



**FUNDACIÓN DEMOCRÁTICA ITALO AMERICANA,
FDIA -REPRESENTAÇÃO PERMANENTE**





Preliminary engineering rendering – future project concept.
For illustration purposes only. Design and specifications are subject to change.



Advanced Oxidation Technology

A multi-phase reaction system uses chemical processes (cavitation, mixing, ion exchange) to generate highly reactive oxidizing radicals. These radicals break down contaminants, biosolids, and toxic compounds without the addition of chemicals.

Biosolids Reduction and Sterilization

- Solid particles and bacterial cells are destroyed, reducing the size of biosolids by up to 80%.
- The process generates oxidants (such as organic ozone) that sterilize the water, eliminating bacteria, viruses and spores.

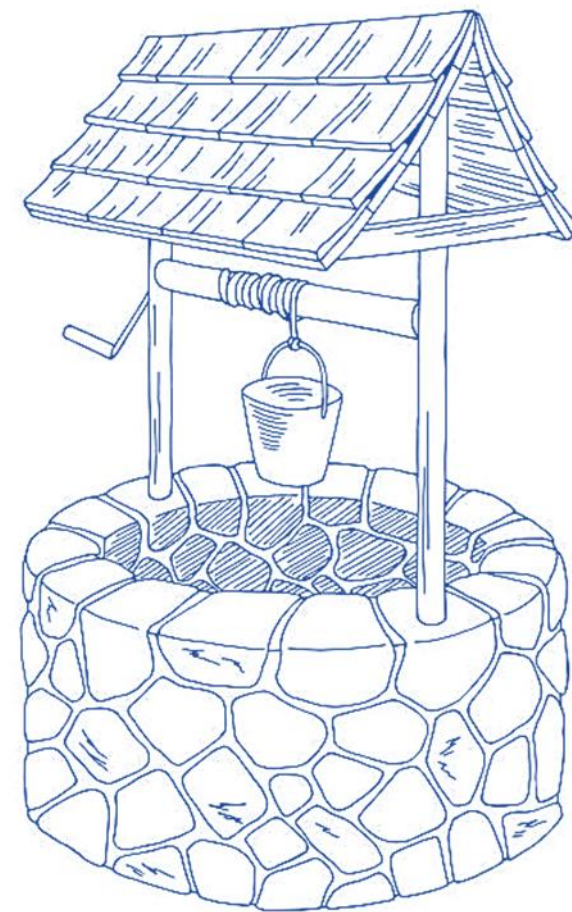
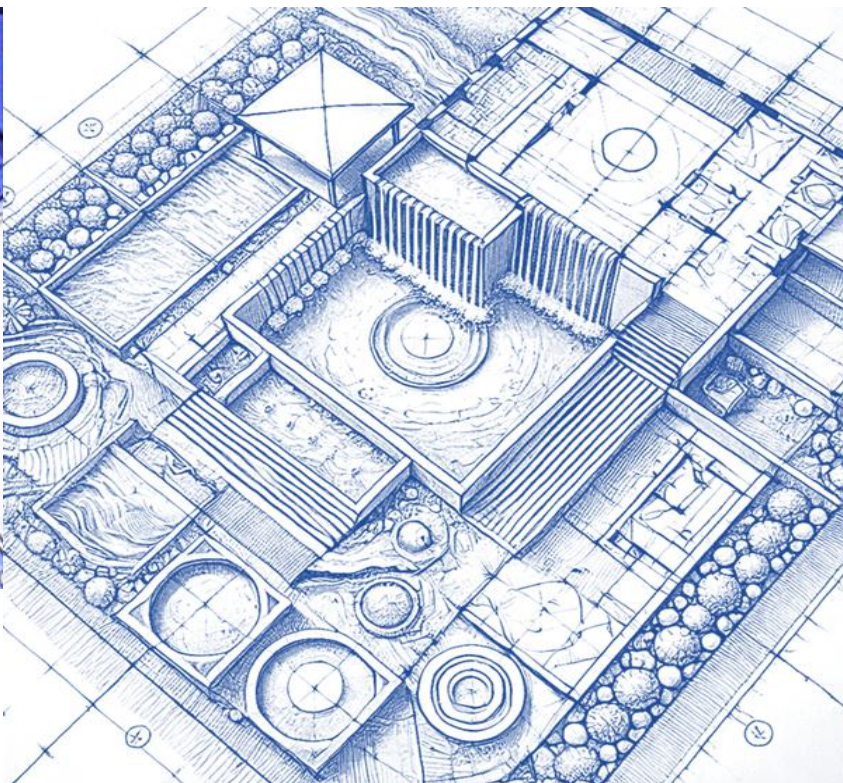
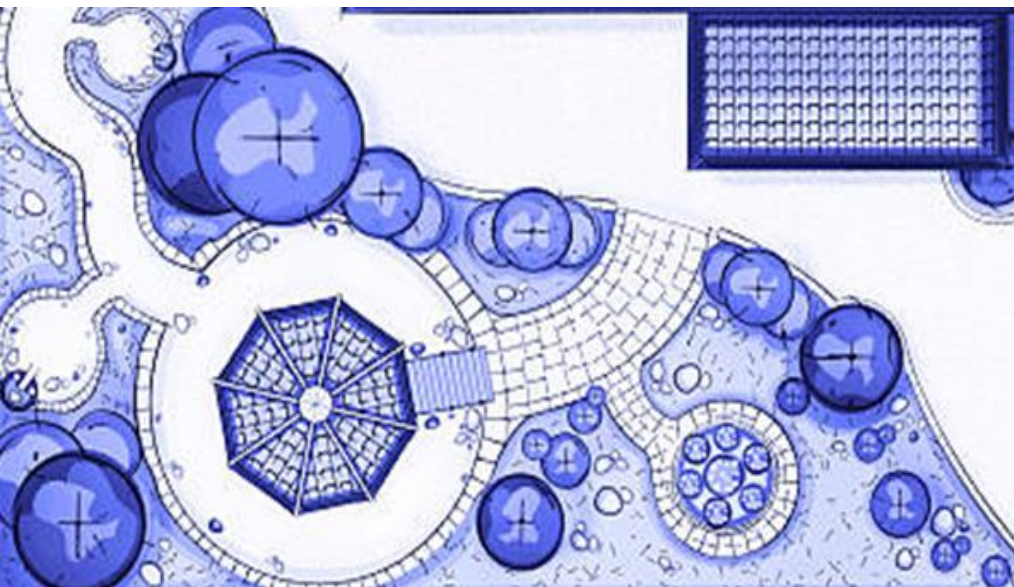


(shape and geometry of the project is purely indicative)
(photographic hypothesis of future project)



HELP US TO BUILD A WATER WELL

(SHAPE AND GEOMETRY OF THE PROJECT IS PURELY INDICATIVE)
(PHOTOGRAPHIC HYPOTHESIS OF FUTURE PROJECT - PRELIMINARY CONCEPT)





**OUR MISSION IS TO EMPOWER COMMUNITIES IN AFRICA BY
ENSURING RELIABLE ACCESS TO CLEAN & POTABLE WATER.**





Ensure access to safe water and sanitation for all.

Website: www.fdiangopermanente.pt/index.html
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This our humanitarian project will make you look the water with different eyes forever: behind an ordinary glass of water, through this strange odourless, colourless and tasteless liquid you will learn to recognise the deep connection that binds us all with the origin of the universe, the origin of life and the history of mankind itself. But for us humans, water is much more than a chemical compound or the basic ingredient for life. Water is an element of permanence, a religious, cultural object, defined by the intertwining stories of fishermen, poets, swimmers, workers, storytellers, environmentalists, hydraulic engineers, farmers, consumers, chemists, historians, theologians, divers and astrobiologists. These various points of view are all different, and all right in their own way.

Put them together and the story will still not be complete.

How is it possible that an object so common and familiar be so difficult to tell? Of course, what water represents depends on time and context, and our personal relationships with this element are infinitely changeable.

From a religious point of view we can note some parallels between miracle water and these ancient religious centres:

"MIRACLE WATER"

- ❖ **MECCA / MAKKA, SAUDI ARABIA**
- ❖ **LOURDES, FRANCE**
- ❖ **TLACOTE, MEXICO**
- ❖ **HOLY RIVER GANGA**
- ❖ **NORDENAU, GERMANY**



Ensure access to safe water and sanitation for all.



