THE FUTURE 2050 **IMAGINERS**

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FUTURE OF GREEN BEHAVIORS

BACKGROUND

Greening the economy has been underlined as part of the government's focus on the concept of "building forward better", as well as part of the global climate change mitigation efforts. However, Women are still significantly underrepresented in most green sectors. Climate changes risks are exacerbating the existing inequalities faced by women. Green economy can be an opportunity for women to gain their rightful place in the workforce and as powerful leaders and change-makers in the context of climate change. Moreover, women are often the pioneers in carrying forward innovations & CC solutions, so empowering them is the key for greening the economy. However, cultural barrier has been discussed by literature as major barrier in making female-led households adopt green behavior.

We, as UNDP Accelerator lab, have conducted workshops with energy sector stakeholders, to map together the signals of change that are happening around us, and are expected to have an impact on the future of women in energy in 2050, and what would be the desired future that they aspire for them, and what are the needed system changes to reach that. One important insight that came out was adopting "Energy Efficiency Behavior" awareness from school level education. This will fight cultural barrier and help transform our current female students to future green behavior adopters.

Within this context, UNDP Accelerator lab seeks to collaborate with "Refuturism", social initiative that aims at spreading environmental education at schools using creative stories, videos, drawing & future thinking, to conduct futures literacy lab with a group of 15 female students to teach them future thinking by doing, where they'd be imagining their life in 2050, using creative stories, videos & drawing, imagining what technologies would be there and what resources will be there, then they'll be imagining life without resources in 2050, and seeing how would that change their behavior in perceiving green behavior as well as their planned use in dealing with resources.



Objective & SCOPE OF WORK:

• Objective:

 a. Testing how can futures literacy can change school female students (11-16)' behavior in dealing with energy resources

• Scope of Work:

a. Running two Seven-hour workshops with the students, using the needed tools from drawing, pictures, videos, storytelling.

i. The first day (Future thinking Immersing + Building Possible and Desired futures)

ii.The second day (Building "No Resources" Reframing Scenarios +Reflections on the Whole Journey+ Discussing Changes in Perception and Behavioral tendency towards resources).

• Expected Output:

- a. Empower female students with creative thinking culture by learning future thinking tools and learn how to apply them in real life.
- b. Helps teenagers to discover their creative side & apply it in real life by writing and drawing.
- c. Test how positive imagination and future thinking can be used to solve global issues that they will face in their future, as well as developing "Green Economy System " BY changing their behavior to be Future green adopters.

Responsibility matrix:

Refuturism Initiative

- Running the planned workshops
- Integrating the needed tools from gaming, drawing, pictures, videos, storytelling.

UNDP

- Scheduling the planned workshops; in terms of recruiting the target female students as well as providing the location
- Identifying & Clarification of the needed objectives & output
- Funding needed accompanying costs.

FUTURE IDENTITY (ID)

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PANTONE® 17-3938 TPG Very Peri We set out on the journey of the future in the year 2050. Now we are in the circle of imagination to get to know each other in our new world that we are designing.

And imagine our life to shape our identity , who will be , image our face , image our job in the future We write our future identity

Our name:

our age:

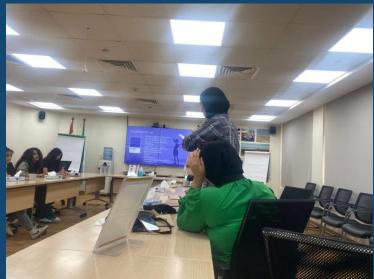
future function:

And describe how will be your journey to the future

- Jobs were evolving around electronics, digital versions of current jobs
- Clothing and Accessories had technology pieces with designs of their favorite foods.
 - Some had future designs inspired from future movies and series.







Technology was solutions with maps, for getting lost in various conditions and places. Some enabled them to fly or move from one place to another

"One interesting image was glasses for the blind that guide them".









- Transportation was expected to travel across all mediums (sea, land and air).
 One interesting image was time travel machine with ability to book all trip details including the duration they want to spend in each time.
 - 2 images included green technology.
 - 1 image expected absence of water. Some images had tech like Siri in, others had tech that suits different weather conditions and others had safety tech.



