygen levels, and biodiversity. Additionally, it may lead to the extinction of species and long-term damage to these fragile ecosystems.Nutrient concentrations in rivers across Europe generally declined between 1990 and 2010. However, over the past ten years, nutrient concentrations have either leveled off or even seemed to be increasing.This drop in nutrient concentrations was caused by improvements in wastewater treatment, a reduction in phosphorus in detergents, and measures to reduce agricultural nutrient pollution.However, since 2010, nutrient concentrations have mostly stabilized; therefore, further actions may be needed to meet the nutrient reduction objectives of the zero pollution action plan. Agriculture is still a major source of pollution, as evidenced by the high nitrate concentrations found in rivers that drain land used for intensive agricultural activities. The amount of nitrates in rivers can also be significantly increased by effluent discharges from densely populated areas.

-Water Pollution and Its Sources

Every time it rains, fertilizers, pesticides, and animal waste from farms and livestock operations wash nutrients and pathogens—including bacteria and viruses—into our waterways. Nutrient pollution, which is caused by an excess of nitrogen and phosphorus in the air or water, is the largest threat to water quality worldwide. Algal blooms, a toxic mixture of blue-green algae that can endanger people and wildlife, can be caused by this pollution. When hazardous materials—usually chemicals or microbes—contaminate a stream, river, lake, ocean, aquifer, or other body of water, the water quality deteriorates and becomes toxic to humans or the environment in more than 80% of cases, according to the United Nations. This is known as water pollution.

Our health is at risk due to the pervasive issue of water pollution. Unsafe water causes more deaths annually than war and all other forms of violence combined. We actually have access to less than 1% of the freshwater on Every year, more people die from contaminated water than from war and all other forms of violence combined. We actually have access to less than 1% of the freshwater on Earth, so our supplies of drinkable water are currently scarce. If nothing is done, the issues will only get worse by 2050, when freshwater demand is expected to be one-third higher than it is today.

Water is particularly susceptible to pollution. Known as a “universal solvent,” water is able to dissolve more substances than any other liquid on earth. It’s the reason we have Kool-Aid and brilliant blue waterfalls. It’s also why water is so easily polluted. Toxic substances from farms, towns, and factories readily dissolve into and mix with it, causing water pollution. Not only is the agricultural sector the biggest consumer of global freshwater resources, with farming and livestock production using about 70 percent of the earth’s surface water supplies, but it’s also a serious water polluter. Around the world, agriculture is the leading cause of water degradation. In the United States, agricultural pollution is the top source of contamination in rivers and streams, the second-biggest source in wetlands, and the third main source in lakes. It’s also a major contributor of contamination to estuaries and groundwater. Every time it rains, nutrients and pathogens, including bacteria and viruses, are washed into our waterways by fertilizers, pesticides, and animal waste from farms and livestock operations. The biggest threat to water quality globally is nutrient pollution, which is brought on by too much nitrogen and phosphorus in the air or water. This pollution can result in algal blooms, a poisonous mixture of blue-green algae that can be dangerous to humans and wildlife. According to the United Nations, over 80% of wastewater worldwide is released back into the environment untreated or unused; in certain least developed nations, this percentage rises to over 95%. Approximately 34 billion gallons of wastewater are processed daily by wastewater treatment plants in the US. These facilities reduce the amount of pollutants such as pathogens, phosphorus, and nitrogen in sewage, as well as heavy metals and toxic chemicals in industrial waste, before discharging the treated waters back into waterways. That’s when all goes well. But according to EPA estimates, our nation’s aging and easily overwhelmed sewage treatment systems also release more than 850 billion gallons of untreated wastewater each year. Big spills may dominate headlines, but consumers account for the vast majority of oil pollution in our seas, including oil and gasoline that drips from millions of cars and trucks every day. Moreover, nearly half of the estimated 1 million tons of

oil that makes its way into marine environments each year comes not from tanker spills but from land-based sources such as factories, farms, and cities. At sea, tanker spills account for about 10 percent of the oil in waters around the world, while regular operations of the shipping industry—through both legal and illegal discharges—contribute about one-third. Oil is also naturally released from under the ocean floor through fractures known as seeps. Radioactive waste is any pollution that emits radiation beyond what is naturally released by the environment.