**TOGETHER WE CAN DONATE
WATER, GIVE LIFE: A WELL OF
DRINKING WATER TO GIVE
HOPE AND A FUTURE TO THE
CHILDREN WHO NEED IT MOST.
EVERY DROP COUNTS!**



**OUR GOAL IS TO PROVIDE DRINKING WATER SYSTEMS TO
RURAL COMMUNITIES IN LATIN AMERICA AND AFRICA.**





Water and medicine are not luxuries they are human rights.
Donate today and bring life, health, and hope to those in need.







**OUR MISSION IS TO HELP PEOPLE IN AFRICA BY ENSURING
ACCESS TO CLEAN AND SAFE DRINKING WATER.**





**OUR MISSION IS TO HELP PEOPLE IN AFRICA BY ENSURING
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AUFUGIT AQUA

THE HUMAN BODY IS MADE UP OF 80% H₂O; ALL ORGANISMS, BOTH LIVING AND NON-LIVING, DEPEND ON WATER, WITHOUT WATER THERE IS NO LIFE AND THE QUALITY OF OUR LIFE DEPENDS ON THE QUALITY OF WATER. ALL OF OUR BIOLOGICAL FUNCTIONS CAN BE TRACED TO THE WAY WATER MOLECULES ATTRACT AND MOVE WITH EACH OTHER. MANY PLACES ON EARTH ARE RICH IN WATER RESOURCES, WATER IS ALWAYS IN MOTION EVEN IF WE DON'T REALIZE IT, IN FACT, RIGHT NOW IT'S BELOW US, IN THE AQUIFERS AND IN THE PIPES OF OUR CITIES.

OUR HEALTH DEPENDS ON THE QUALITY OF WATER THAT WE DRINK, AS OUR BODY CONTAINS A HIGH % OF WATER AND THE WATER WE DRINK MUST HYDRATE OUR CELLS OPTIMALLY.

REFRACTIVE INDEX OF WATER= 1.334

$$N=C/V$$



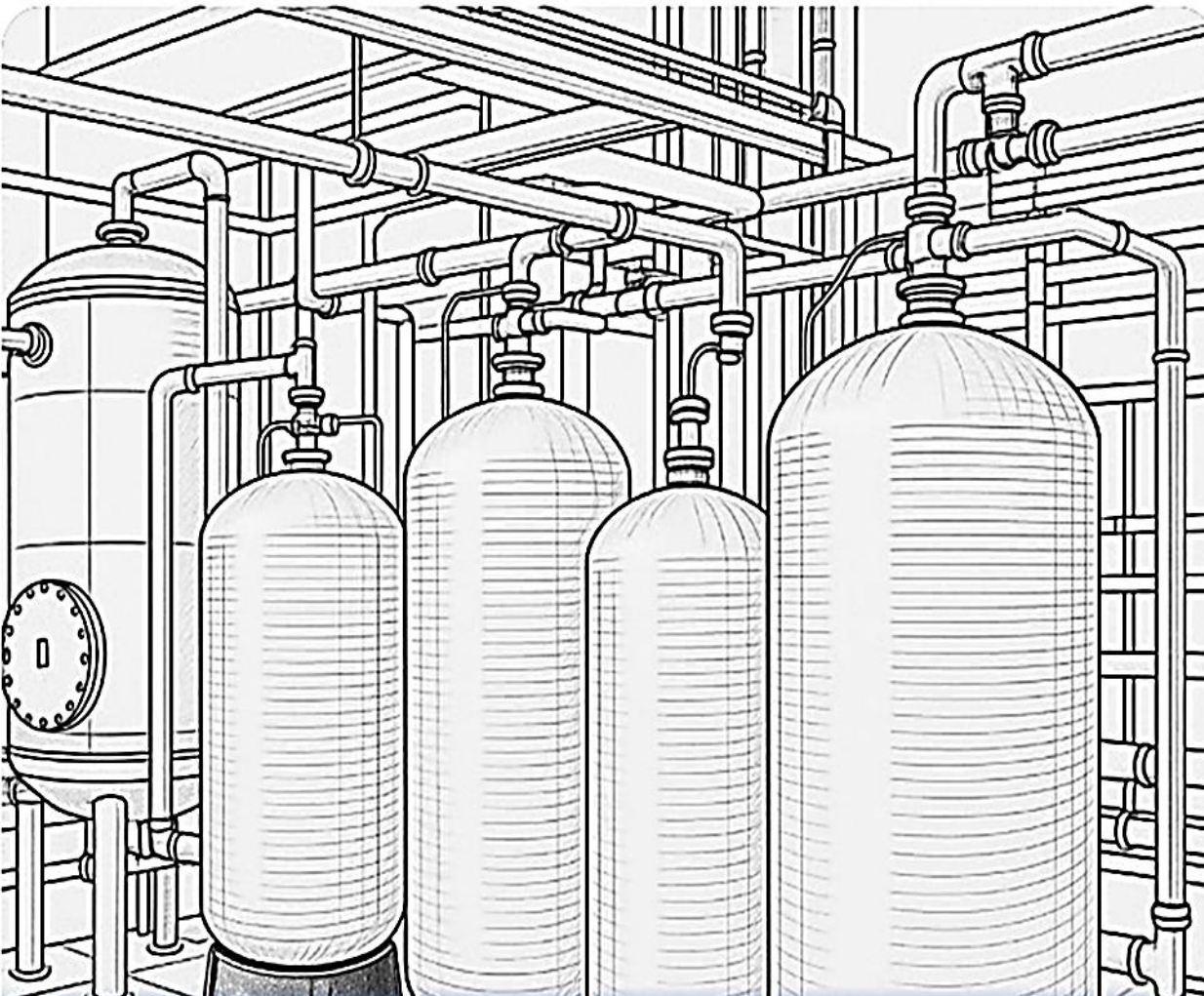


HELP US TO BUILD A WATER WELL





URBAN & INDUSTRIAL WATER PURIFICATION TREATMENT PLANT
(SHAPE AND GEOMETRY OF THE PROJECT IS PURELY INDICATIVE)
(PHOTOGRAPHIC HYPOTHESIS OF FUTURE PROJECT – FLOOR PLAN)





INDUSTRIAL WASTE WATER TREATMENT

- ❖ Wet oxidation of volatile organic compounds (VOCs), reduced to combustion products.
- ❖ Fracture of long organic chains (hydrocarbons, polymers, pharmaceuticals).
- ❖ Increase of redox potential (ORP) above 300 mV, contributing to purer water.



(tridimensional view of the plant the shape and geometry of the project is purely indicative)



WASTEWATER TREATMENT BENEFITS

- Reduction of BOD and COD: 90 to 95% reduction.
- Removal of nitrogen: 85-90%.
- Decreases settling time in digesters from days to hours.
- Cleaner effluent and higher quality biosolids, classified as Class A.

