

On Adaptation Measures to Solve Tel-Aviv's Environmental Problems with "Sunny Rain"

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Abstract: Adaptation measures were proposed using "Sunny Rain" to solve Tel Aviv's environmental problems to cool the air in the city and save humanity from climate catastrophe and fight air pollution; the Yarkon, "Tel Aviv's main river" will no longer be a dirty ditch; the fog from Ben-Gurion Airport was cleaned; neighborhoods, parks, around Tel Aviv were greened and all green spaces were irrigated with "Sunny Rain".

Key words: "Sunny Rain", adaptation measures, environmental problems, the Yarkon.

1. Introduction

In the annual report of analysts at the WEF (World Economic Forum) in Davos, 63% of the experts surveyed cited extreme weather as the main risks for 2024 [1]. At a summit of world governments in Dubai, IMF (International Monetary Fund) Director Kristalina Georgieva said: "Adaptation measures should be an accepted element of all national strategies." Currently, no government agency has a "readiness plan" for adaptation measures.

In this publication, we will review Tel Aviv's environmental problems and adaptive measures to solve them, derived from multifunctional breakthrough inventions [2, 3] and articles [4, 5] that will solve problems (A1)-(A7).

2. Methods and Data

I invented the environmentally friendly artificial rain "Sunny Rain" (SR), which absorbs all greenhouse gases, as well as a device for making "Sunny Rain" condensation nuclei.

(A1) Obtaining water from the cloudless atmosphere in industrial quantities (1.94 million m³/day from a single drone [6]) can irrigate farmland, Arava, Negev

(world problem). "Harvesting crops from former semi-deserts and deserts and eliminating droughts with the resulting water will increase food production."

(A2) Proposed "Sunny Rain" strategy cools the air in cities and saves humanity from climate catastrophe (world problem). "Sunny Rain will destroy greenhouse gases and evaporate the Earth, causing the temperature of the air near the Earth to drop, cooling the air in cities and other areas."

(A3) "Sunny Rain" irrigation will double food production (world problem). CO₂ captured in air is used to increase crop yields.

(A4) "Sunny Rain" can be used to put out fires (world problem).

(A5) "Sunny Rain" can be used to clean the air over cities and air polluting industries.

(A6) "Sunny Rain" can be used to clear the fog in Ben-Gurion Airport.

(A7) "Sunny Rain" directly absorbs CO₂ and can be used to irrigate shrubs and trees on mountain slopes and in semi-deserts, which will result in CO₂ absorption by vegetation.

Thus, governments around the world need to address (A1)-(A7). Thus, the relevance of our proposal

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(A2) of saving humanity from climate catastrophe is increasing!

3. Results

3.1 Combating the Looming Climate Crisis and Temperature Rise Using "Sunny Rain"

Temperature rise and climate crisis are considered the most discussed dangerous environmental problem of mankind. 2023 was the hottest year on record (which caused life in Iran to stop for two days). The organizers of the World Economic Forum in Davos have published a traditional forecast with a list of the main immediate threats (for 2024) and short-term threats to the world economy. In 2024, according to 63% of the survey participants, the main threat will be natural disasters. In the middle of the year El Niño fluctuations in the temperature of the surface layer of water will be the peak in the equatorial part of the Pacific Ocean, which have a noticeable impact on the climate of the planet [1].

Our proposed "Sunny Rain" strategy (A2) cools the air in cities and saves humanity from climate catastrophe (world problem). "Sunny Rain will destroy greenhouse gases and evaporate the Earth, which will lower air temperatures, cooling the air in cities and other areas." SR (Sunny Rain) absorbs all greenhouse gases (CO₂, CH₄) which results in localized cooling of the air. SR vaporizes on the Earth, resulting in even more localized air cooling. If SR works on most of the Earth, it results in saving humanity from climate catastrophe.

3.2 Discussion

The geoengineering project to reduce CO₂ emissions for climate change has failed (an analysis of the project's shortcomings is presented in Ref. [4]). UN (United Nations) Secretary General Guterres said of the geoengineering project to reduce CO₂ emissions: "If we don't take action on climate change now, these extreme weather events will be just the tip of the iceberg. Indeed, the iceberg is melting fast." [4].