-Impacts of Water Pollution

In fact, it caused 1.8 million deaths in 2015, according to a study published in The Lancet. Contaminated water can also make you ill. Every year, unsafe water sickens about 1 billion people. And low-income communities are disproportionately at risk because their homes are often closest to the most polluting industries. Waterborne pathogens, in the form of disease-causing bacteria and viruses from human and animal waste, are a major cause of illness from contaminated drinking water. Diseases spread by unsafe water include cholera, giardia, and typhoid. Even in wealthy nations, accidental or illegal releases from sewage treatment facilities, as well as runoff from farms and urban areas, contribute harmful pathogens to waterways. Thousands of people across the United States are sickened every year by Legionnaires' disease (a severe form of pneumonia contracted from water sources like cooling towers and piped water), with cases cropping up from California's Disneyland to Manhattan's Upper East Side. Meanwhile, the plight of residents in Flint, Michigan—where cost-cutting measures and aging water infrastructure created a lead contamination crisis—offers a stark look at how dangerous chemical and other industrial pollutants in our water can be. The problem goes far beyond Flint and involves much more than lead, as a wide range of chemical pollutants—from heavy metals such as arsenic and mercury to pesticides and nitrate fertilizers—are getting into our water supplies. Once they're ingested, these toxins can cause a host of health issues, from cancer to hormone disruption to altered brain function. Children and pregnant women are particularly at risk. Even swimming can pose a risk. Every year, 3.5 million Americans contract health issues such as skin rashes, pinkeye, respiratory infections, and hepatitis from sewage-laden coastal waters, according to EPA estimates.

In order to thrive, healthy ecosystems rely on a complex web of animals, plants, bacteria, and fungi—all of which interact, directly or indirectly, with each other. Harm to any of these organisms can create a chain effect, imperiling entire aquatic environments.

When water pollution causes an algal bloom in a lake or marine environment, the proliferation of newly introduced nutrients stimulates plant and algae growth, which in turn reduces oxygen levels in the water. This dearth of oxygen, known as eutrophication, suffocates plants and animals and can create "dead zones," where waters are essentially

devoid of life. In certain cases, these harmful algal blooms can also produce neurotoxins that affect wildlife, from whales to sea turtles.

Chemicals and heavy metals from industrial and municipal wastewater contaminate waterways as well. These contaminants are toxic to aquatic life—most often reducing an organism's life span and ability to reproduce—and make their way up the food chain as predator eats prey. That's how tuna and other big fish accumulate high quantities of toxins, such as mercury.

Marine ecosystems are also threatened by marine debris, which can strangle, suffocate, and starve animals. Much of this solid debris, such as plastic bags and soda cans, gets swept into sewers and storm drains and eventually out to sea, turning our oceans into trash soup and sometimes consolidating to form floating garbage patches. Discarded fishing gear and other types of debris are responsible for harming more than 200 species of marine life.

Meanwhile, ocean acidification is making it tougher for shellfish and coral to survive. Though they absorb about a quarter of the carbon pollution created each year by burning fossil fuels, oceans are becoming more acidic. This process makes it harder for shellfish and other species to build shells and may impact the nervous systems of sharks, clownfish, and other marine life.

-The difficulties UNEP faces

According to the Hindu religion, some rivers are described as sacred rivers, and it is believed that performing various purposes, including Religious rituals, bathing, and cremation, can lead to God's place in heaven. This psychology of humans/pilgrims plays an important role insocial and Cultural activity at the Ghats. The banks of river ganga, Yamuna, Godawari and shipra are the main Ghats for kumbh mela, millions of people visit these places, during this large gathering a celebtaions with faith which has great significance of bathing as the main ritual in the holy river, believed to free sins and bring positivity to life. The Kumbh Mela is a massive Hindu pilgrimage and festival, considered the world's largest peaceful gathering. It's a deeply religious event where devotees believe bathing in sacred rivers cleanses sins and aids in achieving liberation. Held every three years, the Mela rotates among four pilgrimage sites on four holy rivers, creating a cycle that spans twelve years. Each Mela lasts for several weeks and includes not only ritual bathing but also fairs, religious speeches, and gatherings of monks. The Kumbh Mela is a unique fusion of faith, community, and culture, making it a landmark event in Hinduism. These large gatherings bring along many environment challenges. The increase in waste generation because of large number of people, often Hampers the management. The type of waste and its quantity during the kumbh mela has negative impacts on the river water thus polluting the water, adding stress on the sewage system because of increased of number of people makes it even more dangerous