REMOVAL OF DISSOLVED SOLIDS AND METALS

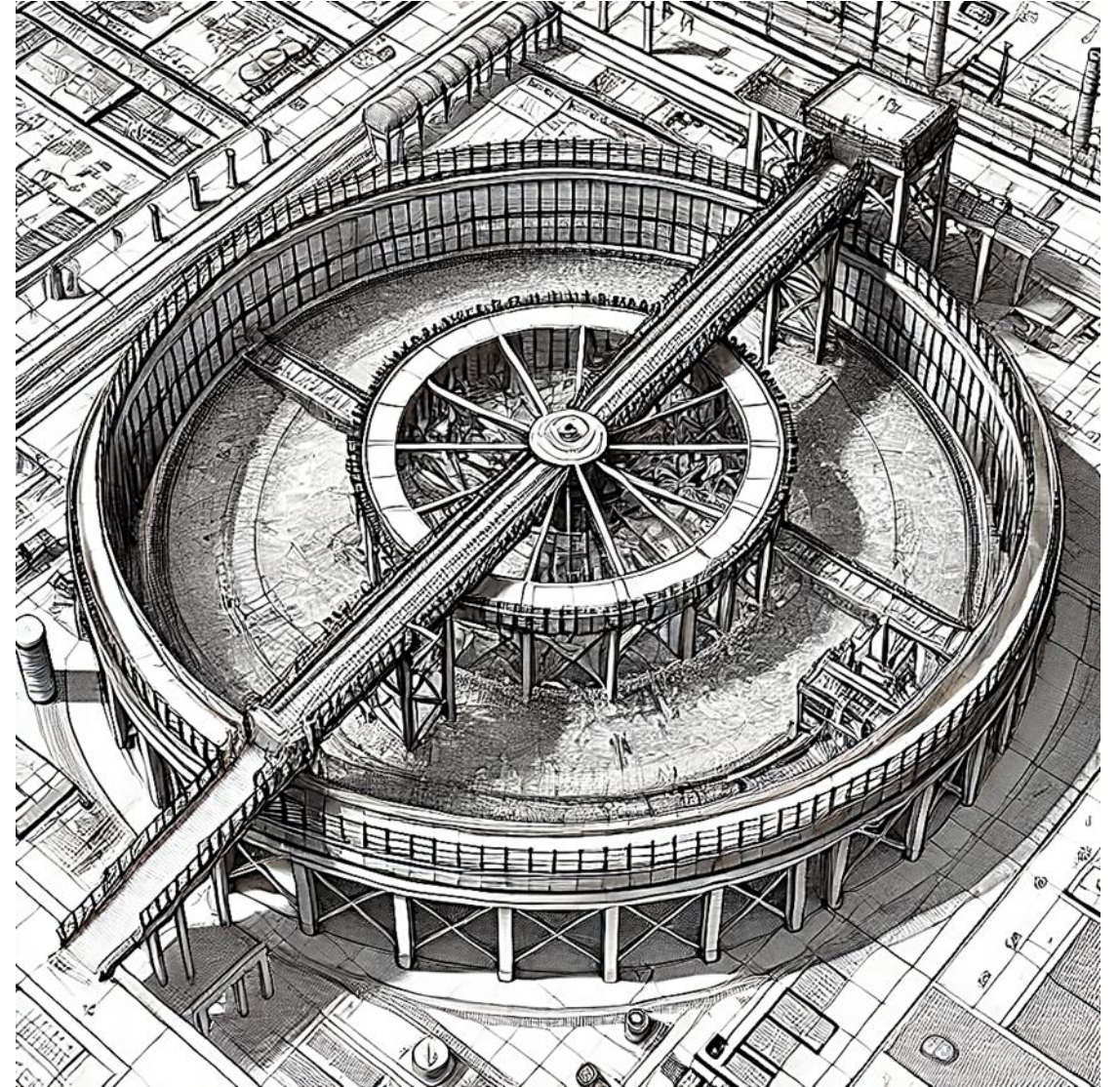
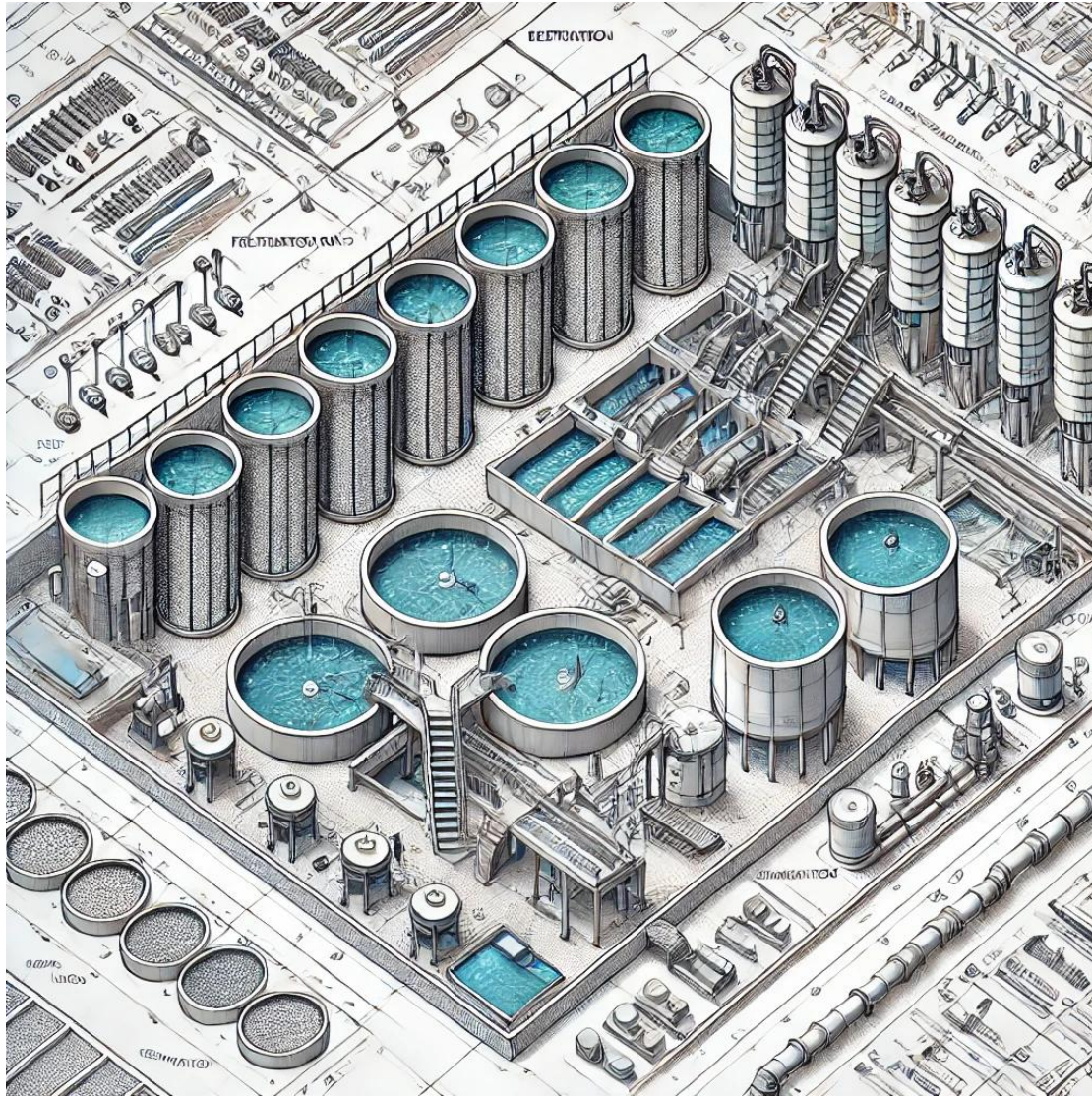
- Metals are converted to insoluble forms that can be removed by filtration.
- Reduces salinity (TDS), promoting desalination.

