ECONOMIC COOPERATION COMMITTEE

AGENDA ITEM:

Harnessing the Water Potential of Turkic States

USG: YİĞİT EREN DURMAZ

Table of Contents

Letter from the Secretary-General

Dear Participants,

I welcome you all to the Model Organization of Turkic States 2025 conference.

For the second time, this conference will provide an opportunity to embody and simulate the roles of leaders, diplomats, and international decision-makers of the Turkic world. Throughout this experience, you will develop fundamental skills such as critical thinking, negotiation, and public speaking. Additionally, you will gain a deeper understanding of current global issues, become more familiar with the structure of the Turkic States Organization, and acquire knowledge that will serve you in your academic and professional endeavours through research on our shared history.

Our academic team is here to enhance and facilitate your experience in the beautifully selected committees by our Secretariat, ensuring an unforgettable conference. I hope that your valuable ideas presented at the conference will contribute to solving both present and future problems and provide you with new perspectives.

Thank you for being part of this journey.

Sincerely,
Muhammet Gökhan YILDIZ
Secretary General of the Model Organization of Turkic States

Letter from the Under-Secretary-General

Distinguished delegates,

I am exceedingly pleased to welcome you all to the Economic Cooperation Committee of Model Organization of Turkic States 2025 (MTDT25) conference. I will serve as your Under-Secretary-General during the conference.

I was also the Under-Secretary-General of MTDT24's Economic Cooperation Committee, and it was an unforgettable experience for me. It was my first MUN conference in Antalya, and thanks to the amazing team, it became one of the best experiences in my MUN career which spans nearly 6 years now. When I was offered a position again, there was simply no way I could have said no. So here I am, once again the USG of the Economic Cooperation Committee. I am sure that MTDT'25 will be even better than the last iteration, and I am exceptionally excited to return to Antalya.

In this unique committee, we will discuss the ways we can utilise and harness the water potential of the Turkic states. Turkic states have a lot of potential regarding water, and this is true even for landlocked member states.

Water is essential for living beings. Transitively, it is also crucial for the future of nations and their economies. Although the ways we can process or utilise water are nearly endless, we will focus on some of them for this study guide, such as but not limited to fishing, agriculture and even tourism, but participants are free to bring up other solutions or methods not discussed in this study guide, as long as it is related to our committee.

If you have any questions about the committee, the study guide, or the agenda item, please do not hesitate to contact me through my Instagram account, @yigiterendurmaz.

Best regards,

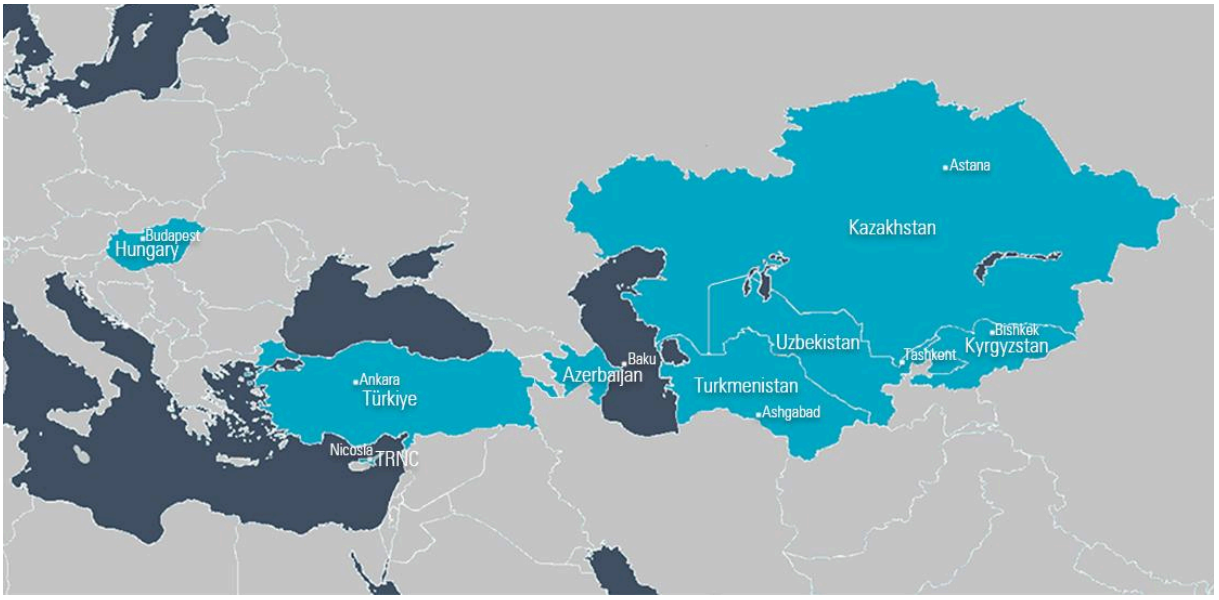
Yiğit Eren Durmaz

Introduction to the Economic Cooperation Cooperation

The Committee for Economic Cooperation aims to be a key platform for promoting cooperation and economic growth among member states. Its general purpose is to promote trade, investment, and socioeconomic development among Turkic states and to benefit both member states and the entire globe.

While there is no real-life equivalent of this committee in the Organization of Turkic States (although there is a very similar body with the same name, with all members of the Organization of Turkic states, it is actually not a body or committee of the Organization of Turkic States), this committee will be functionally similar to the Economic and Social Council and Economic and Financial Committee of the United Nations, and the aforementioned organisation, however, as with committees like this, how the committee functions will be dependent on the agenda item (or items).

Therefore, in this committee, delegates are generally expected to find solutions to create more economic output for the member states. We will elaborate further on the “Introduction to the Agenda Item” section below.



Organisation of Turkic States member and observer states.

Lastly, the Committee will consist of 5 + 3 cabinets of delegates, each cabinet representing either a member state or an observer state. Observer states can also propose solutions regarding the agenda item, just like member states. The member states consist of Kazakhstan, Kyrgyzstan, Uzbekistan, Türkiye, and Azerbaijan, while

the observer states are Hungary, Turkmenistan, and the Turkish Republic of Northern Cyprus.

Introduction to the Agenda Item

Our only agenda item is “Harnessing the Water Potential of Turkic States”. As we have stated before, water is essential for living beings, and therefore also crucial for nations. In order to harness the potential of water, we actually have to take two actions. First, we have to ensure that water security is not an issue. We will mention what water security means later in this guide. After that, we can take steps to make use of water potential. Many Turkic states are at some risk of water insecurity, so we have to make sure our use of water is sustainable.

We can solve water security problems by ensuring water-related disasters like droughts and floods are under control, and by ensuring that clean water is accessible to everyone. This is obviously easier said than done, and these solutions may not be applicable in every context. Afterwards, we can harness the potential of water most prominently with fishing and other aquaculture activities, agricultural applications, tourism activities, energy production, and even recycling. We will mention these potential areas later. Please note that this is not an exhaustive list, water is something that could be used virtually everywhere. So, please do not feel bound by these, participants may find potential solutions regarding other areas as well.

Now let us mention these two steps. Water security, then utilising water.

Water Security

The simplest definition of the term water security is measuring how beneficial water resources are to humans and ecosystems. Note that it is unrelated to a nation’s ability to guard or protect its maritime boundaries. While similar concepts, water security does not mean food security as well (although water security heavily influences food security), which is defined as persons in an area having physical and financial access to enough safe, nourishing food that satisfies their dietary needs and food preferences for an active and healthy life, by the World Bank.

What is Water Security?

"The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability."

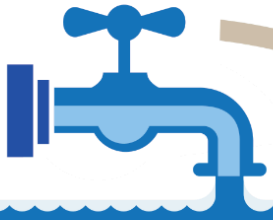
Working definition, UN-Water, 2013

GOOD GOVERNANCE

Adequate legal regimes, institutions, infrastructure and capacity are in place.

TRANSBOUNDARY COOPERATION

Sovereign states discuss and coordinate their actions to meet the varied and sometimes competing interests for mutual benefit.

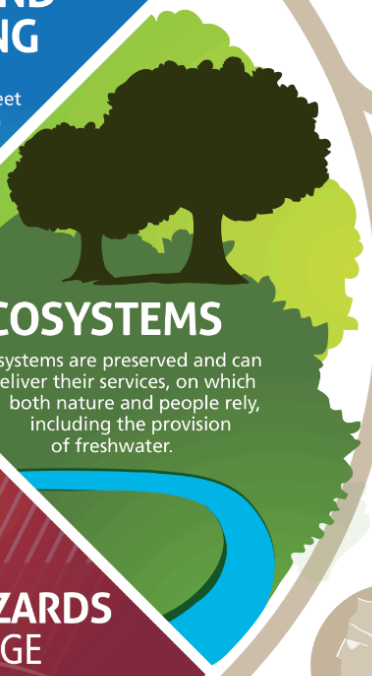


DRINKING WATER AND HUMAN WELL-BEING

Populations have access to safe, sufficient and affordable water to meet basic needs for drinking, sanitation and hygiene, to safeguard health and well-being, and to fulfill basic human rights.