RELATIONSHIP BETWEEN HUMAN AND TECHNOLOGY

Two Videos discussing relationship between Human & Technology in the Future were exhibited, one expected tech to be replacing humans, and the other expected tech to be serving humans, then an open discussion was held to imagine which of the 2 scenarios is expected to take place in 2050.

There was also imagination for some tech in different fields like education, agriculture,etc., and then an open discussion about which of these tech are expected to be there in 2050.

- Most expected the relationship between humans & tech to be a status where tech serves humans not overtaking him.
- Tech is expected to exist most in agriculture & education followed
 by transportation and medicine



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WHO IS INVENTOR

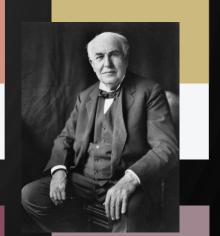












GAME OF

This game is flash back in the past to know Technologies in the past, and who has invented then, and imaginers to imagine if those inventors exist in 2050, what TECH will be in the future either possible and desired.

While results:

1- Focusing on electricity it will be free for all, and we will convert to solar energy completely and it will be in a lot of fields as like Medicine, Educations and industry as like (cars and planes)

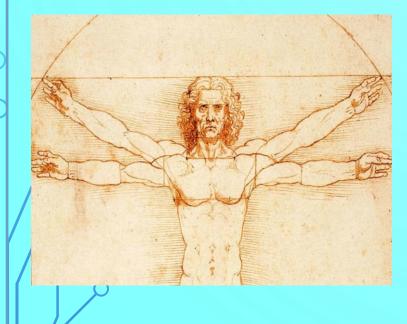
2- One interesting desired future : ships will have the ability to convert to cars for protection of water pollution and, planes will cross continents to search for pollution in environment.



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5 CIRCLES

With Green behavior and Humans attitude





Houses (Design, Location)



Technology

Environment (Agriculture, Water, Weather, Electricity)





Social Life (Population Size, Green Behavior, Clothes, Transportation, Education, Medicine, Industrialization)



Food

5 circles (Framework of Imagination)

STORIES & DRAWINGS ABOUT POSSIBLE AND DESIRED

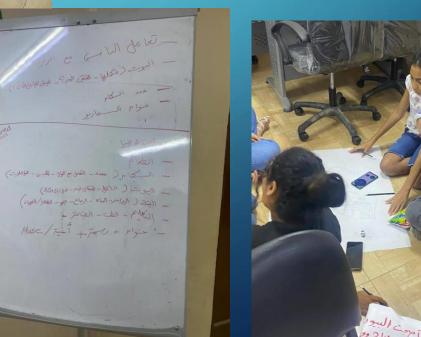














THE FRIST STORY (GROUP 1) POSSIBLE FUTURE NAME OF SCENARIO: EVOLUTION OF THE WORLD IN 2050

2050 ...Today the world has changed for the <u>atmosphere</u>, where there are seasons whose duration has become longer and other seasons have disappeared, where the summer has become hotter, and the spring has become hotter as well, while winter and autumn have disappeared due to global warming, and therefore winter crops have disappeared due to the lack of rain and lack of water, and wind energy has become less.

Solar energy has replaced <u>electricity</u> to a big extent and entered industries such as the automobile and aircraft industries and led to savings in gasoline, and aviation movements became easier.

<u>**Technology**</u> intervened in all matters of life, so education became easier for the intervention of modern devices and development in the field of medicine where modern medical tools intervene to diagnose diseases accurately. Technology developed the automotive industry, where cars have become like planes, they have the ability to fly.

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Technology has also interfered in preventing environmental pollution because it prevented factories from ejecting their waste and smoke, preventing water pollution, and using recycling methods, reducing the use of metals and focusing on papers.

And we used strong concrete in building <u>houses</u> to withstand weather conditions and earthquakes. The use of glass screens in daily uses has been traded to facilitate life and become much easier.

Technology intervened in the exploration of things and the gathering of as much information about them.

<u>**Transportation**</u> methods have become easier and means of transportation are more modern, such as cars that walk in the water and fly in the air, and there is unlimited and free internet everywhere and in the means of transportation.

For **<u>agriculture</u>**, there is drip irrigation not to waste water.