DESALINATION

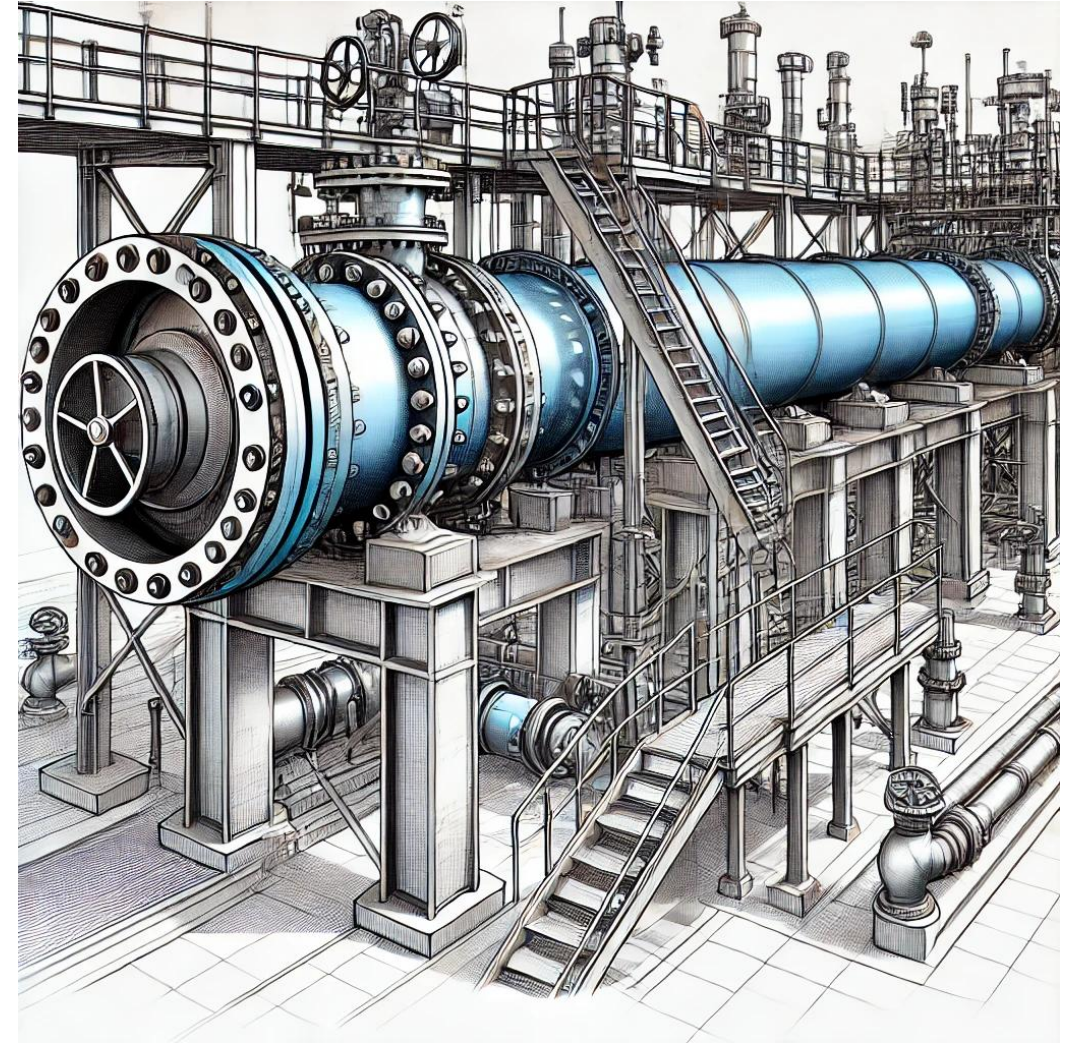
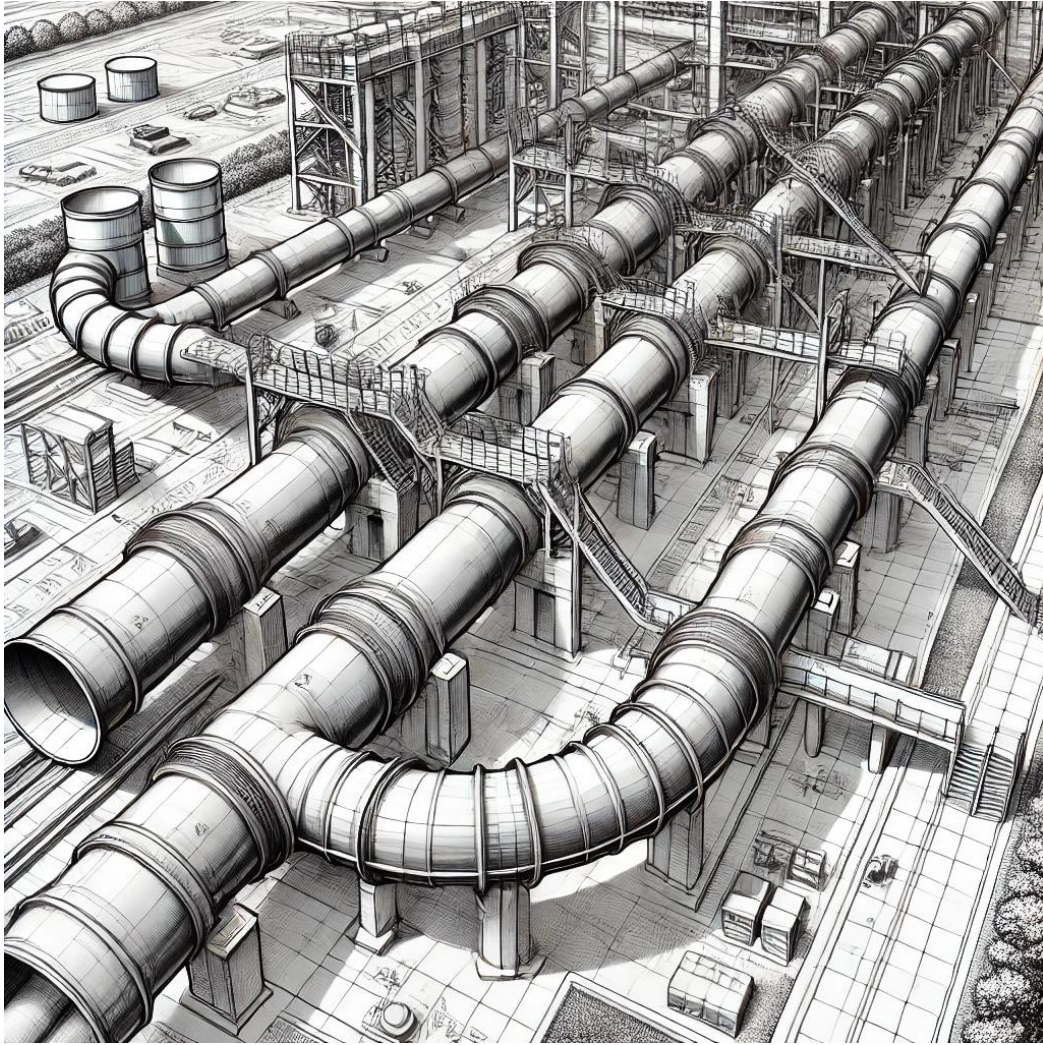
- Physicochemical method: Cavitation and electrochemistry transform salts into insoluble solids or gases such as chlorine and chlorine anhydride.
- Steam distillation: Frictional heating brings water to the boil; the steam is then condensed with reduced energy consumption.

