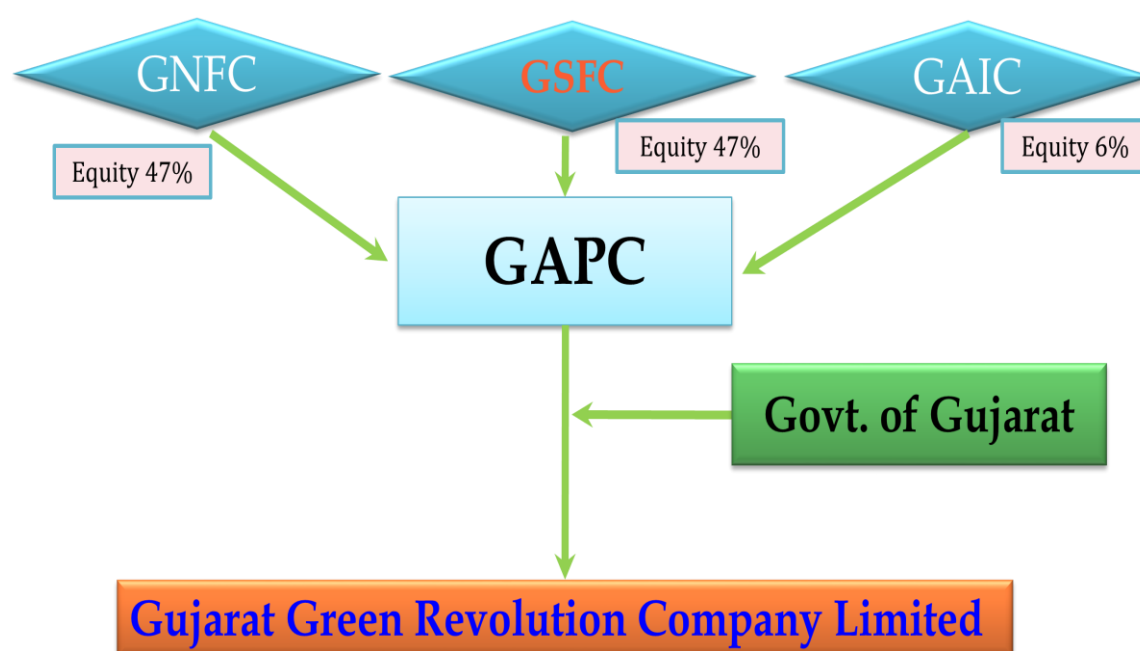


# Gujarat Green Revolution Company Ltd.

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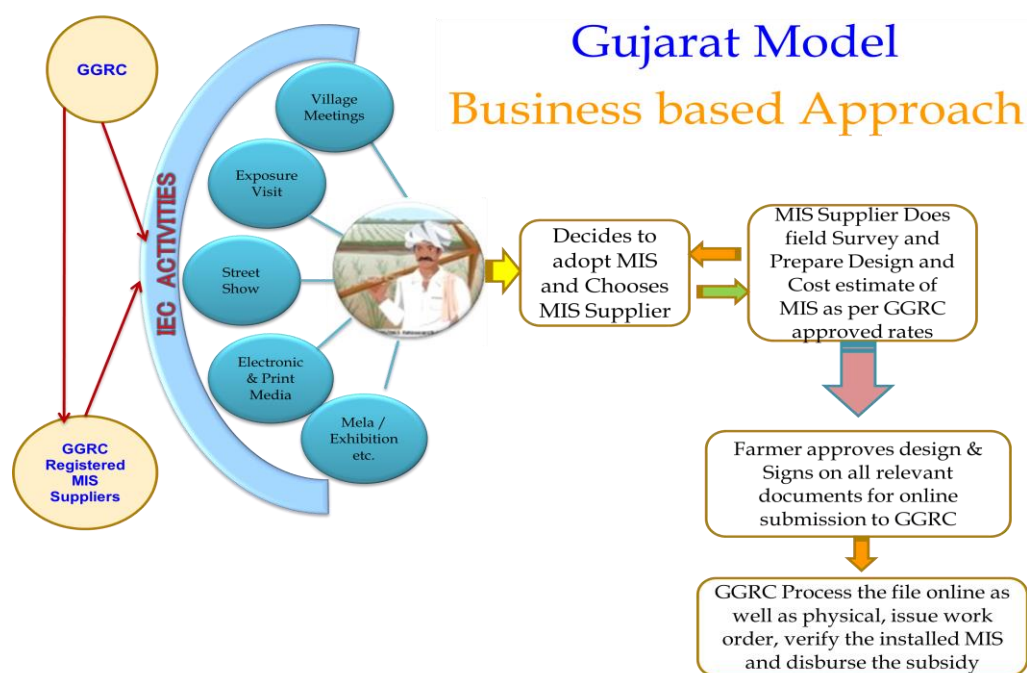
## Implementation of Per Drop More Crop (Micro Irrigation) in Gujarat

