



## MARKETING SCENARIO OF WATER DESALINATION TECHNOLOGY IN INDIA – A CONCEPTUAL STUDY

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### ABSTRACT

Water is one of the world's most inexhaustible assets, covering around 75% of the planet's surface. However, there is an intense deficiency of consumable water in numerous nations, particularly in Indian subcontinent. The explanation behind this evident logical inconsistency is, obviously that ~97.5% of the world's water is salt water in the seas and just 2.5% is new water in ground water, lakes and streams and this provisions generally human and creature needs. Handling the water shortage issue must include better and increasingly financial methods of desalinating seawater. India Desalination Plant Market 2013-2023. India desalination plant showcase is estimate to

reach \$ 1.38 billion by 2023 in India. Development in the market can be ascribed to expanding innovative progressions, rising water shortage and developing urbanization the nation over. This article presents a thorough audit of water desalination frameworks, regardless of whether worked by customary vitality or sustainable power source, to change over saline water into new water.

### INTRODUCTION

Worldwide interest for new water has been expanding at around double the development pace of total populace; such expanded interest, isn't being coordinated by the expanded water

energize. Ocean water desalination is being considered as the key choice to fill the hole. Overall desalination advertises is growing a pace of 10-20% and the present worldwide desalinated water creation is assessed as 66.5 million m<sup>3</sup>/day. The water request is relied upon to twofold inside 4-5 years. The expense of desalinated water is going down significantly and rising as a serious source versus with other regular sources existing because of an expanded expense of extraction, transportation or irregular accessibility. The desalinated water cost has diminished to under 0.5 US\$/m<sup>3</sup> from an expense of around 10 US\$/m<sup>3</sup> during the 1970's. The main considerations that added to the decrease of cost of water are improvement of innovation, use of minimal effort materials, impressive increment in the plant limit, vitality recuperation, and so on. Anyway there is an inversion in patterns as of late because of increment in material, land, work cost and tough ecological guidelines. The decrease in input water quality likewise causes an expansion in pre-treatment costs. Most of the cost estimations of water disregard the negative effect on condition and biology. Certain advances positively affect biology which at last advantages the nearby economy. The current paper examines the marketing strategies adopted for H<sub>2</sub>O Industries' advertising methodology will be to execute and impart its incentive of administration and market division advantage in giving isolated recovery of clients' gum. This will be developed in up and coming segments.

**KEYWORDS:** Water scarcity in India, Water desalination technology in India, Measures and Methods for choosing a site for a desalination plant, list of desalination plants in India and SWOT analysis.

### **OBJECTIVES OF THE STUDY**

- To break down and gauge India desalination plant advertise size.
- To characterize, arrange and gauge India desalination plant based on innovation, end-use area and territorial appropriation.
- To examine the definite market division and conjecture the market size, based on locale by sectioning India desalination plant showcase into four districts, to be specific, North, West, East and South.
- To recognize tailwinds and headwinds for India desalination plant advertise.
- To look at serious advancements, for example, extensions, new item dispatches, flexibly contracts and new approaches in India desalination plant showcase.
- To deliberately profile driving players working in India desalination plant showcase.

## SCOPE OF THE STUDY

- Furnishes individuals with consumable water (clean and crisp drinking water).
- Gives water to the farming business.
- Water quality is protected (not perilous or risky to any living thing).
- Utilizations attempted and-tried innovation (the strategy is demonstrated and successful).
- Helps protect ebb and flow freshwater supplies.
- Boundless sea water as source.
- Free of evolving factors.
- Plants are securely found.
- Help with territory security.

## OVERVIEW OF DESALINATION PROCESS

Different desalination forms have been grown, some of which are right now under innovative work. The most broadly applied and industrially demonstrated innovations can be separated into two sorts: stage change warm procedures and layer forms, and, as appeared in Figure 1 both incorporate various procedures. What's more, there are the elective innovations of freezing and particle trade which are not generally utilized. All are worked by either a regular vitality or sustainable power source to create new water.