On the environmental level: Because of the lack of rain, we started to rationalize the consumption of water in agriculture, so we used drip irrigation and stopped using chemicals in agriculture, which led to eating without hormones and thus reducing cancerous diseases. We have rationalized water consumption by using filters to rationalize consumption and purify water from pollutants and minerals. We rationalized the consumption of electricity by turning off the lights in the morning and using solar energy to save the energy we get from the High Dam.

As for the houses: strong and safe concrete was used against external factors and natural disasters, which are more resistant to earthquakes. The houses became circular and compact on the outside and spacious on the inside. Plants in homes are becoming few, such as basil, mint, carnations and roses .The slums decreased, the houses became more beautiful when crops became healthier, there were fewer diseases, which increased populations and reduced deaths.

DESIRED FUTURE TITLE OF SCENARIO : BUILDING THE FUTURE

In education: Education has developed significantly, and there is artificial intelligence in schools using modern tools such as glass screens and the provision of cleaning robots.

In the field of medicine: there are modern techniques for diagnosing diseases with great accuracy through a very small device connected to a screen that shows all the diseases inside the body and manufactures innovative medicines and clinical pharmacology.

In industry: robots that perform various functions, such as robots that help the elderly in daily life, have been manufactured. Flying cars and electric planes were built to help preserve the environment, such as a device that sterilizes the atmosphere and measures temperatures

<u>As for the houses</u>, the houses in the year 2050 have witnessed a wonderful development in terms of shape and installation using anti-seismic concrete and external factors, and there are robots in the houses, waste removal and self-cleaning bathrooms, and there are plants, roses and trees to increase oxygen

<u>The Food</u>: Food has become healthy because we have stopped using chemicals and hormones, crops with hormones have disappeared, modern irrigation methods are used, robots are intervening in agriculture, water is plentiful, and the weather is humid, mild and sunny.

Population increased due to health concern and fewer deaths, (9.5 billion people)





(GROUP 2) TITLE OF SCENARIO (EGYPT DEVELOPED IN 2050

We are in the year 2050, there is a big change in the <u>climate</u>, where there is no autumn and no spring, the summer has become longer and the winter has become more rainy, and there will be drought in the rivers and in agricultural products that cannot be cultivated because of the climate, and we will make dams because if there are floods, it does not harm the country, and we reserve water

Food: New products are being grown compared with what was present in 2022, now we can grow them crops that grow in very high temperatures due to the very high summer

Technology: there will be in a great development, for example, cars, will operate as soon as the person enters the car, without touching. There will be an evolution in technology, society will be affected by technology, and people will control technology. There will be an evolution in transportation, it will be electric and operate by touch. Tablet will be a transparent thing that works with touch. There'll be a device dedicated to agriculture will be made responsible for irrigation according to the climate without anyone.

(GROUP 2)

Clothes: They'll be in black and white, and it'll have technology it that acts as a map and if the place is unsafe, a flash will appear. It will be in a mobile or a wristwatch that shows a smart stereo map that directs us to the place we want to reach, such as a GPS, and knows the air temperatures every day.

Houses would be made of iron to protect us from floods.

In the summer, people will deal with water with caution because there'll be drought & intense heat, and agriculture will decrease in the summer due to lack of water. There will be new **resources** that we can plant in the summer, it will be of better quality because they'll be more developed and available

And electric <u>devices</u> will be electricity-saving/solar-powered, such as mobile chargers.

The **houses** will be stronger in the winter, because there will be floods. The houses will be made of very solid materials to adapt with floods & wind, and there will be more houses in new places and their shape will be better and more beautiful, and they will be built from materials that do not transmit heat, and the houses will be like Dubai towers and they will be in different forms that transmit electricity. Solar energy through the roofs (panels) on the **buildings**, to replace electricity when cut off, and there will be an elevator at the door of the building that will be operated by touch, and there will be cultivation of fruits and vegetables in the balconies and roofs in large quantities to act as complements in case there is a shortage in the basic needs of planting. We will have (self-sufficiency).

We will plant a lot of crops for the environment, and we will grow food.

The **population** will increase due to reproduction, and therefore there 'll be more houses as a demand-response.

DESIRED FUTURE (THE IMPACT OF TECHNOLOGY ON HUMAN LIFE)

<u>Transportation</u> will be that each bus will carry more bigger number of chairs, it will be air-conditioned and operate automatically, the door of the bus will be digital; opens and closes as a response to heat of person standing, to protect children from damage from the door.