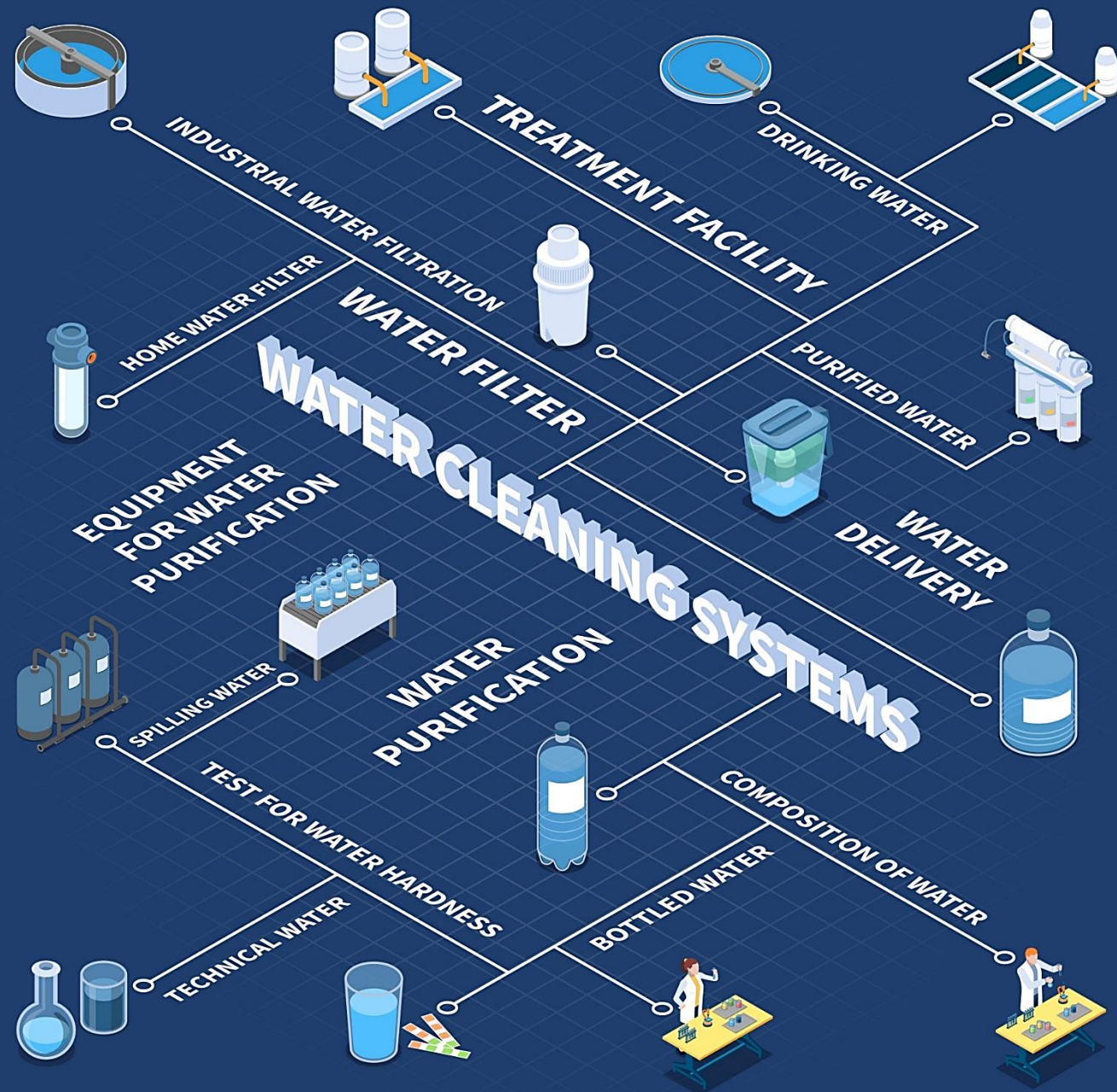


URBAN AND INDUSTRIAL WASTEWATER TREATMENT PLANT



WATER PIPELINES







BENEFITS OF IONIZED WATER FOR HUMAN CONSUMPTION

- ✓ GENERATION ALKALINE WATER HEALTHY FOR HUMAN BEINGS.
- ✓ EFFECTIVE FOR STERILIZATION OF BACTERIA AND VIRUS REMOVAL INSIDE WATER FILTER.
- ✓ A IONIZER WATER IS A INSTRUMENT THAT CAN RAISE THE PH OF WATER SEPARATE THE INCOMING WATER STREAM INTO ALKALINE COMPONENTS GENERATING VERY CLEAN,PURIFIED AND POTABLE WATER.
- ✓ CREATE HEALTHY WATER WITH PH 9,5.
- ✓ ACTIVE HYDROGEN AND THE IONIZED WATER PURIFIED IS A ANTI-OXIDATION.
- ✓ THIS IONIZED WATER HAS A DERMATOLOGICAL ABILITY TO OPTIMAL HELP THE SKIN CARE.
- ✓ STERILIZATION EFFECT.





THROUGH THE MACHINE FOR THE IONIZATION WATER YOU CAN CHOOSE THE PH OF THE WATER FOR THE VARIOUS PURPOSES

FEASIBILITY STUDY:

Calcium sulfite
Antibacterial granular activated carbon
A mechanical filter
Purified water
Original water (tap water)



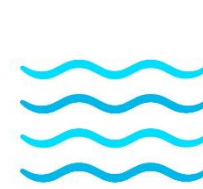
WATER FILTER



MUSCLE MASS
BODILY FLUIDS
HYPER TENSION
INFLAMMATION
FOOD DIET
PREVENTS DISEASE
ALKALINE
ACIDITY PH BALANCE HEALTH
ORGANIC
LONGEVITY
DIABETES
CHRONIC PAIN
FRESH VEGETABLES
AUTOTIMMUNE
STROKE
ARTHRITIS
LOW BONE DENSITY
ALKALINE-PROMOTING
PLANT PROTEINS
VITAMIN D DEFICIENCY
ORGAN HEALTH



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IONIZED WATER PRODUCTION:

- ✓ DRINKING WATER PH 9.5 PH 9.0 PH 8.5
- ✓ STRONG WATER PH 2.5 PH 11.5
- ✓ BEAUTY WATER PH 5.5
- ✓ CLEAN WATER PH 7.0
- ✓ HIGH PH WATER PH 11,5



**THROUGH THE MACHINE FOR THE IONIZATION
WATER YOU CAN CHOOSE THE PH OF THE WATER
FOR THE VARIOUS PURPOSES.**

MUSCLE MASS
BODILY FLUIDS
HYPERTENSION
INFLAMMATION
FOOD DIET
PREVENTS DISEASE
ALKALINE
ACIDITY PH BALANCE HEALTH
ORGANIC
LONGEVITY
DIABETES
CHRONIC PAIN
FRESH VEGETABLES
AUTOTRANSFORMATION
ALKALINE WATER
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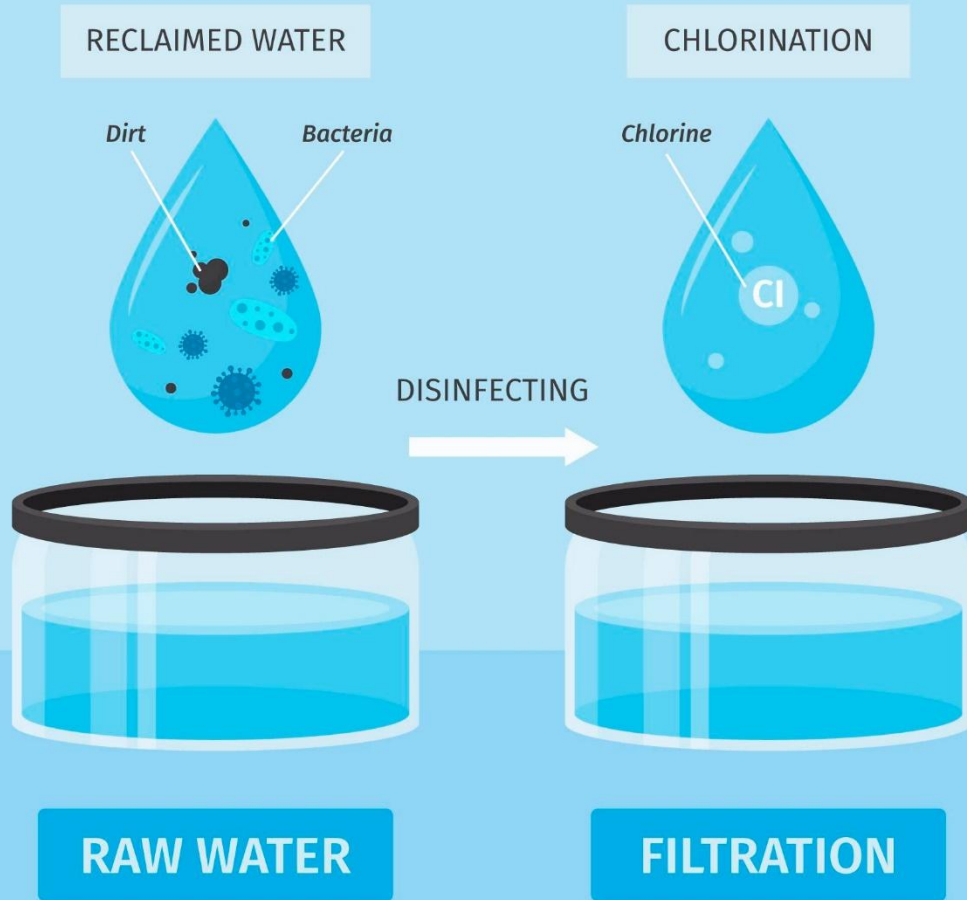


BENEFITS OF IONIZED WATER FOR CLEANING

- ✓ REDUCE EXPENSES FOR CLEANING AND SANITIZING WASHROOMS, FLOORS, KITCHEN COUNTERS.
- ✓ 11.5 PH IS SUITABLE TO CLEAN CHIMNEYS AND STOVES.
- ✓ 2.5 PH FOR MOPPING, DISINFECTING SURFACES HAND SANITIZING.
- ✓ IMPROVE SERVICES TO STERILIZE ALL UTENSILS.
- ✓ 9.5 PH IS SUITABLE TO ENHANCE TASTE OF ALL DRINKS AND FOODS.
- ✓ 11.5 PH IS SUITABLE TO REMOVE PESTICIDES.

MUSCLE MASS
BODILY FLUIDS
HYPERTENSION
INFLAMMATION
FOOD DIET
PREVENTS DISEASE
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VITAMIN D DEFICIENCY
ORGAN HEALTH





EQUIPMENT FOR THE WATER SYSTEM FEASIBILITY STUDY



PUMPING STATION



WATER HEATER



PRESSURE SWITCH



FINE FILTER



SURFACE PUMP



MOTOR PUMP



SEWAGE PUMP



CAISSON

FDIA

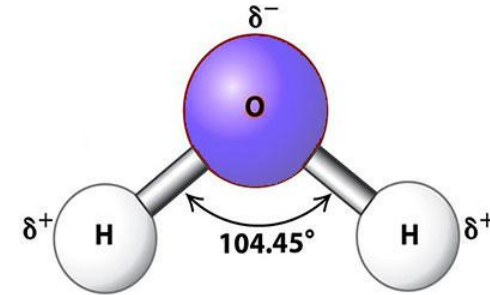
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RESEARCH & DEVELOPMENT IN WATER FIELD

- Using geological solution for combat water scarcity, land degradation and deforestation.
- Supply clean, safe, potable and reliable water with the construction of purification plants, water wells & technological agriculture irrigation system.
- Water network, sewers, drains with their respective sewage plants.
- Resources in total: Freshwater resources also take into consideration socio-economic variables that should improve access to water.
- Resource variability: Precipitation trends affect the total amount of freshwater resources that are accessible at any particular moment. Reduce costs of water consumption and treatments.
- Water source and quality: A overall water availability figure is produced for a given by combining ground and surface water.