The Government of Gujarat in 2005 had taken a policy initiative for implementing the Micro Irrigation Scheme through the Gujarat Green Revolution Company Limited (a Special Purpose Vehicle (SPV) promoted by Gujarat State Fertilizers & Chemicals Limited, Gujarat Narmada Valley Fertilizers Company Limited and Gujarat Agro Industries Corporation Limited) which operates the Scheme as per the provisions set out in the unique Government Resolution no. PRCH-102006-497-N issued by Narmada, Water Resources, Water Supply & Kalpasar Department dated 09/05/2005 read with the subsequent Government Resolutions issued. Within this framework, the Scheme is being implemented in an integrated manner with uniform financial norms of assistance, while adhering to the Operational Guidelines of Per Drop More Crop (Micro Irrigation), a Centrally Sponsored Scheme. The dovetailing of the Central assistance with State resources has facilitated a higher coverage of beneficiary farmers adopting this technology.



### Formulation of GGRC

GGRC operates the Scheme with a distinct philosophy, wherein the farmer is treated as a customer and not as a beneficiary and the subsidy provided to the farmer, is considered as an investment on the part of the Government. The modality of implementation of the Scheme by GGRC is based on corporate systems and processes.



### Model for implementation of Micro Irrigation Scheme through GGRC

The Micro Irrigation Scheme in Gujarat is being implemented with financial norms as cited below:

Sr. No.	Category of Farmer	Non Dark Zone area	Dark Zone area for 57 talukas
1	General Farmer: (Land holders of 2 ha. and more)	Up to 70% of MIS Unit Cost or Rs. 70,000/- per hectares, whichever is less	
2	General Farmer: Small and Marginal farmer (Landholders of less than 2 ha.)	Up to 70% of MIS Unit Cost or Rs. 80,000/- per hectares, whichever is less	Up to 80% of MIS Unit Cost or Rs. 80,000/- per hectares, whichever is less
3	SC/ST Farmers	Up to 85% of MIS Unit Cost or Rs. 1,00,000/- per hectares, whichever is less	Up to 90% of MIS Unit Cost or Rs. 1,00,000/- per hectares, whichever is less

The unique feature of the Scheme is its flexibility, wherein the farmer has the discretion to choose the extent of area to be covered under the micro irrigation technology, kind of Micro Irrigation System to be installed, viz a system design compatible with his cropping pattern and also the MIS Supplier who would install the system on his farm. All Micro Irrigation components of the System are uniformly priced under the Scheme, which ensures that the MIS Suppliers adhere to uniform quality standards and System costs.