3.3 Combating Air Pollution in Tel Aviv with "Sunny Rain"

An investigation by an American publication shows that the quality of the world's air is rapidly deteriorating. In 2015, for example, environmental factors caused 4.2 million deaths worldwide, mostly in East Asia and further south. Millions more people have fallen ill due to poor air quality [7]. According to the U.S. National Weather Service, air pollution-related illnesses cost an estimated \$150 billion dollars and cause more than 100,000 premature deaths in the United States per year. Tel-Aviv has become one of the most polluted cities in the developed world. Air pollution in the Gush Dan neighborhood exceeds that of major Western metropolitan areas such as Moscow, Berlin and the heart of New York City's Manhattan. So, say the authors of an investigative journalism report published in the *New York Times* on Wednesday night, December 4 [7].

The investigation notes levels of only one of the air pollutants: fine particulate matter (PM_{2.5}), which is considered one of the most significant contributors to pollution. The finer the particles, the stronger their ability to penetrate the respiratory tract and lead to serious health problems.

In comparison, PM₁₀ particles only penetrate the upper respiratory tract, while PM_{2.5} particles enter the lungs as well. Tel Aviv measured 166 µg of fine particles per cubic meter, while Manhattan measured only 41 µg. In New Delhi, which recorded 951 µg of particles per 1 cubic meter, the level of air pollution is considered "extreme".

The major causes of air pollution are hamsin, emissions from vehicles, construction work, factories, burning of stubble and fossil fuels, fires, etc.

A proposed air pollution control measure in Tel Aviv is "Sunny Rain", which can be used to clean the air over the city and air polluting industries.

3.4 The Yarkon, "Tel Aviv's Main River", Will No Longer Be a Filthy Ditch when the "Sunny Rain" Falls into It

Currently, the natural flow of the Yarkon River is

blocked and treated sewage is poured into it. In 1997, a bridge over the Yarkon collapsed and three athletes who fell into the river died from infections contracted in its waters, which characterizes the extent of the river's pollution. The Water Authority, in conjunction with the Yarkon River Authority, plans to completely stop discharging treated wastewater and increase the amount of clean water supplied to the river within five years. One of the main problems created by treated wastewater is the disturbance of the oxygen concentration in the river water. It has in some cases decreased to levels that make the water unsuitable for living organisms. The recommendations of all experts are that the river needs natural water and the discharge of treated wastewater should be discontinued [8].

Thus, a large enough inflow of "Sunny Rain" from the largest source of water, the cloudless atmosphere, into the Yarkon River will help clean up Tel Aviv's main river.

3.5 "Sunny Rain" Can Be Used to Clear the Fog in Ben-Gurion Airport

The dense fog that enveloped in many parts of Israel in the morning of April 16 caused disruptions at Ben-Gurion International Airport. This information was confirmed by the Civil Aviation Authority. Thus, the airplane of the airline "El Al", flying LY18 from Miami, circled over the sea for several minutes, but eventually took a course to Eilat, where it landed at Ramon Airport. Turkish Airlines flight TK790 from Istanbul failed to land in Ben Gurion. It landed at Amman Airport (Jordan) [9]. Combating air fog at airports can be accomplished by using "Sunny Rain".

3.6 Greening of Neighborhoods in Parks, around Tel-Aviv and Irrigation of All Greenery with "Sunny Rain"

A commonly known proposed measure to combat air pollution in Tel Aviv is the landscaping of adjacent areas in settlements, in parks, landscaping of adjacent areas in settlements with bushes and trees; in parks; trees and bushes around the city and in the hills around

Tel Aviv. The proposed measure in this regard, however, is the effective irrigation of all greenery with "Sunny Rain", which will not only allow the greenery to survive, but also double the amount of greenery created compared to regular rain (see (A6)).

4. Conclusions

"Sunny Rain" will become a tool for Tel Aviv City Hall to cool, protect and create a beautiful city, and then become a tool for city halls around the world!

"Sunny Rain" is the proposed measure to combat the impending climate crisis and rising temperatures;

"Sunny Rain" is a proposed measure to combat air pollution;

A sufficiently large inflow of "Sunny Rain" from the largest source of water—the cloudless atmosphere—into the Yarkon River will help clean the main river in Tel Aviv;

Greening of neighborhoods in populated areas with shrubs and trees; in parks; trees and shrubs around the city and on hills; and landscaping will be helped by efficient irrigation with "Sunny Rain", which doubles the amount of greenery created compared to regular rain.

Conflict of Interest

We, the authors, declare that there is no conflict of interest regarding the publication of this article.

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