TREATMENT

The water frequently needs to be treated before it can be used after being brought to the town or establishment that will use it. Water is used for a wide range of things in agriculture & food field. Water can be handled in a variety of ways as a result to attain the best purity & treatment.

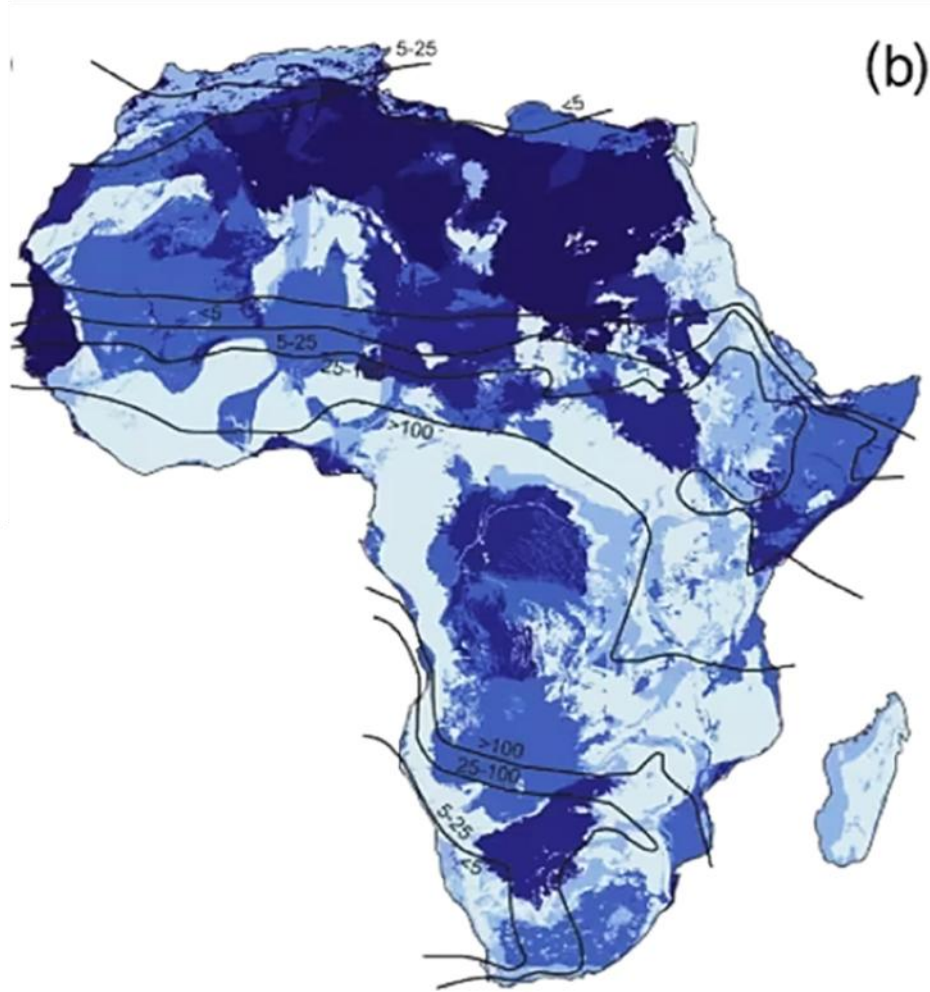
CLEANING OF MUNICIPAL WATER

For the purpose of making drinkable, fresh, clean and potable water suitable for human use and agriculture sector, there are various works & treatments for example carry out a construction of a purification plant in the utilities for purifies H₂O into potable standards.

The primary difference is between treatment facilities for surface and groundwater. As it passes through the earth, groundwater is naturally purified because the soil serves as a filter and a carbon source that can absorb pollutants. The groundwater reservoir only needs to be lightly treated if it hasn't already been polluted. The majority of groundwater only needs to be filtered and disinfected. In general, the surface water on the Sub-Saharan Africa is less pure than the groundwater, necessitating more intensive cleaning and labor for supply clean & potable water.

Adapting a geological & technological solution in the groundwater that has enormous potential for irrigation with appropriate technological system.





**OUR GOAL IS TO HELP PEOPLE IN THE
AFRICAN CONTINENT BY PROVIDING
CLEAN & POTABLE WATER.**





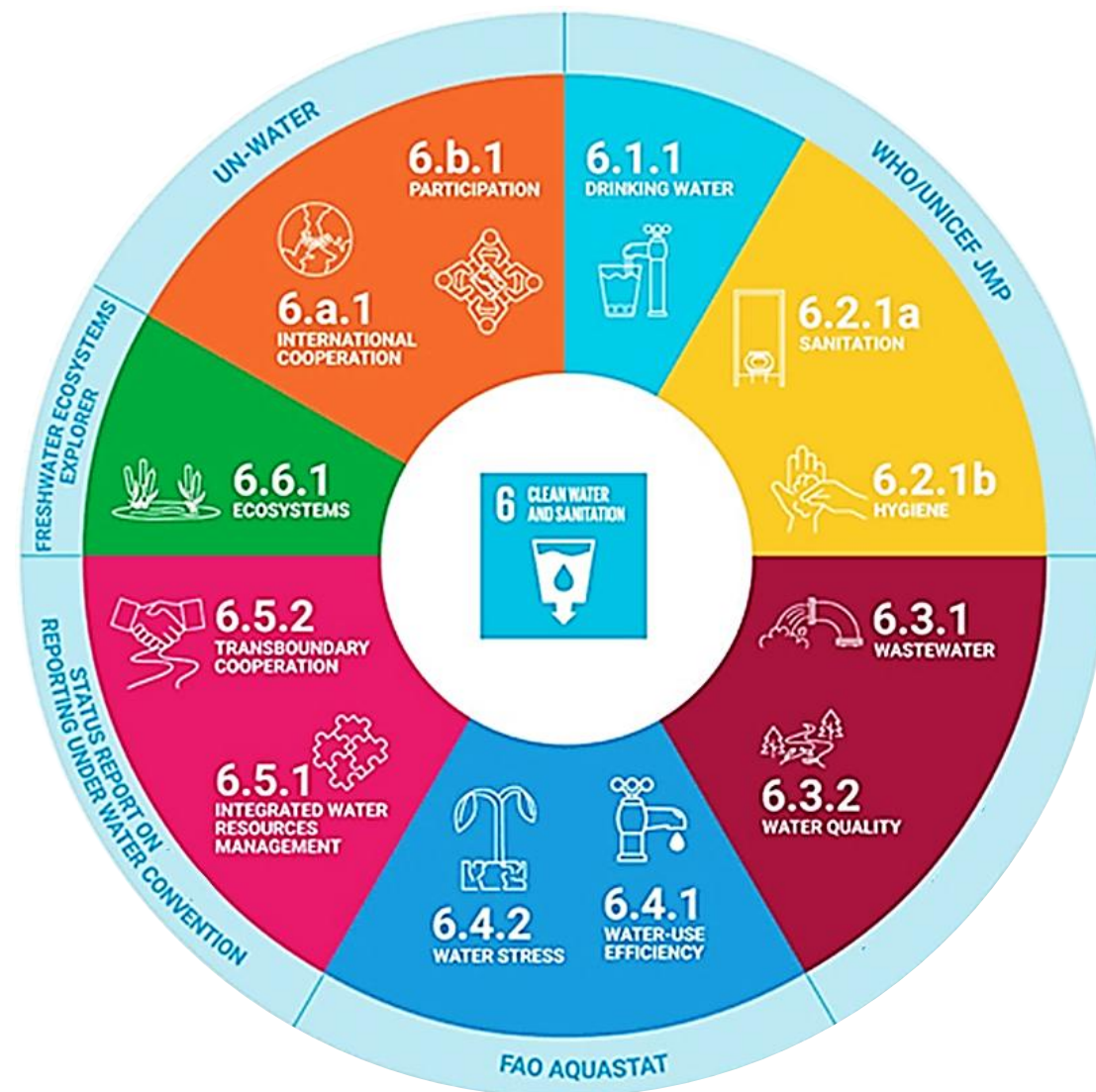
Definitions of Sustainable Development Goal (SDG) 6,
target 6.3 and related indicators

Goal 6: Ensure availability and sustainable
management of water and sanitation for all.

Target 6.3: By 2030, improve water quality by reducing
pollution, eliminating dumping and minimizing &
avoiding the release of hazardous chemicals and
materials.

Indicator 6.3.1: Proportion of domestic and industrial
wastewater flows safely treated.

Wastewater flows are defined as being safely treated if
discharges comply with national or local standards.