The <u>clothing</u> will be designed to absorb heat, and when first touched, it will tell your body temperature and heart rate, and at the same time can be used in both summer and winter. Zippers are there in winter and can be removed in summer in a new way.

Food: There will be new vegetables and fruits, new drinks and new forms of food

Houses: They will be large, and above the roofs, there will be a shuttle, a place for farming, and a three-stores technology garage. Each store has its own car.

The number of **people** will increase, so the number of buildings will increase. There will be many cultural differences.

The <u>environment</u> will receive more attention and each need will have its own device, such as water. Devices will be like boats that cleans rivers & sea water from pollution. In agriculture, there will smart irrigation device responsible for irrigation upon crop need in the right times.

<u>Technology</u>: At schools, there is a device that removes the garbage every day after the children leave school, and this leads to permanent cleanliness.



(GROUP 3) TECHNOLOGY HAS EVOLVED OVER TIME

We are in the year 2050, there's be no summer, the temperatures always decreases and the <u>climate</u> has become unchanged, it is very stable, and there is no spring or autumn season, and the fruits are less harvested, as there is no development in crops, but the fruit has decreased in a large proportion and there are no winter crops.

However, there are developments in education, medicine, industry, and greater development in <u>technology</u>, that can remove snow from the ground that will be resulted from the weather that has become very cold, to facilitate the movement and disembarkation of people from the homes. People have cars with a smart control device, that responds to body movements & human speech like Siri. The medical field, has developed a lot.

As for the **electricity**, it has disappeared because the weather is freezing, and the alternative is hydroelectricity with installed electrical devices.

As for <u>education</u>, there are smart devices to help children absorb information. Devices that attract the child to education and make him succeed in studying, such as smart boards with color coordination to attract them to study

For <u>food</u>: Dedicated places have been built to suit crops to grow in their natural place. Fruits are larger in size and length. We can put a seed of fruit in an unnatural climate, and rare fruits appear for the first time.

As for the <u>water</u>: it has frozen and we make drinking water from snow and we have developed a technology dedicated to melting the snow and then filtering the water to make it suitable for drinking.

As for <u>clothing</u>: Manufacturing and production of summer clothes have ended, and all clothes have become winter ones, and they are allocated jackets to know the roads and have a compass. Sweat pants produce heat energy to suit the weather.

As for <u>transportation</u>, trains have become with modern technology, covering the distance in half the time, and completing their journey in the sky, and electric buses are have developed & still developing.

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We also said that the **population** is increasing and therefore the amount of food will decrease and that most of the population is wasting food and is thrown away, so we made a place for food waste to be eaten by animals and benefit from them, especially birds, and we made a new type of fruit and vegetables that resulted from the genetic combination of different fruits & vegetables together.

And we kept producing <u>electricity</u> from the wind and made a specific device to reduce electricity consumption. We also developed artificial intelligence that reduces electricity consumption by a larger amount.

As for the **houses**: we adapted them to the atmosphere by means of artificial intelligence, and thus temperature in the houses has adapted to the environment. As for the shape of the houses, they will be superior to skyscrapers, and the entrance is made of electronic doors that open with a laser.

DESIRED FUTURE : THE FUTURE 2050

In every <u>home</u>, there will be no garbage cans. There will be nuclear robots sorting the garbage in the kitchen, and after sorting it, they will separate it and then turn it into different materials. In the bathroom there is an ultrasound machine and a water sterilization system.

The houses will be built with 3D printers and using materials that greatly save energy and thus will save in the value of bills. There'll be a mob app with which the currency can be changed easily though voice order. There'll also be mob app with which the house and the decor can be changed by talking only.

As for **food**: there'll be technology that removes chloride from food to keep it healthy.

As for <u>education</u>, there will be smart boards with musical instruments and advanced technology. School lockers will open by means of an eye print. There'll be eye print technology that can explain and store everything we read.

For <u>medicine</u>, there will be advanced devices that detect the disease from the first detection and produce its treatment in a short and inexpensive time.

As for the **industry**: the cars are solid and strong, and we replaced gasoline with fast chargers. The car is fully charged in 15 minutes, and it has a screen that tells you if there is any malfunction in it before moving.