## WATER SCARCITY IN INDIA

The water shortage is for the most part man made because of abundance populace development and bungle of water assets. A conventional strategy of water system causes most extreme water misfortune because of dissipation, waste, permeation, water movement, and abundance utilization of groundwater.

- **Reason** - India's water emergency is regularly ascribed to absence of government arranging, expanded corporate privatization, modern and human waste and government debasement. Moreover, water shortage in India is relied upon to exacerbate as the general populace is required to increment to 1.6 billion by year 2050.
- **Impact** - Reduction in economic growth. Unavailability of water for irrigation, leading to poor production and agricultural crisis. Shortage in power supply.
- **Impending position** - Decrease in monetary development. Inaccessibility of water for water system, prompting poor creation and agrarian emergency. Deficiency in power gracefully.

### Water Desalination Technology in India

For the time being, India's certifiable involvement in desalination plants is limited to Chennai. Long periods of water emergencies in Chennai saw the administration set up two desalination plants somewhere in the range of 2010 and 2013. These were at Minjur, around 30 km north of Chennai, in 2010, and Nemmeli, 50 km south of Chennai, in 2013. Each provisions 100 million litres every day (MLD); together they meet minimal under a fourth of the city's water. Currently the third plant is being on the verge of completion and it can produce 150million litres a day.

### Marketing Mix

Desalination Industries' showcasing blend is involved the accompanying ways to deal with evaluating, circulation, publicizing and advancement, and client assistance.

Evaluating: In-accordance with the ends attracted the situating proclamations; H2O Industries can charge a more significant expense for its isolated recovered tar. There is basically no opposition for this item in the Northern California showcase.

Charging \$63 per cubic foot (blended bed), as utilized in the business projections, is in excess of a 65% expansion over the cost for US Filter's mass sap cost for blended bed. H2O Industries is as of now effectively charging in overabundance of \$70 for this item.

It is basic that H2O Industries place an excellent cost predictable with its boss item. Discount costs have been built up to empower the snappy arrangement of a business organize. Vendors are managed a 33% markdown.

**Dispersion:** Wherever Desalination Industries can't financially sell straightforwardly, because of separation or amounts, it will use a system of water administration organizations. These organizations will be painstakingly picked for their nature of administration.

Having the option to offer this administration builds the picture of the neighbourhood water administration organization. It encourages a believing a one-quit shopping. A 33% markdown off the retail cost ought to be satisfactory to fulfil the merchants.

**Publicizing and Promotion:** The primary focal point of advancement will be two dimensional: advancement to Industries end clients, and advancement to wholesalers.

Advancement to wholesalers ought to get essential worry because of the all-encompassing arrive at made conceivable by the distributor coordinate with its current client base.

The business power of these discount wholesalers should be instructed on Industries' situating explanation with the goal that they all comprehend the significant deals points of interest of isolated tar. Having the option to offer DI trade administration to a wholesaler's client list is an incredible favourable position to the merchant, and this reality should be obviously illuminated to them.

**Client support:** The way to deal with client support can be compactly expressed - The client's desires must be surpassed, consistently. The main way the organization can succeed is on the off chance that they guarantee the entirety of the client's needs are being met and the client leaves the exchange with the inclination that they were really valued.

### **MARKETING RESEARCH**

Enterprises performed extensive measures of statistical surveying before the commencement of these strategies. A significant part of the exploration happened at the experimental level where two of the administrators have had broad industry experience.

The proprietors knew when they entered the business that sooner or later they wanted to work their own business as opposed to working for another person. With these thoughts embedded in their psyches, the two of them worked for bigger organizations for a considerable length of time while mentioning objective facts and doing investigate inside the business. This far reaching research carried them to the end that there was an unserved specialty in the market that could be productively abused.

### **MARKETING STRATEGY**

The single target Industries faces are to situate itself as the head specialist organization of convenient deionization gear, rapidly creating market infiltration.

The advertising technique will look to initially make client mindfulness with respect to the items and administrations that Desalination Industries offers, assemble a system of sellers that can help Industries in the appropriation, and fabricate a huge establishment of fulfilled, rehash clients.