"WATER EMERGENCY"

SUSTAINABLE DEVELOPMENT GOAL (SDG)

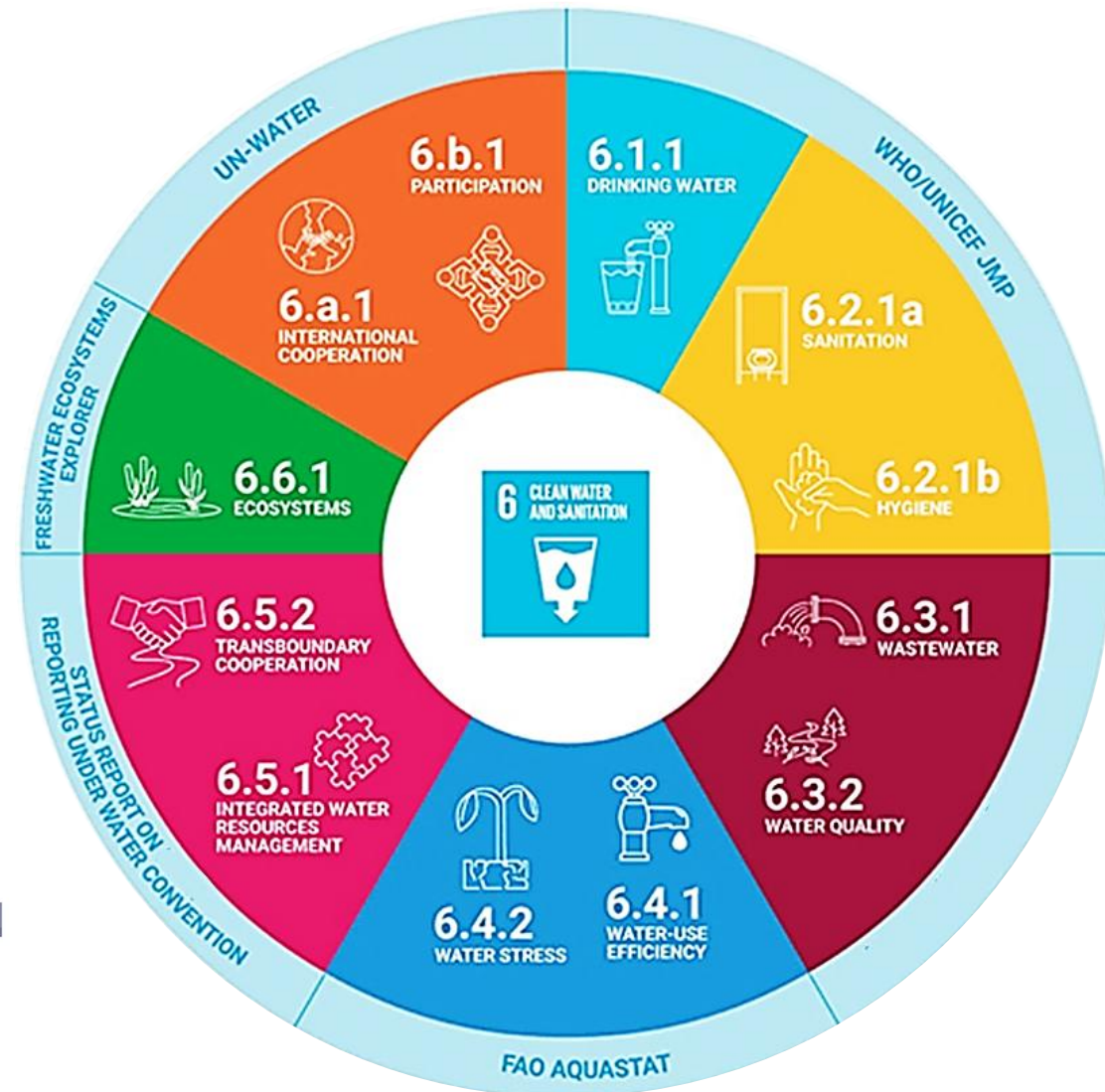
TARGET:

seeks to halve the proportion of untreated wastewater discharged into water bodies and includes two complementary indicators to monitor progress: the proportion of domestic and industrial wastewater flows safely treated (Indicator 6.3.1) and the proportion of bodies of water with good ambient water quality (Indicator 6.3.2).

Indicator 6.3.1 aims to track the percentage of wastewater flows from different point sources (households, services, industries and agriculture) that are treated in compliance with national or local standards.

Eliminate dumping, minimize and avoid the release of hazardous chemicals and improve water treatment.

Access to reliable water, sanitation and hygiene is a human right to safeguard and respect.