For the **population**: The population will be small in relation to the areas that do not have resources, and in the areas that have resources, they will be crowded with people, and therefore there will be many buildings and markets so that all their needs are available to them.

As for <u>agriculture</u>: it will be good, good labor and good soil, and there will be robots that will supervise the soil and crops and reassure them every while and collect crops better For <u>water</u>: It will be pure because we will make 100% filter channels that have no impurities. The weather will be good.

As for <u>electricity</u>: There will be a device. The first time we enter the house, there will be lighting automatically through a password that is "Open, Nour".

For clothes: There will be a full suit with different and attractive colors of gold or silver, divided for boys and girls, and there is another type, which will be pants and a T-shirt made of an unfamiliar and new material that protects the body from shock or accident and at the same time is comfortable.

For <u>transportation</u>: The metro that will move for half an hour on the ground and the second half hour will fly, with backup rescue tools so that if anything happens, the tools will be a screen technology that works to diagnose the injured person and tell what happened to him. Buses will be five-stores buses with very high speed, one of these stores will have restaurants that serve the needs of the passengers.



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IMAGINE

THE LIFE WITHOUT



REFRAME AND 3 HYPOTHESES

IN 2050, THE WORLD HAS BECOME COMPLETELY DIFFERENT, AS HUMANS HAVE BECOME MORE WASTEFUL OF WATER ENERGY AND WORK TO POLLUTE IT, AND THE WORLD HAS BECOME WITHOUT

WATER

<u>Technology</u>: Technology will be affected because when the water dries up, it affects the human being, and because the human being is the thinking mind that makes technology, we'll return to the use of primitive technology.

For **food**: Farming will stop because there is no more water for cultivation and therefore all crops have disappeared

<u>Population</u> :The population will decrease as a result of the increase in the number of deaths resulting from the increase in diseases and environmental pollution as well as the decrease in crops and agriculture. Consequently, there won't be enough food and therefore there will be great famines. For **homes**: There is no effect on the houses: the lack of water does not affect the construction of houses.

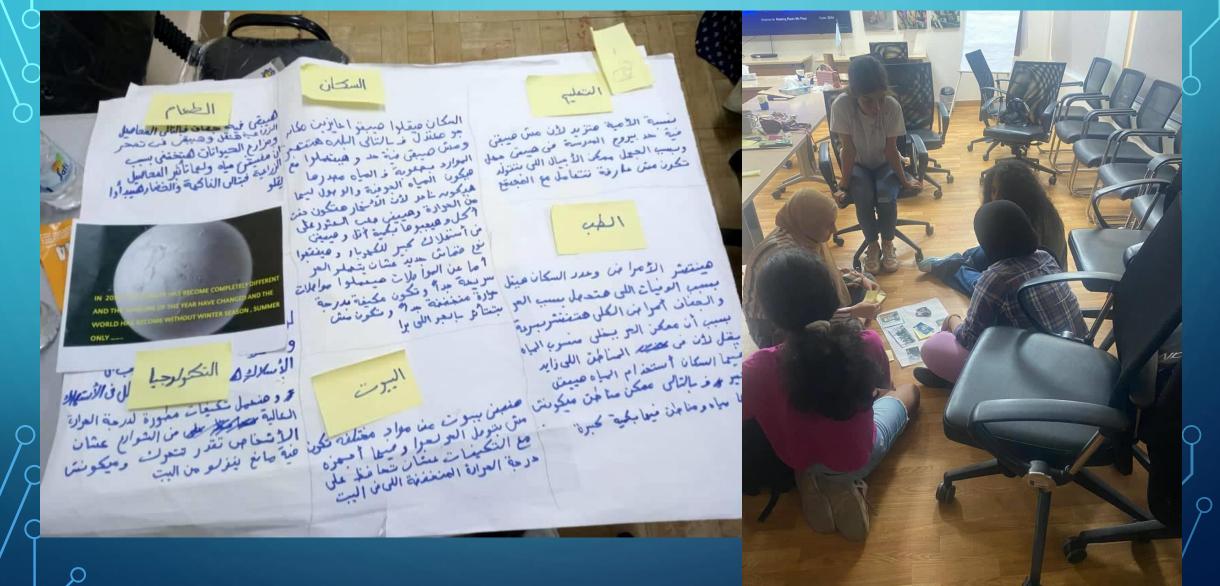
As for the **environment**, the environment will be affected, there will be decrease in agriculture and most animals will become extinct due to lack of food