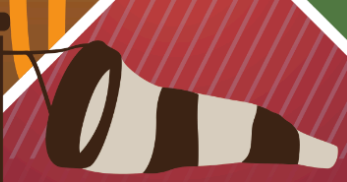
ECONOMIC ACTIVITIES AND DEVELOPMENT

Adequate water supplies are available for food and energy production, industry, transport and tourism.



ECOSYSTEMS

Ecosystems are preserved and can deliver their services, on which both nature and people rely, including the provision of freshwater.



WATER-RELATED HAZARDS AND CLIMATE CHANGE

Populations are resilient to water-related hazards including floods, droughts and pollution.

PEACE AND POLITICAL STABILITY

The negative effects of conflicts are avoided, including reduced water quality and/or quantity, compromised water infrastructure, human resources, related governance, and social or political systems.

FINANCING

Innovative sources of financing complement funding by the public sector, including investments from the private sector and micro-financing schemes.

Water is central to achieving a larger sense of security, sustainability, develoment and human well-being. UN-water supports the inclusion of water security in the post-2015 development agenda as part of the Sustainable Development Goals.

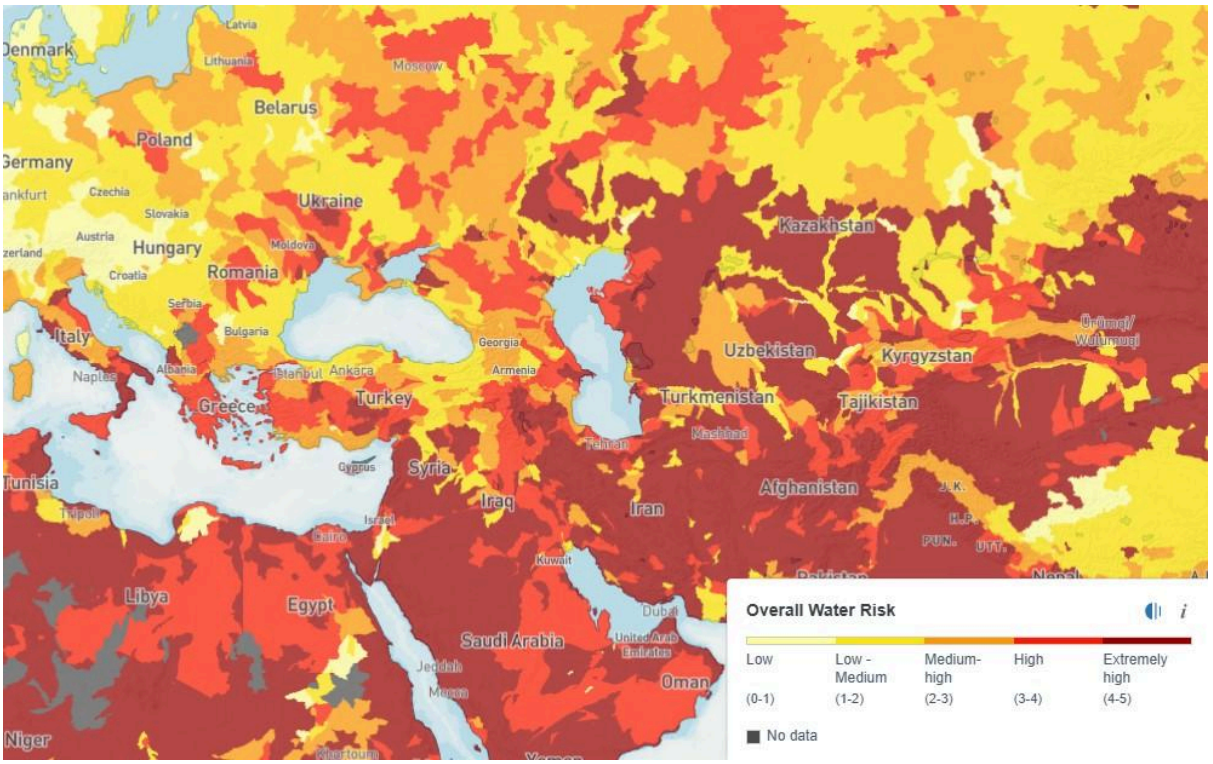
UN WATER World Water Day 2013 International Year of Water Cooperation

Achieving water security requires collaboration across sectors, communities, disciplines and political borders, to reduce the risk of potential conflicts over water resources, between sectors and between water users or states.

UN WATER

ww.watercooperation2013.org ww.unwater.org

According to UN-Water, water security refers to "The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability". This also extends the definition “measuring how beneficial water resources are to humans and ecosystems”, as this explanation elaborates on what we can define as beneficial or non-beneficial. Also, unlike food security, water security refers to situations both when there is too little water (water scarcity, droughts), and when there is too much water (floods).



A map showing the overall water risk of member states and surrounding areas. (Aqueduct Water Risk Atlas - 2024)

Now let us mention some terms directly affiliated with water security. There are a lot of terms related to water security, but in order to keep things concise we will not mention all of them.

Water Scarcity

Water scarcity usually describes the availability (volumetric quantity) of freshwater resources. By its common definition, "scarcity" is caused by humans; it is determined

by the volume of human water consumption in relation to the volume of available water resources in a given area. As a result, an arid region with little water but no human water consumption would not be considered "scarce," but rather "arid." Water scarcity is a physical, objective reality that can be measured consistently across regions and time periods. Water scarcity just considers the physical abundance of fresh water, not its suitability for use. For example, a region may have abundant water resources (and thus is not considered water scarce), but the supplies are so polluted that they are unsuitable for human or ecological use.

In simpler words, water scarcity occurs if humans consume more water than that area may replace in a given timeframe.

Floods, Droughts and Other Water-Related Disasters

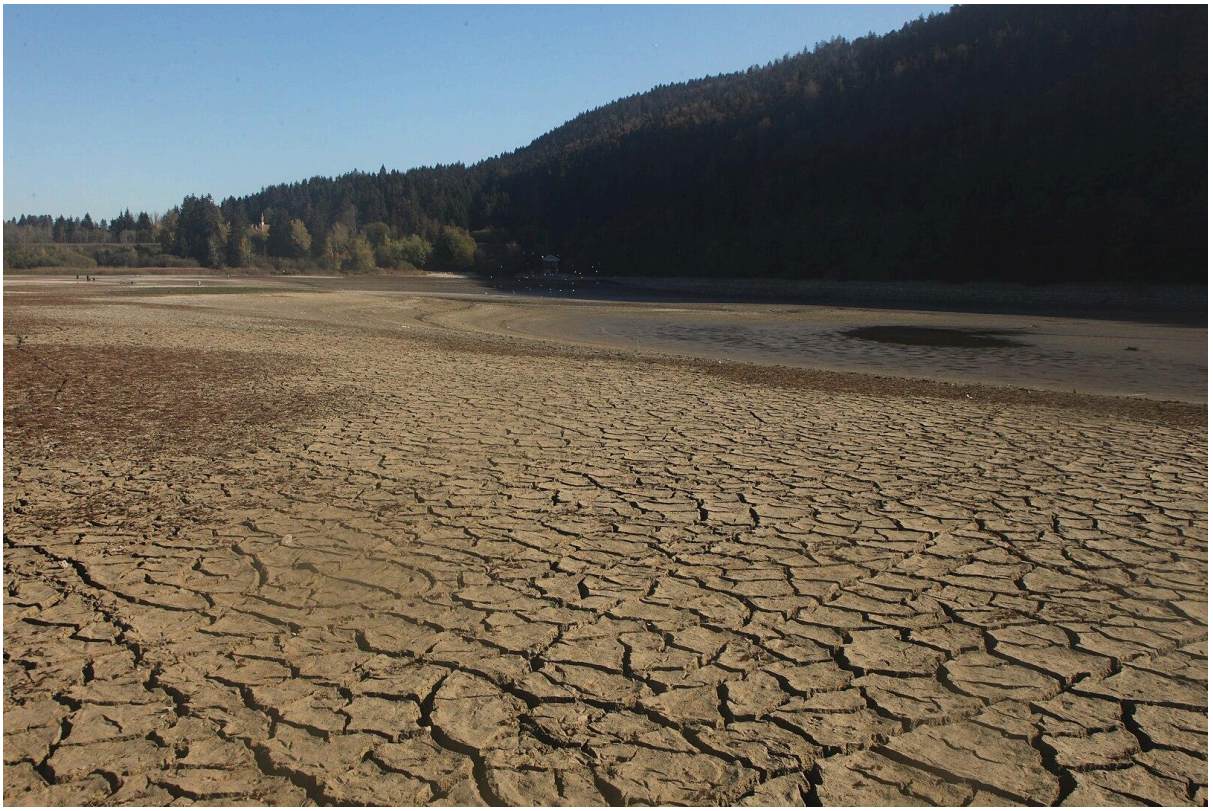
According to UN-Water and the United Nations Environment Programme, more than 90% of "natural" disasters are weather and water-related, such as drought and aridification, wildfires, pollution, and flooding. They cause death, injury, loss of livelihood, and displacement, imposing a significant burden on societies, economies, and the environment.