The message that Industries will look to convey is that it offers a wide scope of adaptable alternatives for every single distinctive sort of compact filtration units. These adaptable choices will be combined with phenomenal client support.

This message will be conveyed by different techniques. The principal technique will be promotions. The ads will be put in industry diaries, the water sanitization industry, yet industry diaries of the clients. This will help Industries create brand mindfulness.

Another technique for correspondence will be cooperation in public exhibitions. Being a piece of the exchange shows is just about a prerequisite nowadays and Industries will have a huge nearness. The last technique for correspondence will be a meandering deals power whose task it is to set up a business organize.

### **MEASURES and METHOD for choosing a site for a desalination plant**

Desalination plant site choice is extremely imperative for the structure, financing development and activity of desalination plants under an open private association or a Turnkey premise. The site, contained inland and seaward parts,

1. It must be situated in a spot where access and interconnections to the force gracefully matrix, (or autonomous force creation) and to the water flexibly arranges are in fact and financially possible.
2. The territory degree and shape (size and geometry) must be the fitting so the marine admission head structures, the marine pipelines, the inland pit the BN seawater siphoning station, the inland pipelines, the fundamental office structures, the post treatment framework, the item conveyance sub-framework, and the force gracefully framework (IPP or national network substation) are enough obliged and ideally found so respectful, electrical, funnelling interconnections and different works costs are limited.
3. Be appropriately situated in a marine domain where sufficient amount of feed water with a sensible decent, uniform and consistent nature of feed seawater is disconnected at a sensible cost.
4. Be at an area where the salt water, discharge wastewater and different squanders are arranged without ecological antagonistic impacts.
5. Geographically and geologically are reasonable for the development and erection of the different structures at sensible costs.
6. Natural, town arranging and country arranging guidelines, law prerequisites and limitations are met.

7. The desalination plant will have the social acknowledgment of the neighbouring networks and different specialists lastly.
8. The nearby duties are not restrictive and the current foundation will make simpler and less expensive the task usage.

### **Energy Consumption**

Vitality utilization is probably the greatest obstacle desalination faces. In spite of the fact that it's been around for many years, desalination despite everything devours an excess of vitality for the wellbeing of the environment. The measure of vitality devoured from a desalination plant, which supplies water to 300,000, is the equal to one kind sized stream's capacity.

SWRO represents Salt Water Reverse Osmosis — the capacity to transform salt water into freshwater, otherwise called desalination. The high-pressure framework used to desalinate salt water requires a high measure of vitality to do. Billions of gallons of water are constrained through the weight medicines, expending a normal of 10-13 kilowatt hours (kwh) per each thousand gallons.

Specialists think there are better approaches to diminish the impression of desalination plants. One approach to do this is just by making more water, with a similar measure of vitality they're utilizing now. By expanding the layer to graphene, which isolates salt from the water, they can deliver more water without expecting to utilize more vitality.

At last, researchers need to make sense of the most ideal approach to siphon water through the weight treatment frameworks without requiring so much vitality.

### **The Environmental Impact**

Desalination is a quick method to get drinkable water to purchasers; however it majorly affects the earth. Desalination is seen as one of numerous elements adding to environmental change and a worldwide temperature alteration. Territories where new water was once abundant are currently dry and desert-like.

As the worldwide temperature rises, ocean ice liquefies, which causes the ocean levels to rise. The more ozone harming substances are transmitted and the more vitality that is expended, the more terrible a worldwide temperature alteration gets. Ocean levels will keep on rising.



The sea is home to numerous animals, and desalination represents a danger to sea biodiversity and marine environments. Coral reefs require marine creatures to prosper. Be that as it may, as desalination happens, various life forms, microscopic fish and fish hatchlings are vacuumed up in the salt water that goes to the plant.

This is a factor that assumes a job in the passing of coral reefs, and it diminishes the base of the marine evolved way of life. When there's a disturbance to the evolved way of life, the whole biodiversity of the sea is in danger.