Education :will be negatively affected due to the inability of students to go to school and due to the increase in diseases, and therefore there will be no continuity of attendance at schools

<u>Medicine</u>: There will be dehydration, skin diseases, kidney and liver diseases

The **industry** will stop due to the lack of sufficient resources for manufacturing from the natural resources in the environment. There will be no new industries, and industries will decrease.

IN 2050 THE CLIMATE HAS BECOME COMPLETELY DIFFERENT AND THE SEASONS OF THE YEAR HAVE CHANGED AND THE WORLD HAS BECOME WITHOUT WINTER SEASON, SUMMER ONLY.....



Technology: There is melting of wires and malfunctions in them, and consequently in electricity, and robots break down due to high heat. Therefore, we will make improved adaptations to temperatures in the streets so that people can move and leave their homes

Food: There will be drought due to high temperatures, and therefore agricultural crops will decrease and there will be desertification and animal farms will disappear because there is no water, and therefore fruits and vegetables will decrease significantly.

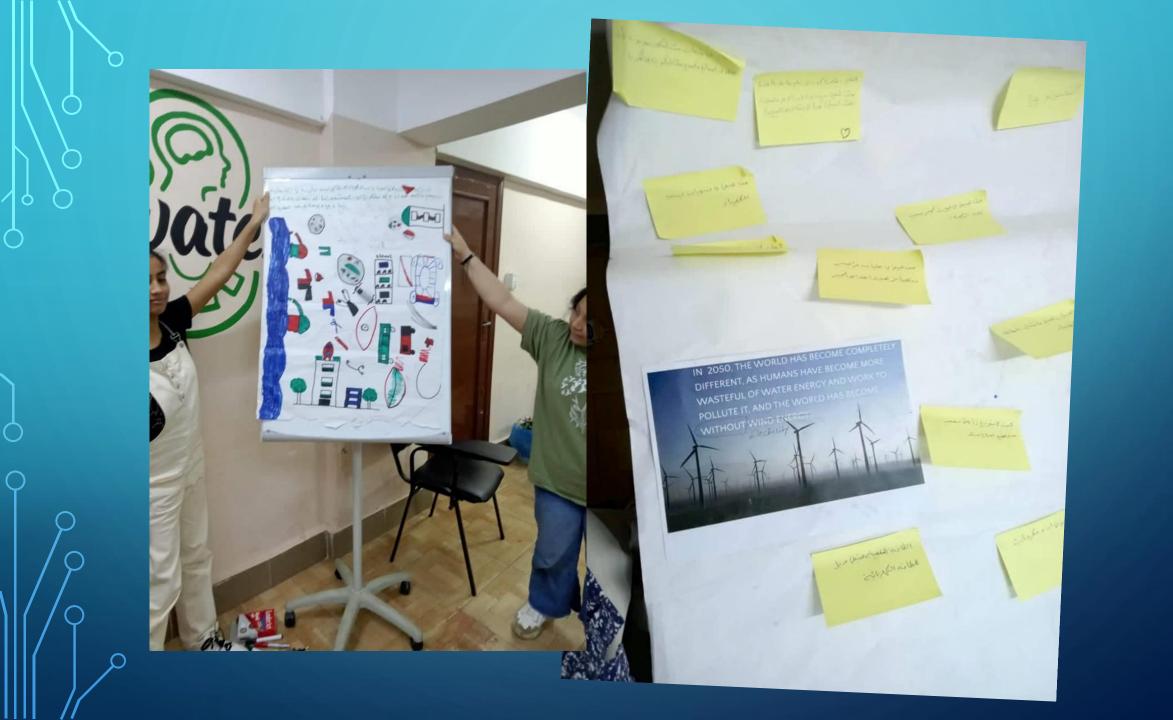
The <u>people</u>: They will leave and migrate to where the weather is good, they will work with resources with difficulty, and the source of water will be underground water, and access to it will be difficult and it will be scarce. And because the rivers will dry out from the heat, it will be difficult to get food, and it will still consume a lot of electricity, and a new type of heattolerant fabric will be produced. And <u>transportation</u>, it will make very fast transportation, and they will be air-conditioned to make the temperatures very low and not affected by the weather outside.