The first water-related disaster we may talk about is floods.

The image of a flooded neighbourhood.

A flood occurs when water overflows or soaks land that is usually dry. There are only a few places on Earth where people don't have to worry about flooding, so it is a near-global problem. Floods typically take hours or even days to develop, allowing residents to prepare or evacuate. However, floods may still occur suddenly and unexpectedly.
A flood can develop in a variety of ways. The most common scenario is when rivers or streams overflow their banks. These floods are known as "riverine floods." Heavy rain, a broken dam or levee, rapid ice melt in the mountains, or even a beaver dam in a vulnerable location can all cause a river to overflow and flood nearby land. The land surrounding a river is known as a floodplain.

Another notable water-related disaster is droughts.



A dry riverbed.

A drought is a period of time when an area or region receives less than normal precipitation (which means rain, snow, sleet, or hail — any kind of weather condition where something's falling from the sky). The absence of adequate precipitation, whether rain or snow, can result in decreased soil moisture or groundwater, reduced streamflow, crop damage, and a general water shortage. Droughts are often stated to be the second most expensive weather event, after hurricanes. Droughts have an

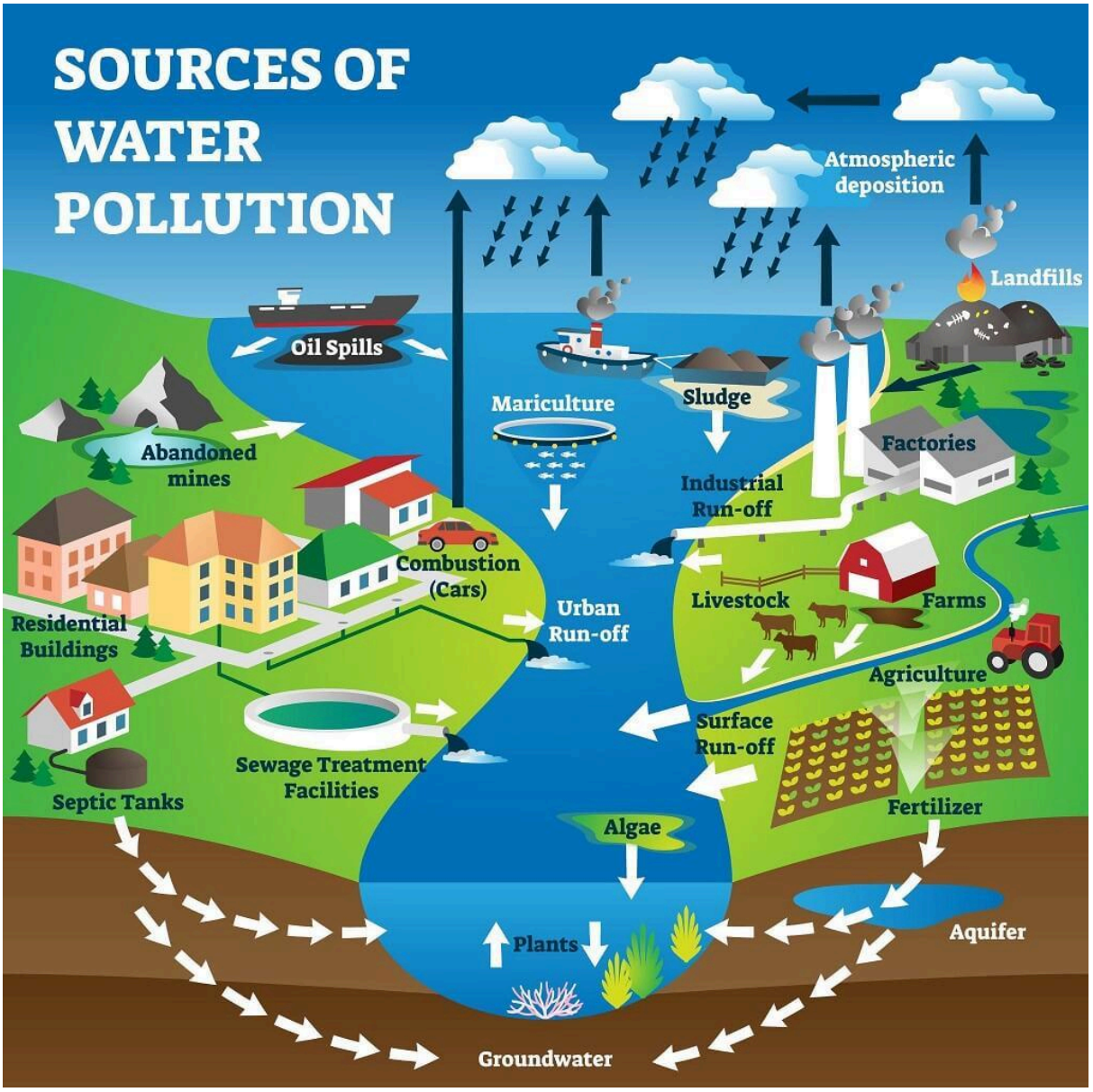
uncertain beginning and end, and long-term ones significantly disrupt both water and food supply, sometimes prompting involuntary migration.
Droughts affect people in a variety of ways. Access to safe drinking water is critical for all life, and water sources can decrease during a drought. Without water, people must bring in enough water from other sources to survive. Crops require water to grow. Irrigation is used to water crops when there is insufficient precipitation to do so naturally. Irrigation is only possible when there is sufficient water in nearby rivers, lakes, or streams, or from groundwater. During a drought, these water sources may become depleted and dry up, preventing crops from being irrigated and causing them to die.

Other than floods and droughts, water may cause pollution to spread or relocate, and introduce waterborne illnesses such as cholera to a community, while lack of water may also indirectly cause forest fires.

Water Quality and Water Pollution

In simple terms, water quality is a measure of water's suitability for certain purposes based on special physical, chemical, and biological properties. To determine water quality, scientists first measure and analyse the water's temperature, dissolved mineral content, and bacterial count. Selected characteristics are then compared to numeric standards and guidelines to determine whether the water is suitable for a specific application.

Urban and industrial development, farming, mining, fossil fuel combustion, stream-channel alteration, animal feeding operations, and other human activities can all have an impact on natural water quality. Fertilisers that contain phosphorus and nitrogen that are sprayed on lawns and crops are an example of how human activity affects the quality of water. These plant nutrients dissolve easily in rainwater and snowmelt runoff. Excess nutrients carried into streams and lakes promote abundant algae growth, resulting in low oxygen levels and the possibility of fish deaths. Of course, very often, these human activities also render water unsuitable for human consumption. Pharmaceutical drugs, dry-cleaning solvents, and gasoline, which are used in urban and industrial activities, have been discovered in streams and groundwater.



Pesticides are now common in streams and groundwater after decades of use, though they rarely exceed the existing standards and guidelines set in place to protect human health. Some pesticides that have not been used in 20 to 30 years are still found in fish and streambed sediment at levels, which endanger human health, aquatic life, and fish-eating wildlife. With so many chemicals in use today, determining the risk to human health and aquatic life is a difficult yet important task.

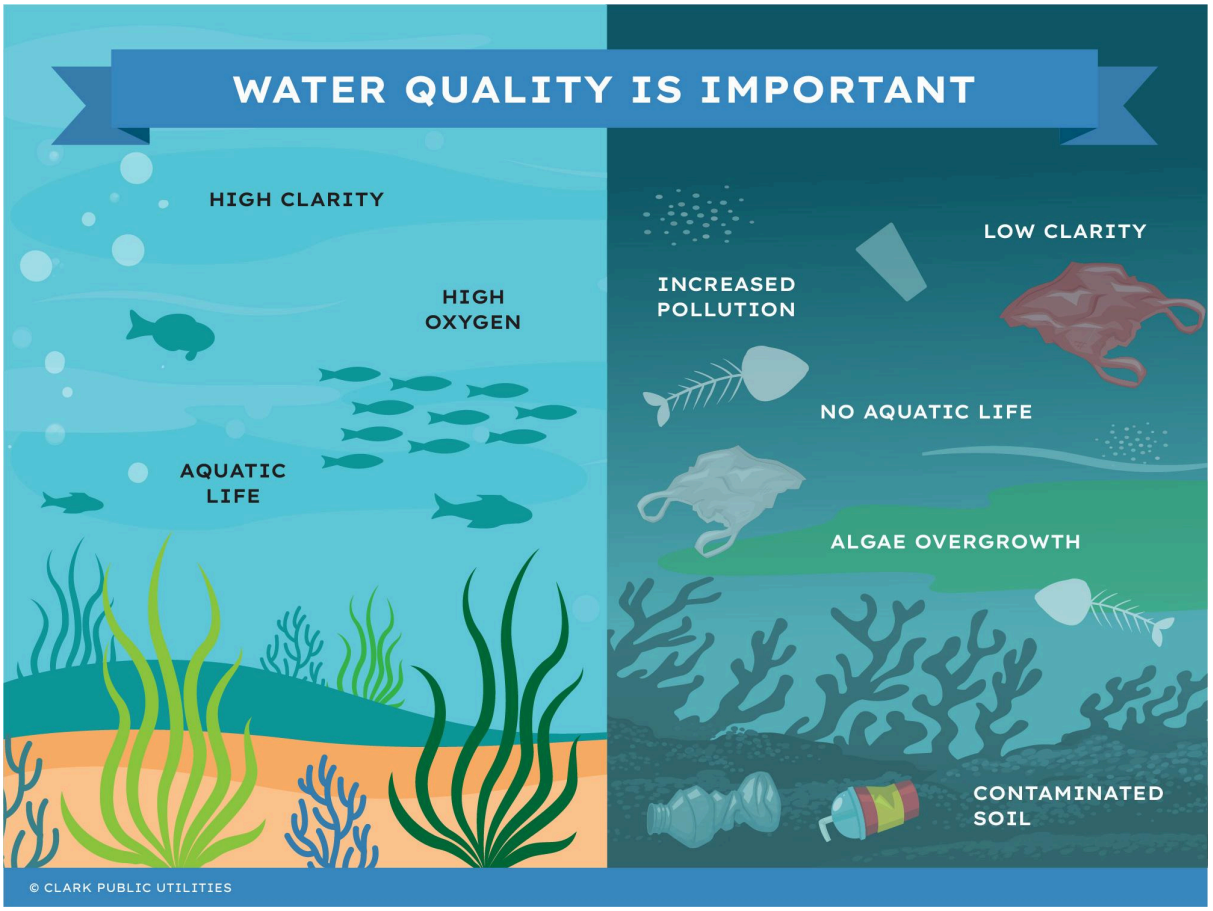
While water quality and water pollution are very intertwined concepts, let us elaborate on pollution a bit more separately. Water pollutants prevalently come from:

- Agricultural activities (agriculture and livestock production also make up for around 70% of freshwater consumption), as fertilisers, pesticides, and animal

waste from farms and livestock operations, end up in freshwater sources and cause nutrients and pathogens (such bacteria and viruses) within them to dissolve in water, polluting it. For instance, the excess phosphorus and nitrogen, that usually come from fertilisers, in water or air may cause algal blooms, toxic formations of blue-green algae that can harm humans and wildlife.

- Sewage and wastewater. Wastewater is the term used to describe used water. It originates in our sinks, showers, and toilets (like simply, sewage), as well as in commercial, industrial, and agricultural activities (metals, solvents, and toxic sludge). The term also includes stormwater runoff, which occurs when rainfall carries road salts, oil, grease, chemicals, and debris from impermeable surfaces into our waterways. According to the United Nations, more than 80% of the world's wastewater is returned to the environment without being treated or reused; in some least-developed countries, the figure exceeds 95%.
- Oil pollution. Almost half of the estimated 1 million tons of oil that enter marine environments each year is not from tanker spills, which usually make big headlines and attract great attention, but rather from land-based sources such as factories, farms, and cities. Tanker spills account for about 10% of the oil in the world's waters, while regular shipping operations—both legal and illegal discharges—make up about one-third. Oil is also naturally released from beneath the seafloor via fractures known as seeps.
- Radioactive substances. Any pollution that emits more radiation than the environment naturally releases is considered radioactive waste. It is produced by uranium mining, nuclear power plants, the manufacture and testing of military weapons, as well as universities and hospitals that use radioactive materials for research and medical treatment. Radioactive waste can remain in the environment for thousands of years, making disposal a significant challenge. Contaminants that are accidentally released or improperly disposed of endanger groundwater, surface water, and marine resources.

There are more water pollutants other than these, such as garbage like plastic products, and other waste which pollute water sources, but these are the most prevalent sources, especially below macroscopic levels.



Some Solutions to Address Water Security

While there are a lot of conditions and problems surrounding water security, some general remarks and solutions may be put forth. Research made by the World Resources Institute states that addressing global water challenges is less expensive than you may think, with the world spending about 1% of GDP, or 29 cents per person, per day from 2015 to 2030. With that in mind, it would technically be proportionally easier to solve the water security problems of Turkic states. Now, let us mention some of the general solutions and suggestions that the WRI proposes:

- Nature-based solutions and green infrastructure can help countries improve water governance, incentivise agricultural water efficiency, implement integrated water resource management, and improve water infrastructure. Protecting and restoring wetlands, mangroves, and forests can not only improve water quality and resilience to droughts and floods but also reduce water treatment costs.

- International development banks and other lenders should think about strategic debt relief programs, such as debt-for-nature swaps, or debt relief in exchange for a commitment to invest in biodiversity or resilient infrastructure, like mangrove restoration or wetland conservation. These nature-based solutions can have a positive impact on climate and water in countries that cannot afford to improve water management themselves.
- To avoid power outages caused by water scarcity, policymakers in water-stressed countries should prioritise water-conserving energy sources such as solar and wind.
- Urban water resilience action plans should be created by cities, taking inspiration from the six African cities that have already begun experimenting with this type of planning. Wastewater treatment and reuse could also lead to the development of new urban water sources. (If you would like to learn more about this plan and the six African cities, you may check this link out: https://www.wri.org/initiatives/urban-water-resilience-africa/pilot-cities)
- Farmers should use more efficient water management practices, such as switching to water-efficient crops or using sprinkler or drip irrigation rather than flooding fields.
- Companies should set science-based water targets that are consistent with what science says is "enough" to stay within Earth's limits while meeting society's needs.

Now that we have some background on water security, let us mention the areas in which we can harness the potential of water.

Harnessing the Potential of Water

As we have mentioned, we can utilize water in a lot of ways. Please remember that the areas we will mention now are not the only areas participants may focus on, these will be the ones we focused on in the study guide to give a general idea about what could be done.

Fishing and Aquaculture

Fishing is the practice of catching wild fish for food, recreation, trade, or their products. Methods used include hooking, trapping, and gathering. By extension, the

term fishing is applied to catching other aquatic animals such as shellfish, squid, octopus, turtles, frogs, and some edible marine invertebrates.

Meanwhile, aquaculture refers to the farming of aquatic organisms, including finfish, crustaceans, molluscs, plants, and algae for human use.

An artificial fish farm.

In short, in the context of our committee, fishing is the act of catching fish from the seas, while aquaculture usually involves artificial aquatic farms that produce fish and other aquatic food and substances. During the committee, we will mostly focus on how we can encourage both fishing and aquaculture activities, and how we can use water in the best way possible.

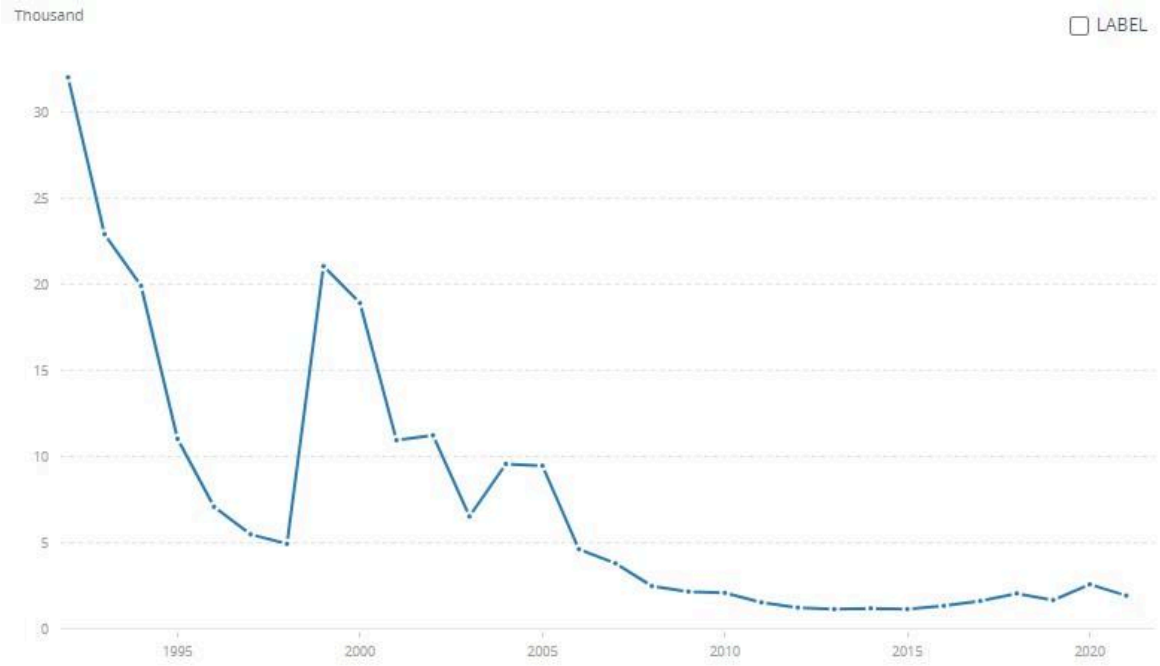
Now let us provide some statistics from member states on fishing and aquaculture.

Azerbaijan

At present, there are fishing activities in the Caspian Sea, Lake Sarysu, and some rivers.

