Proposed Solution:-

1. Novelty:-

Desalination of water

Even though more than 70% of the surface of the earth is covered with water, only 0.003% of it is fresh water. In many places of the world, annual rainfall is the only way to replenish the freshwater sources

Rainwater harvesting

Rainwater harvesting has seen significant growth in recent years and this is something everyone should adopt. With rainwater harvesting, homes can store the water they get from rain and then use it when they need it in dry conditions. If a house is a primary water source, rainwater harvesting provides them with an additional option that they can use when water is not available. Rainwater harvesting is a great way to combat drought and is now encouraged among farmers and herders to provide their agriculture with water in times of drought.

Harvesting water from the air

Air as we know it contains many elements and one among its moisture if we could build something efficient to harvest that moisture and condense it, we could harvest water from the air this is what researchers from MIT have done.

Solar pump

Solar pumps are gaining popularity because they do not use up electricity from the mains to pump water for irrigation. Governments around the world are realizing the potential of solar pumps and some have even started granting subsidies for farmers to install them cost-effectively.

Planting more trees

This is might sound like old age advice, but planting tree is the best way to reduce damage from drought, improve the quality of the environment and increase the success of precipitation. Many countries have started their efforts by turning arid lands into forests by planting trees and saplings.

2. FEASIBILITY OF IDEAS

- Climate and weather
- Rainfall and other forms of precipitation.
- Ground Water
- Rainwater Harvesting
- Surface water ‘
- Technology
- Rainfall data collection
- Roof top area, runoff coefficient.

3. BUSINESS MODEL

Rainwater harvesting business plan

Rainwater harvesting is the process of using technology to collect and preserve rainwater so that it might be used in households and for agro and industrial purposes and it is one of the most effective water management and conservation method. There are two processes for storing the rainwater one is via surface runoff harvesting while the other is rooftop rainwater harvesting.

Once the rainwater has been collected, it can be stored in a natural reservoir or, tank or diverted to an artificial recharge system. To be able to start and run this business, you must have basic civil engineering knowledge.

Surface Water Management Utility Business Plan

Surface Water Management (SWM) has completed a new business plan to improve the services we provide while keeping costs down. The purpose of the Utility Business Plan is to:

- Identify which of our services to maintain, expand or reduce
- Ensure that SWM services meet all state and federal legal requirements
- Provide utility rate recommendations to sustainably fund services

SEVERE WEATHER THREATENS BUSINESS

The weather affects consumers' behaviour in terms of what products they buy, where they buy them, and in what quantity. Even if a business knows how normal weather affects its earnings, unexpected abnormal weather events present its risks. Research shows that abnormal weather disrupts the operating and financial performance of 70% of businesses worldwide.

Our research has focused on how businesses can manage weather-related risks, including estimating potential losses and their probability and potentially using financial instruments to hedge against that risk. Drawing upon the UK's retail sectors for empirical evidence, we developed a methodology to assess and hedge the exposure of sales to weather risks. In the process, we found that weather has a greater impact on sales than previously estimated. And, perhaps unsurprisingly, the risks vary considerably between industries. Finally, our estimates suggest that hedging against weather risk could help businesses avoid the very real possibility of weather-related financial distress.

Disclosing climate change risks is not just about reporting on your energy usage and carbon emissions. Climate change is making severe weather more common, and reporting to investors about how climate affects the business will require companies to estimate and report on the risks they face from the weather.

4. Social Impact

Heavy rainfall is one of the most frequent and widespread severe weather hazards to affect India. It is defined as rainfall greater than 100 mm in 24 hours. In India, heavy rainfall is relatively common. Often, a significant amount of precipitation occurs in only a few hours, leading to severe flooding and landslide risk.

Causes of heavy rainfall

Heavy rainfall occurs over India mainly because of the following common weather systems:

- North Tasman Sea lows moving to NZ region
- depression/lows from the south
- cold fronts.

Potential consequences of heavy rainfall

Heavy rainfall can lead to numerous hazards, for example:

- flooding, including risk to human life, damage to buildings and infrastructure, and loss of crops and livestock
- landslides, which can threaten human life, disrupt transport and communications and cause damage to buildings and infrastructure.
- Where heavy rainfall occurs with high winds, a risk to forestry crops is high.

Rainfall affect economy

There is a generally positive relationship between rainfall and economic growth meaning that higher rainfall mostly stimulates economic growth, whereas a reduction in the amount of rainfall hurts economic growth.

Rainfall affects humans

Furthermore, heavy rainfall can also make you hungry; when the sky is overcast or sunlight is blocked, the hormone serotonin decreases, which in turn can increase carbohydrate cravings and make you hungry. For all the complaints about rain, it does have some characteristics that hold broad appeal.

Rainfallaffectst agriculture

Excessive rainfall can affect crop productivity in various ways, including direct physical damage, delayed planting and harvesting, restricted root growth, oxygen deficiency and nutrient loss, the researchers said.

5. Scalability and solutions

- Magnitude and significance of temperature trend.
- Climate change.
- Change in rainfall pattern.