### **Israeli Water Desalination Technology in India**

This innovation is known as Gal Mobile, and it is an ocean water cleansing machine at a portable desalination plant. The two world pioneers showed up at a sea shore in Dorr, Israel, on this unique Jeep. Modi is in Israel in the primary ever prime clerical visit from India. They were on their way from Haifa to Tel Aviv, and in the middle of, they went to observe the exhibition. Curiously, this Jeep conveys the entire versatile desalination plant. In the interim, our Prime Minister's Office (PMO) tweeted: "Lady Mobile is an autonomous, incorporated water cleaning vehicle, intended to deliver excellent drinking water." It included, "It tends to be valuable in cataclysmic events like floods, seismic tremors, military use in troublesome landscape and rustic regions to give drinkable water." Meanwhile, India is seeking Israel for participation in water the board and reusing as the nation is prestigious for its skill in these territories. A significant piece of India faces water deficiencies every year, particularly throughout the late spring. PM Modi, in the wake of seeing the new innovation, couldn't hold his amazement.

### **List of Desalination Plants in India**

- VA Tech Wabag Ltd.
- Thermax India Limited
- Ion Exchange India Ltd.
- Doshion Veolia Water Solutions Pvt Ltd
- IDE Technologies India Pvt Ltd.
- SUEZ Water Technologies & Solutions
- Aquatec Systems Asia Pvt. Ltd.
- Hitachi Plant Technologies India Pvt. Ltd
- National Institute of Ocean Technology
- Hyflux Engineering (India) Private Limited



### **Swot Analysis**

The accompanying SWOT investigation catches the key qualities and shortcomings inside the organization and portrays the chances and dangers confronting the business.

#### **Strength**

A solid help based organization culture.

The capacity to meet client's specific needs.

A previously existing client base.

#### **Weakness**

The requirement for huge capital for hardware.

Capital costs required for the improvement of a far reaching seller organize.

Trouble in setting up brand value.

#### **Opportunities**

Support in a developing business sector.

The tremendous enhancement of expected clients, decreasing danger if there is a downturn in a particular industry.

Working efficiencies that are achievable as the business develops.

#### **Threats**

Changes in innovation that could impact organizations that are intensely put resources into current innovation.

Future/possible rivalry from a huge organization that chooses to adopt a progressively adaptable strategy to addressing client's needs.

Changes in the administrative condition (fundamentally appropriate to the higher immaculateness items).

### **LIMITATION OF THE STUDY**

- Waste disposal from the desalination plant in form of chemicals are dumped which is one of the major environmental concern.
- Brackish water is the side result of desalination. While the cleansed water proceeds to be prepared and placed into human use, the water that is left finished, which has a super immersion of salt, must be discarded. Most desalination plants siphon this brackish water over into the sea, which presents another ecological disadvantage.

- The organisms most commonly affected by brine and chemical discharge from desalination plants and plankton and phytoplankton, which form the base of all marine life by forming the base of the food chain.
- Desalination is anything but a consummated innovation, and desalinated water can be unsafe to human wellbeing too. Side-effects of the synthetic substances utilized in desalination can traverse into the "unadulterated" water and imperil the individuals who drink it. Desalinated water can likewise be acidic to the two funnels and stomach related frameworks.
- During a time where vitality is getting progressively valuable, desalination plants have the drawback of requiring a lot of intensity. Other water treatment innovations are more vitality productive.

## **CONCLUSION**

As the total populace in India keeps on developing, existing water supplies will turn out to be progressively deficient. As increasingly more water is required to address humankind's issues, desalination of ocean water will turn into an inexorably significant wellspring of useable water. Any extensive Marketing arrangement tending to humankind's vitality utilization or ecologic effect must record for the impact of desalination; capable advancement expects consideration regarding the most vitality proficient strategies for distributing fresh water. Aggregate innovative work programs and marketing strategies including all the partners—governments, enterprises, colleges and exploration foundations—are required to improve and create seawater desalination advancements to make them reasonable around the world, and particularly in nations lacking ordinary types of vitality and enduring of water. As needs be, different water desalination marketing frameworks require broad examination and investigation for assessing their possibilities of advancement, applications and execution.

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