Fishing and the production of fish and fish products in Azerbaijan fell dramatically in the early 1990s, with yearly fish production falling from more than 20,000 tonnes in the early 20th century to only 1,570 tonnes by the end of the 20th century.

Another interesting thing is that Azerbaijan's Amateur and Sport Fishing Regulations, in effect since 1999, allow free recreational fishing in all waters except national reserves, fish hatcheries, and fish farms, as long as fishers obey established fishing and water management rules. According to a report from FAO, Azerbaijan has approximately 20,000 recreational fishermen.

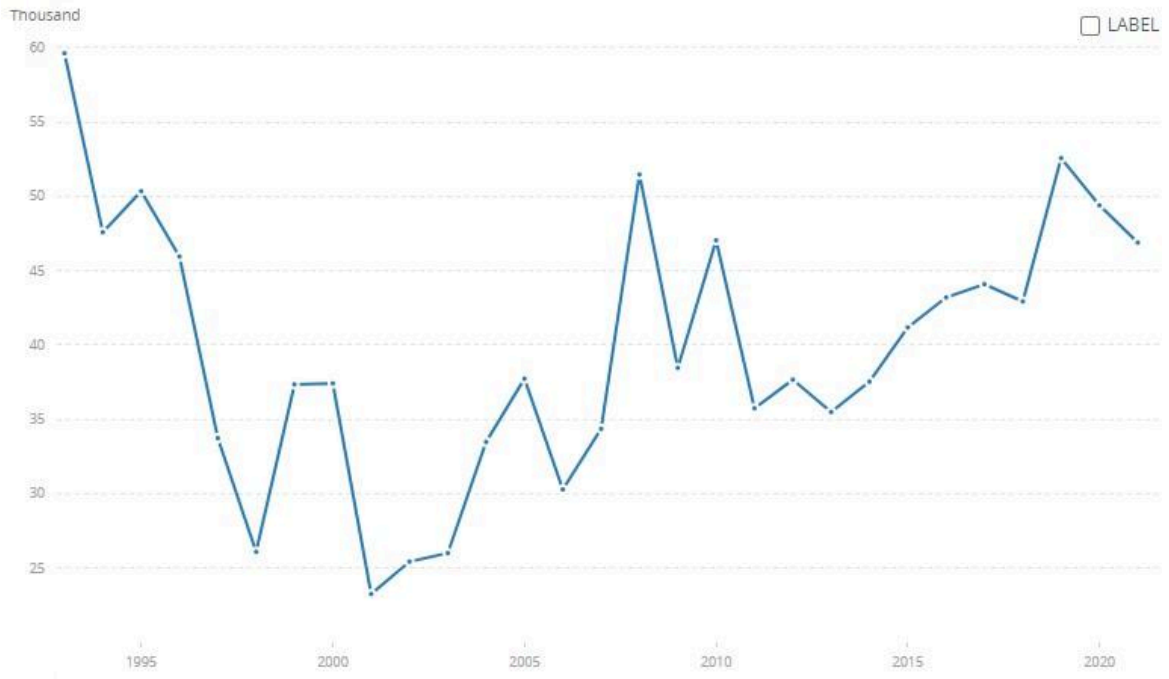


Despite these, Azerbaijan’s fish production has plummeted to relatively very low levels, as seen in the graph above, which shows the total production of fish between 1992-2021.

Kazakhstan

Capture fisheries production in Kazakhstan comes from the waters of the Caspian and Aral Seas, Balkhash, Zaysan lakes, Bukhtarma, Kapshagai, Shardara reservoirs, Alakol system of lakes and other ponds with a total area of over three million hectares. More than 70 fish species live here, including the most commercially valuable (zander, common carp, grass carp, silver carp, and whitefish).

The government also encourages more investment in aquaculture. Over the last seven years, the amount of fish raised has increased ninefold, from 800 tons to over 7,000 tons. There are approximately 180 fish farms in the country. The government has announced plans to expand aquaculture production by using more water resources and producing or importing aquaculture feed. Below, the amount of fish produced in Kazakhstan between 1992-2021 may be seen.



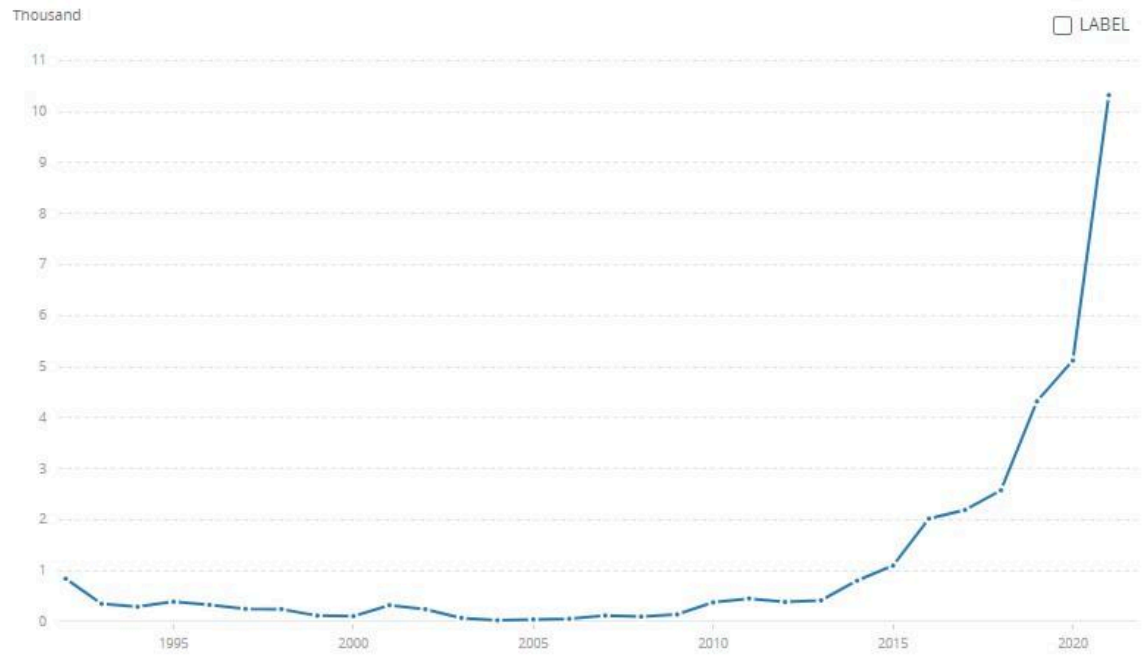
One final thing to mention is that Kazakhstan has been making efforts to revitalise the northern Aral Sea. Such efforts will surely benefit Kazakhstan’s fishing industry.

Kyrgyzstan

Kyrgyzstan has many rivers and ponds, and it has good potential for aquaculture and fishery.

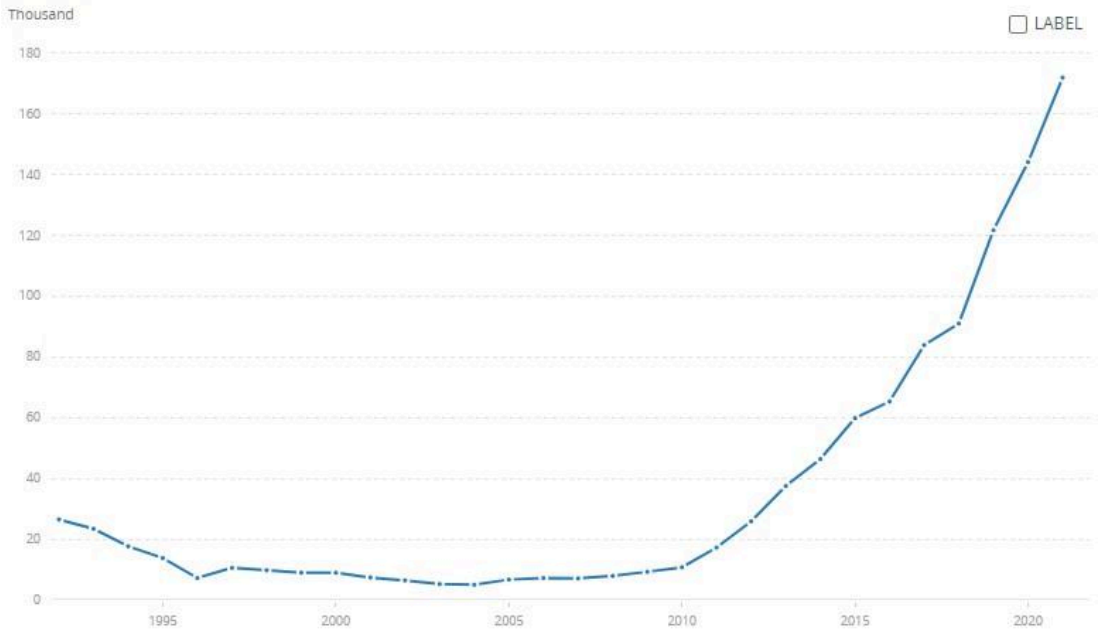
Still, it is a landlocked country, and that is a very big disadvantage for the fishing industry, but thanks to river and pond fishing, and fish farms, this unfortunate situation is seemingly turned upside down. While specific statistics are not vastly available, we have total production data.