<u>**Houses</u>**: The houses will be made of different materials that resist the high temperatures inside the houses in order to keep the temperatures low.</u>

<u>Education</u> :The illiteracy rate will increase because no one will go to school, so there will be ignorance and because of ignorance, future generations may not have the knowledge of how to deal with society.

<u>Medicine</u> :Diseases will spread and the population will decrease due to deaths that occur due to heat, drought, kidney and internal diseases, especially in areas where there are large populations.

IN 2050, THE WORLD HAS BECOME COMPLETELY DIFFERENT, AS HUMANS HAVE BECOME MORE WASTEFUL OF WATER ENERGY AND WORK TO POLLUTE IT, AND THE WORLD HAS BECOME WITHOUT WIND ENERGY(ELECTRICITY).....



Technology: Solar energy will be the alternative to electricity and it will be used in homes, schools, medicine and industry Cars will use solar energy instead of electricity.

Education : It is possible that there will be education, but in the old traditional way, and we cannot train online or even in the traditional way, because there will be no electricity and the study will be in the morning only.

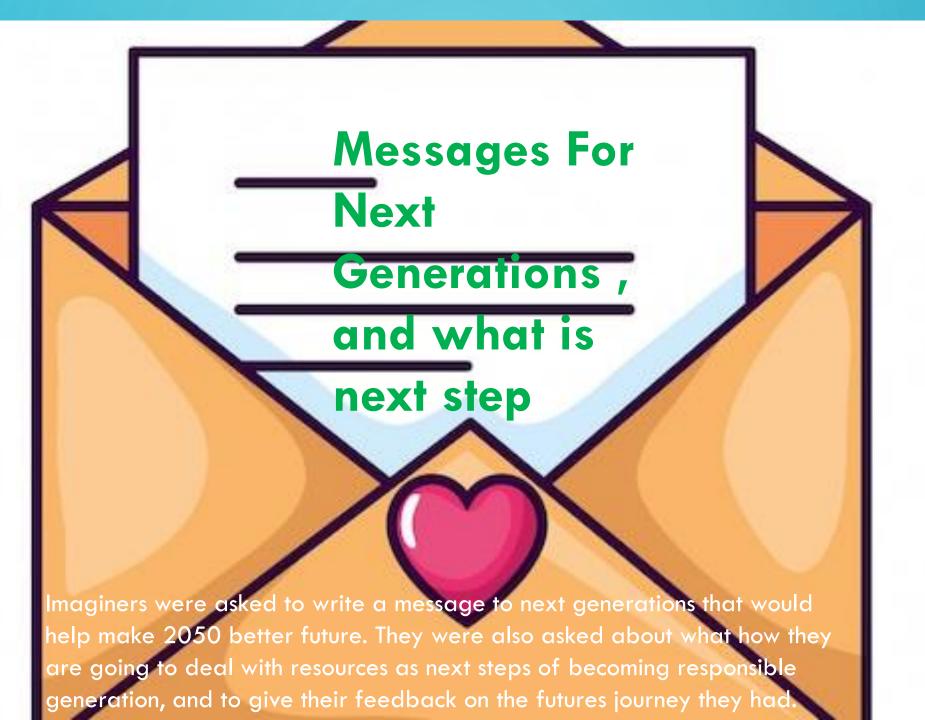
Houses: There will not be many homes due to lack of electricity.

Medicine :There will be no surgeries, and therefore many deaths will occur in hospitals.

Industries will be less and some will be closed due to power outages.

<u>Agriculture</u> :There'll be inability to plant nor to collect plants. Many products will disappear because factories reduce their production due to electricity.

The <u>food</u> :The rice and pasta will disappear and therefore there will be no baked goods because of the electricity.



MSG: Preserve the environment and the world and bear the water in your mind & do not waste a lot of water! Learn to develop the environment! Punishment needs to be applied on anyone who does hurts the environment

<u>**Reflection</u>:** On our journey to the future, we learned about the future and technology, and the best thing is that we discussed each other.</u>

(Shahd Mohamed)

MSG: Preserve the environment!