As one of Thailand's most enchanting festivals, Loy Krathong has long captured hearts with its beautiful tradition of floating krathongs under the full moon. However, with growing environmental concerns, it's crucial to adapt this beloved celebration to be more eco-friendly while preserving its cultural significance. The centerpiece of Loy Krathong is the krathong. Traditionally made from natural materials like banana leaves, banana trunks, and flowers, these biodegradable offerings are relatively harmless to the environment. However, in recent years, many krathongs are made with Styrofoam bases and adorned with plastic decorations, which can significantly harm our waterways. Each year, thousands of these non-biodegradable materials pollute Thailand's rivers and canals, affecting aquatic life and water quality.

Mentioned issues and other unmentioned problems should be solved by cooperation of UNEP and UNEP’s partners and under organs in order to decrease the difficulties and make less the total process time of actions which is directly and indirectly working on to improve current conditions of regions which has major water pollution issues and water security risks.

-SDGs relations with Water Security and Pollution

UNEP has 17 different Sustainability Development Goals (Known as Global Goals or SDG) since it is announced by The United Nations in 2015. Some of SDGs are directly connected and related with UNEP and UNEP's current and future actions in short,medium and long term focused actions programme and projects against global issues which has lack of finding and bringing up efficient and more affordable for undeveloped and developing countries which means hadn't finished their development process in sociocultural, ,economical,financial,diplomatical fields despite Developed Countries such as United States,Germany,Australia and Switzerland. UNEP has vital and critical role on increase the success rate and sustainability Water Security and Pollution Control for Blue and Freshwater Economies. We can see two major related Sustainable Development Goals which is considered as main focus of UNEP and UNEP's current and possible future programmes which aims to increase the conditions of each countries on common global Environment issues.

-Water Quality Management and Pollution Control Strategies

Water quality criteria are developed by scientists and provide basic scientific information about the effects of water pollutants on a specific water use. They also describe water quality requirements for protecting and maintaining an individual use. Water quality criteria are based on variables that characterise the quality of water and/or the quality of the suspended particulate matter, the bottom sediment and the biota. Many water quality criteria set a maximum level for the concentration of a substance in a particular medium which will not be harmful when the specific medium is used continuously for a single, specific purpose. For some other water quality variables, such as dissolved oxygen, water quality criteria are set at the minimum acceptable concentration to ensure the maintenance of biological functions. Most industrial processes pose less demanding requirements on the quality of freshwater and therefore criteria are usually developed for raw water in relation to its use as a source of water for drinking-water supply, agriculture and recreation, or as a habitat for biological communities. Criteria may also be developed in relation to the functioning of aquatic ecosystems in general. The protection and maintenance of these water uses usually impose different requirements on water quality and, therefore, the associated water quality criteria are often different for each use. Mentioned related SDGs are SDG 6 and SDG 14

SDG 6 which is titled Clean Water and Sanitation is focused on Ensureingavailability and sustainable management of water and sanitation for all

SDG 14 which aims to : Conserve and sustainably use the oceans, seas and marine resources all across the globe to bringing up and finding new possible more efficient solution ideas to make happen as planned and announced programmes and action plans as being and as being under authority and permission of The United Nations and The United Nations Environment Programme.

Past experience has shown that remedial actions to clean up polluted sites and water bodies are generally much more expensive than applying measures to prevent pollution from occurring. Although wastewater treatment facilities have been installed and improved over the years in many countries, water pollution remains a problem, including in industrialised countries. In some situations, the introduction of improved wastewater treatment has only led to increased pollution from other media, such as wastewater sludge. The most logical approach is to prevent the production of wastes that require treatment. Thus, approaches to water pollution control that focus on wastewater minimisation, in-plant refinement of raw materials and production processes, recycling of waste products, etc., should be given priority over traditional end-of-pipe treatments. In many countries, however, an increasing proportion of water pollution originates from diffuse sources, such as agricultural use of fertilisers, which cannot be controlled by the approach mentioned above. Instead, the principle of "best environmental practice" should be applied to minimise non-point source pollution. As an example, codes of good agricultural practice that address the causes of water pollution from agriculture, such as type, amount and time of application of fertilisers, manure and pesticides, can give guidance to farmers on how to prevent or reduce pollution of water bodies.