While there was very little fishing activity in the country for the most part, there has been an exponential increase in fish production, as visible in the graph below.



Uzbekistan

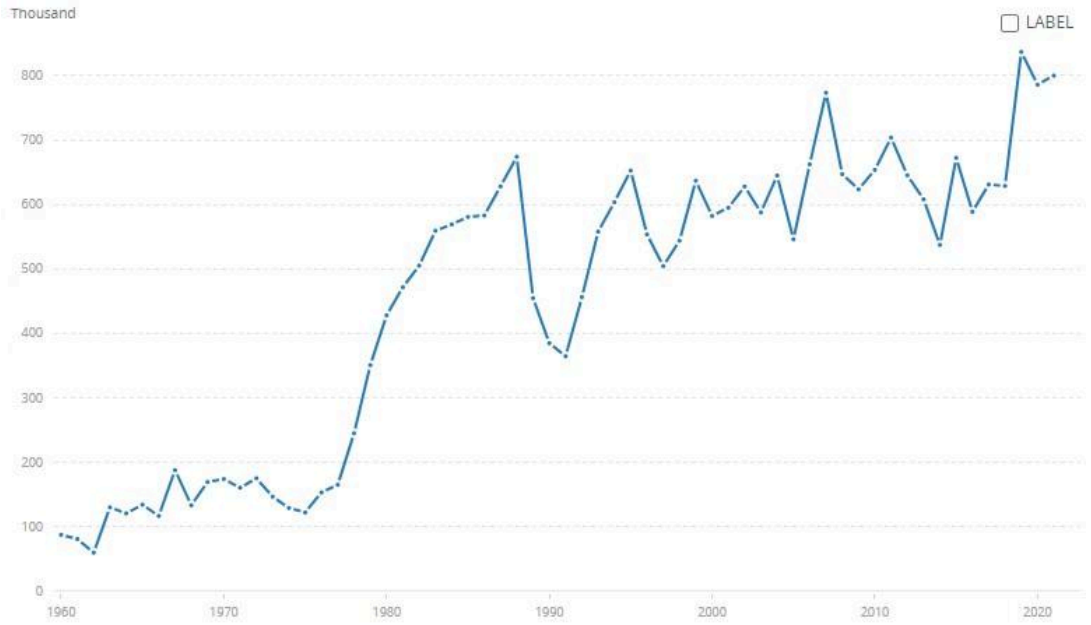
Uzbekistan is a landlocked country as well, thus aquaculture is an important and rapidly growing sector of Uzbekistan's fisheries, accounting for 52-60% of total fish production between 2011 and 2014. Uzbekistan's only cultivated fishery product is finfish; no molluscs, crustaceans, or other organisms are produced. Pond culture of cyprinids is by far the most developed aquaculture system in the country, with a few well-established, full-cycle fish pond farms scattered throughout the country.



Today, only the state fish hatchery in the Tashkent region is state-owned, while the rest of the farms are private.
In the graph above, we can see that there has been an incredibly big increase in fish production in the 2010s. This is particularly impressive for a landlocked country.

Türkiye

Despite Turkiye's long coastline and large freshwater bodies, fishing remains a relatively underdeveloped industry compared to its other sectors. As of 2017, the annual catch for sea fish was 354,318 tons, while aquaculture produced approximately 276,502 tons. The main fishing grounds are the Black Sea, the Sea of Marmara, the Aegean Sea, and the Mediterranean. After the 1990s, fish farms and aquaculture were supported by the state, and their numbers increased. Today, frog legs, snails, shrimp, and crayfish are among the sea products exported. In 2017, fishery production totalled 630,820 tons, with 156,681 tons exported and 100,444 tons imported.



Still, compared to other Turkic states, Turkiye’s fish production remains massive, as we can see in the graph above, which shows fish production between 1960-2021. One more interesting thing is that Turkiye is among the countries which rebranded the “rainbow trout”, in Turkiye’s case, it is rebranded as “Turkish salmon”.

Hungary

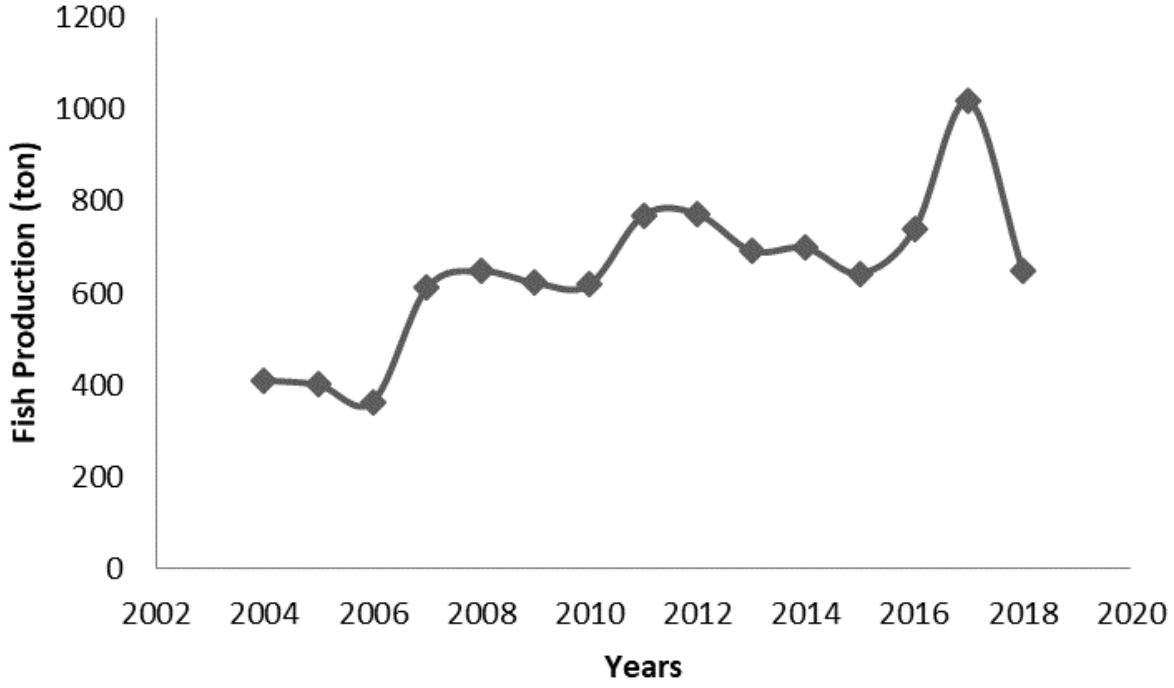
Hungary, as a landlocked country, lacks a marine fishing fleet and has banned commercial fishing in its inland waters since January 1, 2016. As a result, aquaculture accounts for the vast majority of domestic fish production. A smaller portion is represented by selective fishing for ecological purposes (i.e., culling nuisance fish), whose catches can be sold on the market with a catch certificate. However, this amount accounts for only 1% of the total natural water catch. The majority of the volume harvested from natural waters is caught by recreational fishermen. The catch is used for domestic consumption and is included in fish consumption statistics. Hungary had more than 750,000 registered anglers in 2022, with a total catch of 4,596 tonnes.

Over the last decade, Hungary's aquaculture production for human consumption has grown moderately, averaging 3.1% per year. In 2022, production in lake farms and intensive units of 26,682 ha operating area reached 18,707 tonnes, worth 70.5 million euros. Still, as visible in the above graph, Hungary’s fishing output is nowhere near historic levels.

Turkish Republic of Northern Cyprus (TRNC)

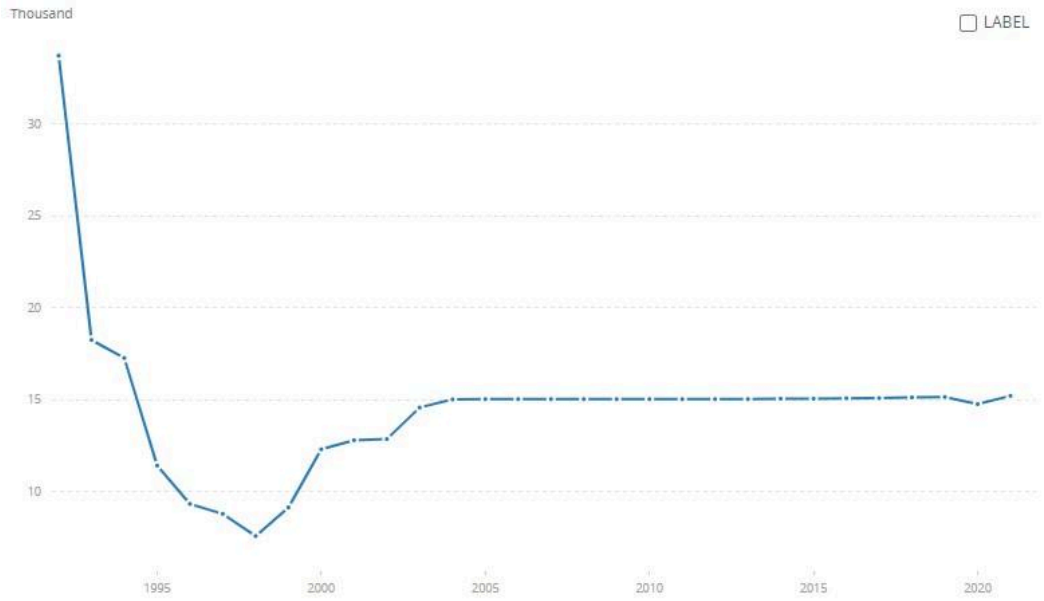
Fishing in the TRNC is a sub-sector with a low GDP contribution. However, the demand for fishing products highlights the importance of this sector in the country. Unconscious fishing has been a major issue in the sector for years. Fishing

shortages are compensated for by outside sources, particularly Türkiye. In 2003, fish production accounted for 0.5% of the GDP.
Aquaculture is underutilised, however, reports show that the TRNC is actually very suitable for aquaculture and related fishing activities.
Below is a graph of fish production in the TRNC between 2003-2018.