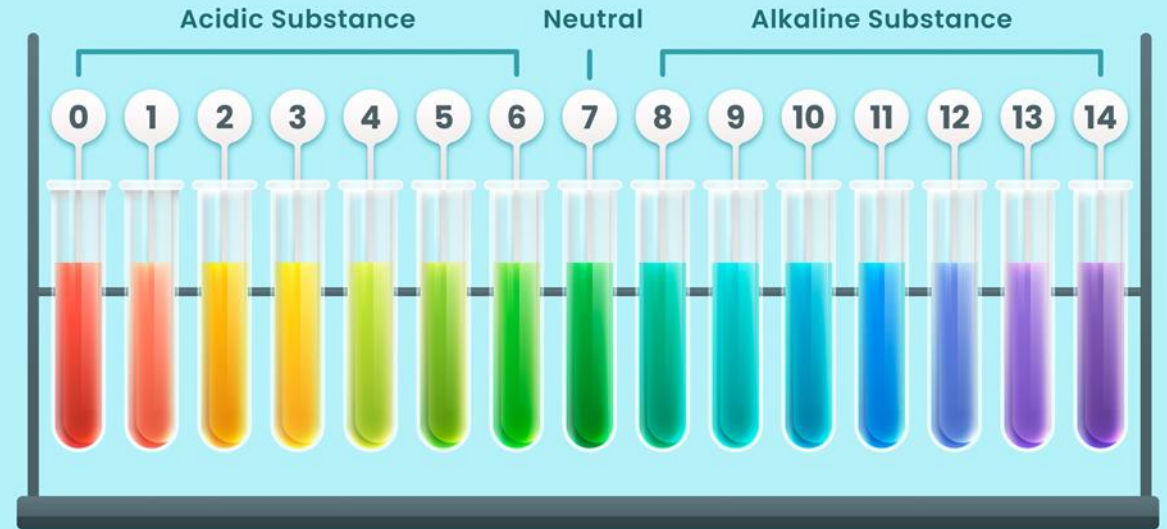


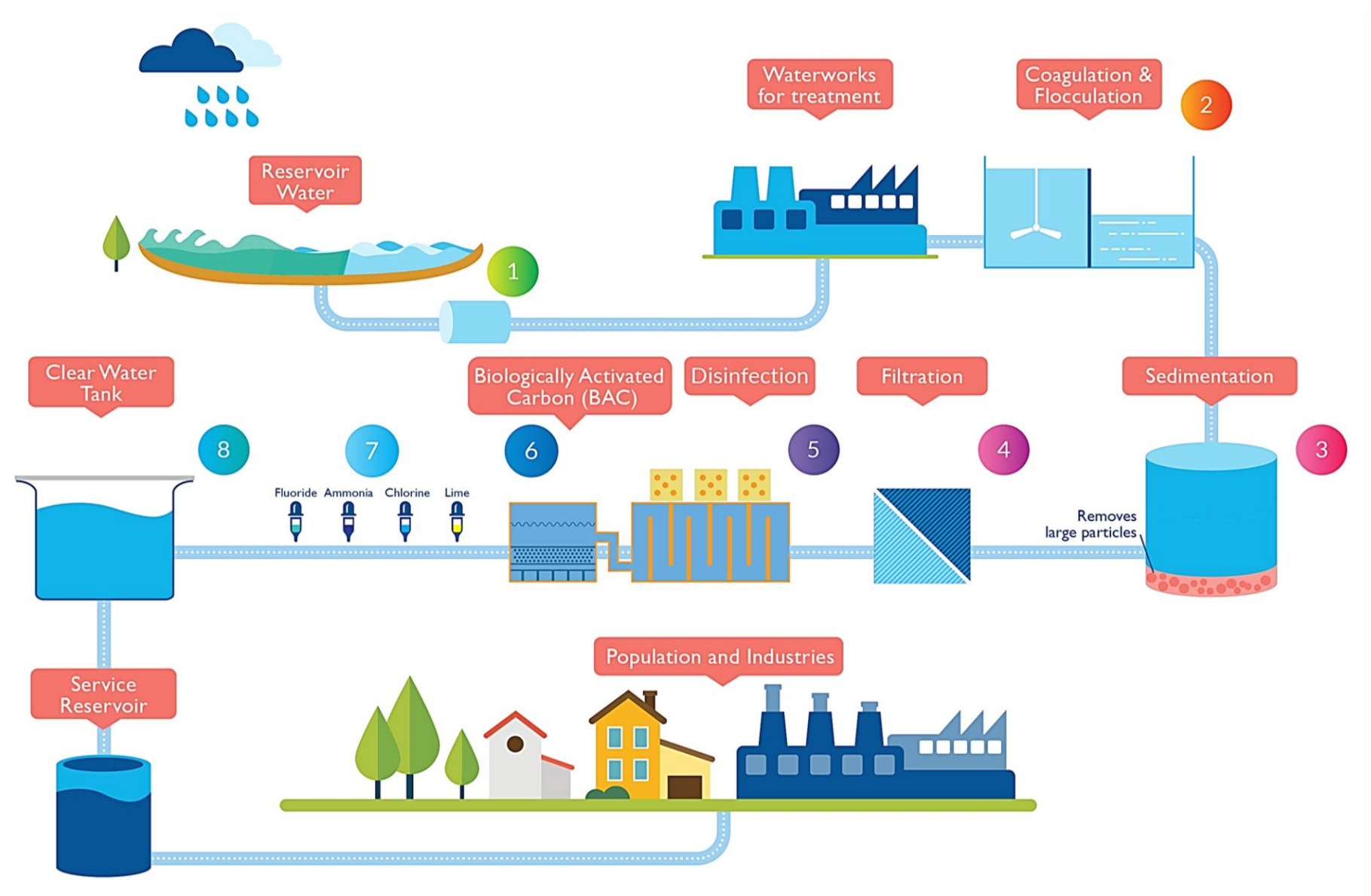
Ensuring high quality of the water resources depends on the monitoring and control of pollution sources and discharges. Avoid the water contamination, avoid risks to human health and to the ecosystems. An important paradigm shift regarding wastewater management is therefore necessary to not only better protect drinking water resources and aquatic ecosystems, but also contribute to sustainable development and climate change mitigation and adaptation.





WASTE-WATER ANALYSIS pH Scale





CARRY OUT SCIENTIFIC ANALYSIS OF WATER IN THE LABORATORY



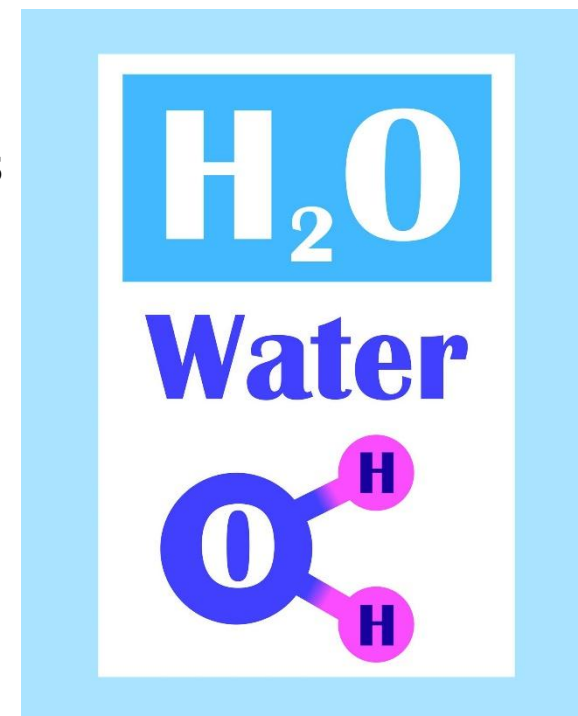
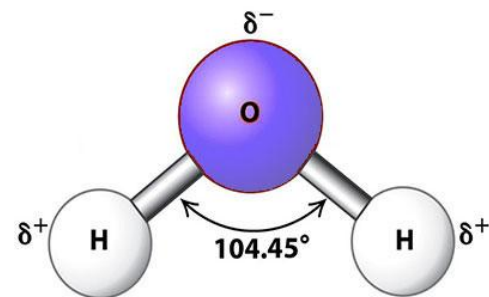


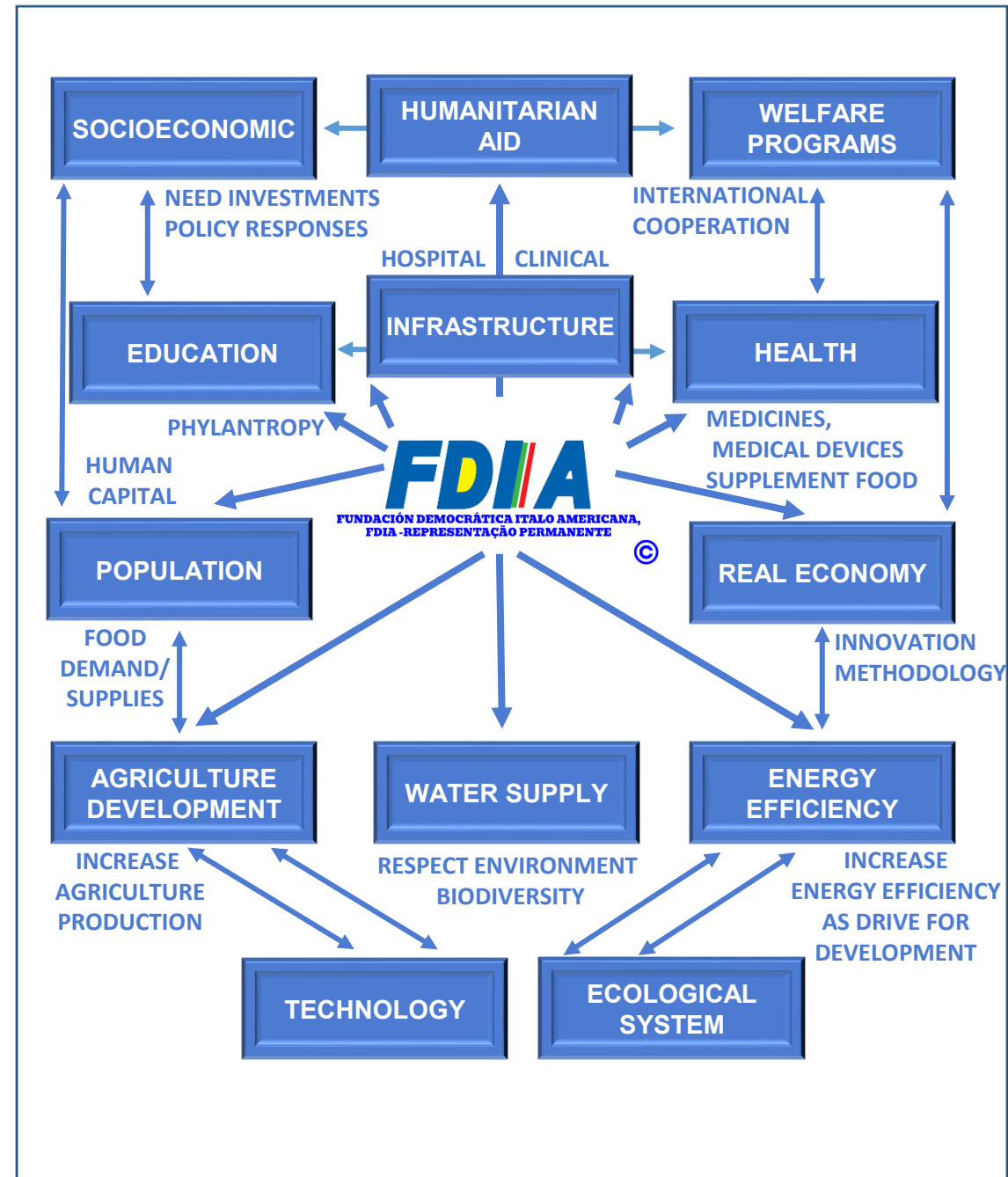
CARRY OUT SCIENTIFIC ANALYSIS OF WATER IN THE LABORATORY



Water is a chemical compound with the molecular formula H₂O. This abbreviation means that each water molecule is composed of one oxygen atom (the 'O' of the formula) and two hydrogen atoms (the 'H').

This peculiar characteristic causes a partial negative charge to be created on the oxygen atom and a partial positive charge on the hydrogen atoms. This duality makes the molecule a dipole, water molecules attract each other through the formation of hydrogen bonds.





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PROJECT OWNER/PROJECT DEVELOPER

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