<u>Reflection</u>: I benefited from the journey that we need to preserve environment, water and cultivation. The journey taught me a lot.

Habiba

<u>MSG</u>: Preserve the natural resources. Preserve water! Fight environmental pollution!

<u>Reflection</u>: We need to rationalize the use of water and natural resources We need to advance in technology We need to prosecute anyone who pollutes the environment

Salma Ashraf

<u>MSG</u>: It is necessary to rationalize the consumption of resources, because they are a basic need in your life. Water, electricity and the rest of the resources affect our lives greatly.

<u>**Reflection</u>**: From today, I will consume resources correctly, because I discovered that they affect our lives greatly, and that without resources, our lives will end.</u>

Mariam

<u>MSG</u>: You have to turn off the water and the light otherwise this will cause a lot of problems

<u>Reflection</u>: I have to support the needs around us, think, help people, preserve everything; the environment, plant and cleanliness.

Noora





<u>Reflection</u>: We need to save electricity, rationalize water, and learn technology

Marian

<u>MSG</u>: Save the world & the environment! Preserve water! Don't consuming much electricity! And keep the family organized!

<u>Reflection</u>: Punishment needs to be applied on anyone who pollutes the environment. The best part of our journey, that we all shared our thoughts and opinions.

Salma Fathy

MSG: Preserve water not to have drought!

Preserve electricity and develop technology in order to be the best people in the world, and preserve crops from chemicals so that cancer will end from the world, and develop in the field of medicine to end cancer!

<u>Reflection</u>: We need to rationalize water consumption, develop technologies like glass screen robots, develop technology in education, medicine and industries. We need to involve future thinking in education to make children love education.

We need to prosecute anyone who pollutes the environment

We need to do things that benefit humanity

Maryam Mohamed Fathy

<u>MSG</u>: Preserve water and rationalize consumption! Don't waste natural resources! Save the environment and fight pollution!

<u>**Reflection</u>**: We need to rationalize consumption of natural resources, create new technologies that benefit humanity, and fight pollution.</u>

Hader Assam

MSG: Preserve water and do not waste it

<u>Reflection</u>: Preserving water for farming and drinking is important. I am happy that I learned about technology practiced drawing & coloring.

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MSG: Do not neglect the environment!

<u>**Reflection</u>: I learned from my journey about robots, developed my drawing skills and learnt about technologies & inventors from the game of inventors**</u>

Maryam Diaa

MSG: Preserve the world and the environment and teach your children to develop the environment to keep you well!

<u>**Reflection**</u>: Punishment for anyone who harms the environment is a must. The journey got us to know most of the inventors,

Hana Haysam

MSG: Please protect the water and the environment!

Reflections: I learned more from my journey about technology I loved the inventors game I learnt that I need to start using water smartly

Farida Hany

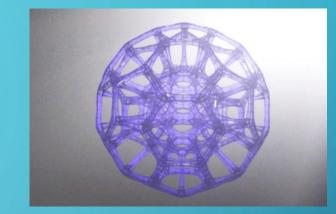
KEY TAKE AWAYS



* The participants' awareness towards resources and their importance increased, especially from the reframing exercise, and their behavioral change tendency in becoming green behavior adopters inc.

*Creating 3D scenarios is recommended for future activities.





- They loved the difference in experience between possible, desired and reframing scenarios and they found that very useful in building their imagination and future thinking.
- Before future thinking, they were very focused on themselves with limited awareness or care about the surroundings or the resources, which completely changed after future thinking.



Those of ages 14-16 excelled more in scenario thinking and writing when it comes to environment, people, food and culture, while those from 11-13 excelled at technology and innovation, with drawing as most enjoyable tool. *Role of technology was really dominating in their imagination and was for them the most interesting and the future solution, hand in hand with green behavior adoption, for which they found laws and awareness as behavioral solution.

Their possible scenarios were all optimistic except for the environmental part, yet technology was perceived to be solution for this negative side in all their scenarios.



Future Thinking and creativity is a must to be included in education since it enhanced the creativity in students and will help them in becoming future inventors and in having a say in creating their desired futures.

Behavioral change can be achieved, especially starting from age 13.





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THANK YOU

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