Turkmenistan

In 1991, the total fish caught in the Caspian Sea and inland waters of Turkmenistan was approximately 41,000 tonnes, but it decreased to less than 10,000 tonnes in 1995. The decrease persisted in 1996 (9 012 tonnes) and 1997 (8 486 tonnes). The supply of fish for human consumption and fishmeal decreased accordingly. The Turkmenistan sea fishery resources consist mainly of kilka (Black Sea sprat).
The Caspian Sea has great potential for fishing. For example, 90% of the world's sturgeon comes from there.



Agriculture

Agriculture may be defined as the practice, art, or science of tilling land, growing crops, raising farm animals and, to varied degrees, preparing and selling the final products. In the committee, we will mostly focus on how we can use water more efficiently in agriculture.

A drip irrigation system.

Instead of providing statistics for each state, we are better off with some general insights on agriculture, and how we can use water more efficiently in agriculture along with how we can minimize water pollution resulting from agricultural activities.

Drip Irrigation

Implementing a drip irrigation system is a simple way to improve water efficiency in agriculture. It outperforms traditional techniques such as gravity systems, which include flood irrigation of entire fields, and furrow irrigation using shallow channels or ditches to carry water to the crop.

Maintenance

Farmers who use pumping systems to irrigate their fields should ensure that the pump and pipe sizes are appropriate for their needs, avoiding water and energy overuse and leakages.

The assessment of irrigation uniformity is a critical component of evaluating infield irrigation performance. Ideally, the average volume applied should meet the crop's requirements while avoiding over- or under-irrigation. Thus, one of the primary goals of irrigation management is to apply water evenly across the field. Furthermore, to improve the performance of infield application systems, it is recommended that the irrigation system, pumps, mains, and hydrants be checked on a regular basis and worn items such as seals repaired.

Alternative Water Sources

A rainwater collection mechanism.

Farmers can collect rainwater from containers and roofs to supplement their water supply. This source of water can be used for a variety of purposes other than irrigation, such as washing down yards and equipment.

Farmers' ability to harvest rain depends on the farm's location and climatic conditions, as well as the size, slope, and material of the collecting container.

Checking Leaks

Preventing and repairing infield leaks can save water in agriculture. To detect leaks, visually inspect the farm for damp areas and unusual vegetation (for recent leaks) or reduced vegetation (for long-term leaks caused by poor soil quality). If a farmer is unable to detect a leak visually, they can use special leak detectors such as listening sticks, remote listening devices, or pressure fluctuation sensors.

To prevent leaks, it's recommended to insulate pipes, install drinking systems correctly, read water meters regularly, and install trigger controls on all hoses, hand lances, and washing equipment.

Scheduled Irrigation

In order to determine the precise amount of crop water required each day, irrigation scheduling takes the evapotranspiration rate, soil moisture deficiencies, and weather conditions into account. When the crop receives just the right amount of water, water is used efficiently. There are guidelines published by the Food and Agriculture Organization (FAO) regarding proper irrigation, which could be used as a guide in this context.

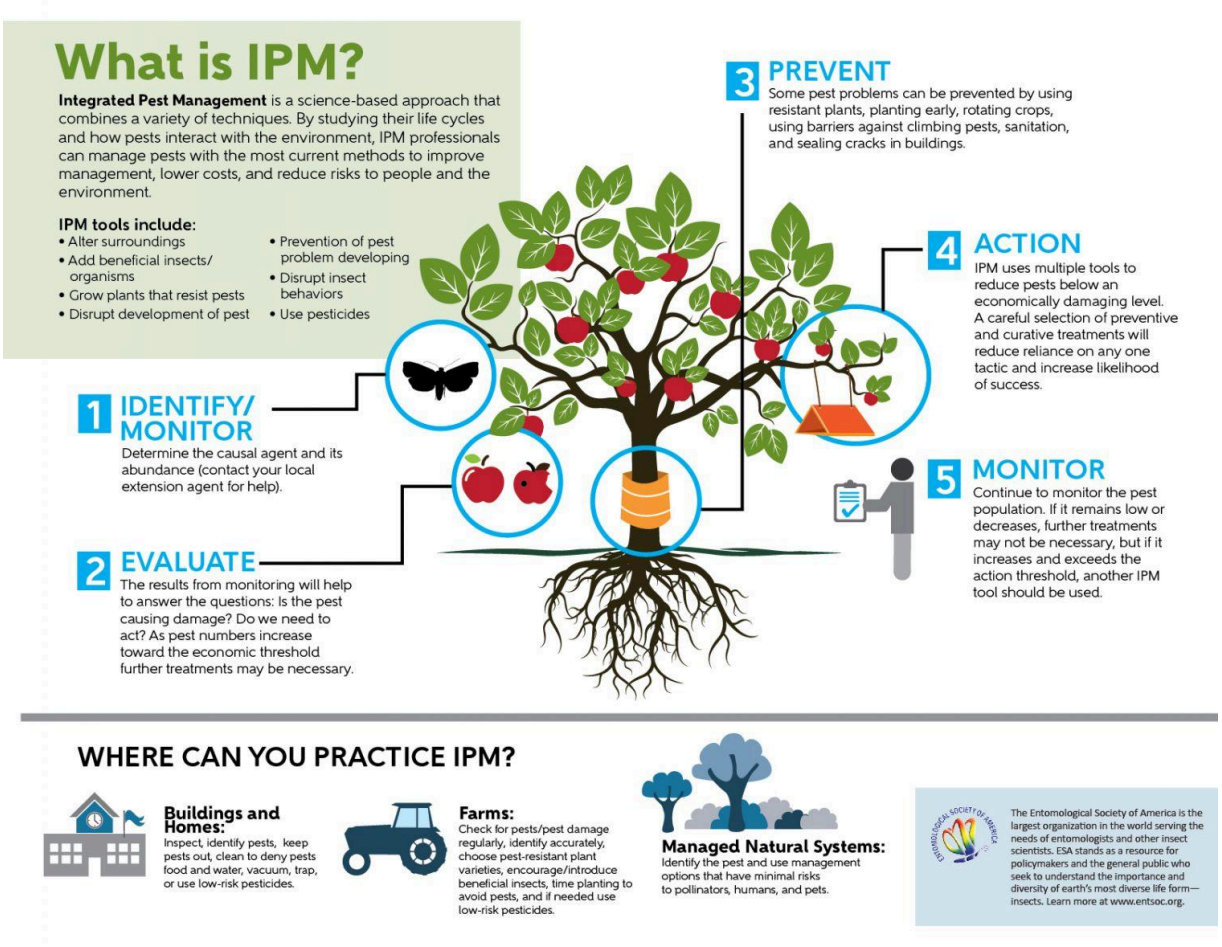
Understanding Soil and Plant Needs

Optimising plant water use can be achieved by first understanding how soil characteristics impact water storage before developing a suitable irrigation scheme. Climate, topography, and other soil properties all affect soil moisture. Certain plant types are incredibly versatile and can withstand a variety of moisture levels. Others need moisture in very particular ways.

Preventing Water Pollution

Improper agricultural practices, including tillage, ploughing, pesticides, fertilisers, overirrigation, and manure spread, can contaminate water. To prevent water contamination, consider installing conservation measures including riparian buffers, integrated pest management, and manure management.

Especially, if pesticide use is not controlled responsibly, it may lead to water pollution. Evaluating the impact of pesticide use on water resources is advised. The usage of tools to determine pesticide control is essential. Furthermore, Integrated Pest Management practices may nullify the need for pesticides, or decrease their usage by substituting alternative actions such as altering plant environment or adding beneficial organisms that fight pests without causing any pollution.