There are many examples of the application and discharge of hazardous substances into the aquatic environment, even when such substances are suspected of having detrimental effects on the environment. Until now the use of any substance and its release to the environment has been widely accepted, unless scientific research has proved unambiguously a causal link between the substance and a well-defined environmental impact. However, in most cases it takes a very long time to establish such causal links, even where early investigations suggest clear indications of such links. When, eventually, the necessary documentation is provided and action can be taken to abandon the use of the substance, substantial environmental damage may already have occurred.

When formulating a water pollution control strategy, it should be ensured that various complementary elements of an effective water pollution control system are developed and strengthened concurrently. For example, financial resources would not be used very effectively by spending them all on the formulation of policies and the drafting of legislation, standards and regulations, if there is no institutional capacity to fill the established framework and enforce the regulations.

-Coordination Systems of UNEP mechanisms and Strategic Partnerships

The role of UNEP's six regional offices was enhanced by decision 22/14 of the Governing Council that requested the United Nations Environment Programme (UNEP) to establish and strengthen partnerships at the regional and sub-regional levels with other UN bodies, development banks and other institutions, including Major Groups and Stakeholders, with a view to enhance the effectiveness of development and delivery of its programme of work in the regions.

As mentioned previously The six UNEP regions include Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, North America and West Asia. Given their work at the national and regional levels, Major Groups and Stakeholders are well placed to participate in the implementation of UNEP's work through co-operation with the regional offices.

The Regional Facilitators, previously known as "Regional Representatives", provide varied views from their regions; these geographically diverse perspectives complement the Major Groups and Stakeholders model, allowing civil society to substantively contribute to the UN Environment Programme processes.

Two Regional Facilitators per region are selected by accredited organizations, with attention to gender and sub-regional balance with the overall mission to coordinate and facilitate the engagement of the major groups from their region in UNEA and UNEA processes. The Regional Facilitators are therefore asked to attend UNEA, and to have the relevant expertise of thematic issues to be dealt with at the upcoming session, if the theme is already known.

They participate as observers in the Major Groups Facilitating Committee. Regional Facilitators play a purely facilitating and expert role and have no mandate to formally represent their region or Major Groups and Stakeholders from their region but may present agreed positions from the region when appropriate.

The Regional Consultative Meetings (RCMs)

RCMs take place at least once during the inter-sessional period between sessions of UNEA and are organized by the UNEP Regional Offices in close cooperation with the Regional Facilitators. Those one- to three-day meetings are held, whenever possible, prior to, or in conjunction with relevant major regional meetings/fora or events, including at the ministerial level.

Each region engages in a substantive dialogue on environmental issues that will be discussed during the next UNEA and produces a regional statement or key messages following the meeting. The compilation of all statements and recommendations is made available before the start of the UNEA session as an Information document.

As Other regional activities could be done While the RCMs constitute the main platform for the Major Groups to engage with each other as well as with partners and UNEP's Regional Offices on an annual basis, they may be complemented by additional meetings, workshops, consultations, either self-organized by Major Groups or facilitated by UNEP's Regional Offices by taking permission from UNEP.

-QUESTIONS TO BE ADDRESSED

1)How can member states more effectively integrate IWRM principles into national policies regarding the management of freshwater resources?

2)Which possible solutions can be taken to make the "Principles for Sustainable Blue Economy Finance" applicable by local development banks in developing countries?

3)How can early warning and risk management coordination be established at the regional level to mitigate the impacts of climate related extreme events (floods, droughts) on water security?

4) Which new possible organizations,under mechanism can be established by UNEP to increase efficieny and success rate of current,ongoing programmes' process?

5) How can member states develop and implement sustainable regulations to minimize environmental degradation caused by religious practices while respecting cultural and spiritual traditions?

BIBLIOGRAPHY