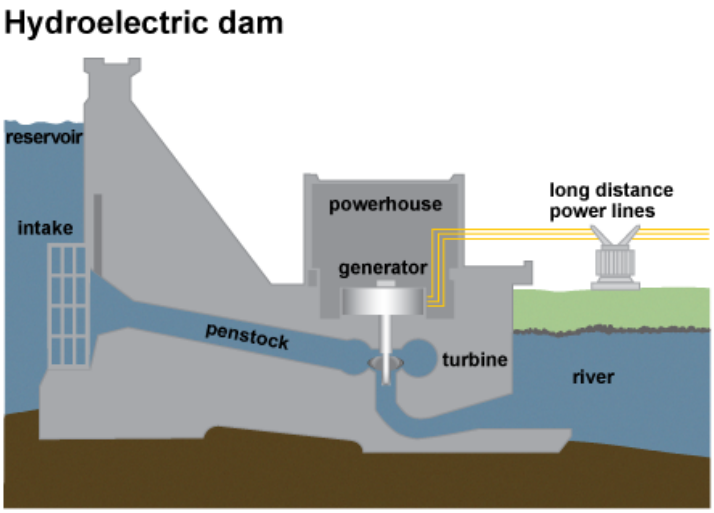


Implementing these measures may take a lot of government effort and intervention, and informing farmers about these practices may prove to be difficult. However in

order to have sustainable agriculture, and to use water more efficiently without polluting it, we will have to act, potentially with these measures.

Energy Production

Hydropower is the most common way of producing energy from water. It captures the energy of water moving from higher to lower elevations. It can be produced by reservoirs and rivers. Reservoir hydropower plants use stored water in a reservoir, whereas run-of-river hydropower plants use energy from the river's available flow. In addition to supplying energy, hydropower reservoirs are frequently used as sources of drinking water, irrigation water, flood and drought control, navigation services, and energy.



Source: Adapted from the Tennessee Valley Authority (public domain)

Hydropower is the largest renewable energy source in the electricity sector as of 2023 (approximately 71% of renewable electricity sources are hydropower). It depends on generally consistent rainfall patterns, which can be adversely affected by droughts introduced by climate change or by ecosystem changes that affect rainfall patterns.

Hydropower dams are not the only way of generating electricity from water sources. We can use wave power plants to produce electricity from water as well, although many researchers claim that the technology for wave power plants is not mature enough yet.

To note, Türkiye had unveiled plans to install the world’s biggest wave power plant back in 2022.

A picture from a wave power plant.

We can also indirectly use water to produce electricity. For instance, nuclear power plants use water for cooling and spinning turbines, and we can install off-shore wind turbines on bodies of water to potentially make better use of air currents. Other than that, many energy production forms involve heating water and causing the rising steam to spin some turbines, which generate electricity.

(The steam coming out of nuclear power plants is actually just water in most cases.)

Other Areas

Although not as prominent, we can utilize water, or increase the efficiency of water in some other areas. They also may not be that beneficial, but they are still worth mentioning.

Tourism

Tourism may be defined as the act and practice of spending time away from home in search of recreation, relaxation, and pleasure while taking advantage of commercial services.

Tourists canoeing down a river, partaking in water tourism activities.

Many tourism activities may be affiliated with water in some way or another. Besides the water that tourists drink, seeing a beach, lake, river or some other body of water and potentially spending time around them may be the sole reason for a tourist travelling to another country. Therefore, without mentioning anything else, we could encourage the promotion of such locations in member states, and call for the creation of new tourist locations by a variety of means, such as cleaning and building infrastructure for a relatively unknown beach, or building water parks to attract tourists. Please mind that it is also good for water to discourage pollution caused by these activities, by either preventing polluting the environment in the first place or encouraging cleaning efforts.

Other than these, water tourism (also called maritime, aqua or nautical tourism) is sometimes used to refer to tourism activities directly involving water, such as sailing and deep-sea diving. We can also specifically focus on them and encourage such activities, such as state-organized tourist activities in national parks, or tax breaks to encourage tourist spending on local businesses. It is also good to note once again that the more we prevent pollution in these activities, the better.

Recycling

While not a direct contributor to the economic benefits gained by harnessing the potential of water, it is always a good idea to keep the waters of our world clean and free of any kind of pollution. It will also give us more usable water, which may mean increased potential in other areas. While preventing pollution from occurring in the first place is great, we may have to collect trash floating in our seas, lakes and rivers as well. We can also recycle some materials obtained from this cleaning process, such as plastic or metal products.

A Seabin collecting garbage.

Additionally, please note that there are many methods of getting rid of garbage and pollution in our waters. One of the new innovations is the Seabin, which is a floating garbage bin-like object that collects garbage floating on the water’s surface. It has

been noted to be extremely cost-efficient and even able to remove some percentages of oil from water. You may see one above.

In short, removing garbage from our waters and even benefiting further from it may benefit largely from funding research on methods that are able to efficiently clean our water sources, encouraging ongoing cleaning efforts, promoting recycling attempts, and ultimately educating the masses to not pollute water.

Industrial Usage

Water is virtually used in all industries, but we can focus on some areas. These areas include:

- Cooling machinery (as a side note, generative AI data centres are expected to hit 6.6 billion m3 annual water usage by 2027, water is used to cool off their servers and other equipment)
- To manufacture and process a wide range of products including metals, plastics, textiles and food products among others
- As a solvent or reactant in many industrial chemical processes
- Transportation of materials through piping systems
- In the food processing industry for washing, cooking, cooling and packaging
- In the textile industry for fiber production, dyeing and finishing
- For cleaning, etching and cooling in the semiconductor manufacturing industry
- In the paper and printing industry for pulping, printing and cleaning equipment
- In concrete manufacturing, stone processing and glass production,
- In the production of bottled water :)

Water is absolutely necessary in these and more cases that we did not mention here. However, we need to pay attention to some things:

- Firstly, water used in these industries needs to be tested for various pollutants, microorganisms and chemicals. If some metrics are outside of acceptable ranges, then some measures such as halting production may be needed.
- Wastewater generated by these industries should also be paid great attention to as they may end up polluting freshwater sources or the environment.

Proper filtering and wastewater management practices are needed. Recycling would also be a great addition to wastewater management.

- The environment should be constantly monitored to detect any problems related to the water usage or wastewater treatment of nearby industries, to be quickly addressed.
- Water usage policies and allocating a certain amount of water to different industries may be needed to address water scarcity. Additionally, water-saving methods and technologies may be made mandatory by law.

A wastewater treatment plant.

Questions that delegates may address

These are the questions and opportunities that the Under-Secretary-General of this committee advises delegates to address in the committee.
These may be used in researching the agenda item further before the conference or they may be brought up as moderated caucus topics (for instance, you can propose a topic like “Ensuring proper wastewater management” from the question “How can we ensure industries handle wastewater properly?”) to later devise a solution for it in the resolution paper (please remember that something needs to be addressed in a moderated caucus before it can be added to a resolution paper).

- Does water insecurity hinder the development of Turkic States?
- Turkic states are expected to face water problems in the future. What is planned to fight these problems? What more could be done?
- What can be done to mitigate the negative effects of droughts?
- What can be done to mitigate the negative effects of floods?
- How would harnessing the potential of water benefit our economies?
- Do we need an organisation aimed at water-related matters between Turkic states?
- Member states have a lot of potential for fishing, however, most of this potential is not addressed, and the citizens of member states have much lower average fish consumption. How can this potential be addressed, and how can the fish consumption of Turkic people be increased?
- Azerbaijan has a policy which allows recreational fishing. Could a policy like this be implemented in other member states as well?
- Azerbaijan has a good fishing industry potential, as it borders the Caspian Sea, along with some other member states. Can the fishing industry be brought back to its early 1990s glory, and even beyond? If yes, how?
- Kazakhstan borders the Caspian Sea as well, can its fishing industry be boosted even more?
- While Kazakhstan is attempting to bring the northern part of the Aral Sea back to life, which benefited its fishing industry, Uzbekistan has not shown significant effort in reviving the southern part of the Aral Sea. Should it have?

- Uzbekistan has shown an exponential growth in the fishing industry. How can member states follow Uzbekistan's steps to achieve similar results?
- Türkiye rebranded the rainbow trout caught in the Black Sea as the "Turkish Salmon". Is this a clever move? If yes, should member states look for similar strategies? How?
- Can the fishing industry in Hungary be brought back to historic high levels and beyond again?
- The TRNC especially suffers from water security problems. How can member states help?
- What is drip irrigation? Is it a common enough practice? Do the farmers of Turkic states need to be informed about and assisted with drip irrigation systems?
- Are there any other irrigation technologies than drip irrigation?
- How can we make sure agriculture equipment is well maintained, so we do not lose water due to unmaintained equipment such as damaged pipes?
- Do all plants grow in the same soil? Do they require the same frequency of watering? If not, what can we do to inform farmers about these properly?
- How can we ensure agricultural activities do not cause water pollution?
- Are hydropower dams the only way to produce electricity using water?
- What can be done to encourage hydropower dams? Is water used in energy production sufficiently?
- Is water important to tourism? If yes, how can we utilise water to enhance tourism?
- How can we make new tourist destinations, especially related to water, such as new beaches or water parks?
- How can we make sure water is not getting polluted?
- How can we remove garbage from our waters and clean it? Are Seabins the only way to do that? And how efficient are they?
- Can we recycle the garbage we collect from oceans, lakes and rivers? If yes, in what forms?
- How can we ensure industries use water properly? Can we make laws for this? Are there any existing laws?
- How can we ensure industries handle wastewater properly?

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