The Scheme is being implemented with assistance of registered MIS Suppliers appointed by GGRC. At present there are **52 MIS Suppliers** who take biometrics data viz., applicant photograph, digital signature and left/right hand thumb impression of the applicant and register the application, undertake Geo Positioning System (GPS) based survey of the field and prepare design, supply and install the MI Systems on the farmers' field. After installing the System, the MIS Supplier(s) are responsible for rendering maintenance services for a period of five years. A provision has been made under the Scheme for insuring the Micro Irrigation System as well as the farmer for a period of one year. To ensure strict adherence to quality standards in the use of MIS Components, GGRC has made it mandatory for MIS suppliers to use only those

components which conform to BI Standards. Third party inspections are conducted periodically by technical agencies such as Central Institute of Plastics Engineering and Technology (CIPET), and Gujarat Industrial Research and Development Agency (GIRDA) at the factory site of the MIS Supplier(s). Furthermore, GGRC has also put in place a regimen of third party inspections, wherein Third Party Inspection Agencies (TPIAs) have been appointed to conduct inspections of every farmers system to verify that Micro Irrigation System installed is as per the quotation and is operational. TPIA Inspectors are equipped with android based QR Coded “GREMAPP” which enables the Inspection Agency to capture and upload photographs of the MIS installation, at site, along with GPS coordinates, on a tablet for subsequent monitoring of the site on Google map.

High level of transparency is *a forte* of the Scheme. To achieve the status, GGRC has established systems and developed processes in a corporate mode for processing MIS applications with the use of state-of-art information technology. The applications are processed centrally through a dedicated software which is web-based and user friendly. A state-of-art IT infrastructure has been put in place for implementation of the Micro Irrigation Scheme with an in house data centre.

To generate awareness amongst the farmers regarding the concept of Micro Irrigation, GGRC along with the MIS Suppliers regularly conducts promotional campaigns and participates in agriculture fairs and exhibitions to educate the farmer on the benefits of the Scheme to facilitate adoption of the technology. Furthermore, GGRC gives due weightage to capacity building, wherein the farmers are trained on a regular basis on MIS Installation and Maintenance. Toll free telephonic inquiry / advisory services have also been made available for the public, as an additional facility. GGRC has also set up a Grievance Redressal Cell to entertain and expeditiously redress the grievances of the farmers.

#### **Achievement:**

At the stage of inception of scheme implementation, the prime focus was continuous extension and promotional activities regarding Micro Irrigation scheme and technology using audio visual media as well as farmers meeting/sibir coupled with farmer education and training. The farming community simply believes in “seeing is believing” and considering that, along with village level awareness meeting, live demonstrations were arranged. In the first year (2005-06) of implementation by GGRC, there were just 7217 farmers took benefit covering 15892 hectares under Micro Irrigation. The total coverage from 2005 to 2022 is **20,77,363 hectares** of agriculture land benefitting **13,09,349 farmers** with an annual average achievement of approximately 1.22 lakh hectares / year.

GGRC has put in place an elaborated monitoring and evaluation system for the Micro Irrigation Scheme. At regular interval, the socio economic evaluation of the scheme is being carried out by various organizations Centre for Innovation Incubation and Entrepreneurship (CIIE) - Indian Institute of Management (IIM), Ahmedabad, Agricultural Finance Corporation (AFC) India Ltd., State Agricultural Universities, NGOs.

Socio-economic impact survey of farmers who had adopted the Micro Irrigation system during the year 2012-13 has been carried out by IIM, Ahmedabad in the year 2016-17.

In the year 2012-13, nearly 1.8 Lakh hectares area has been covered under MIS and it has been found that 385 million cubic meter of water saved due to the adoption of Micro Irrigation Systems and this water can irrigate an additional area of nearly 96,000 hectares under MIS.

Moreover, it has been observed that crop productivity was increased by 20-38% which resulted about 1.55 lakh tons of additional crop production. Crop wise mean estimated productivity is as below:

<b>Sr no.</b>	<b>Crops</b>	<b>Estimated mean increase (T/Ha)</b>
1	Banana	15
2	Castor	0.25
3	Cotton	0.46
4	Potato	6
5	Sugarcane	13
6	Vegetables	5
7	Orchard	1.6
8	Groundnut (S)	0.32
9	Groundnut (MS)	0.44
10	Wheat	0.3

On the basis of findings of studies, following benefits are reported due to adoption of Micro Irrigation by the farmers under the scheme.

<b>Sr no</b>	<b>Parameters</b>	<b>Savings</b>
1	Water saving	385 million cu-mt
2	Additional crop production	1.55 Lakh tons
3	Urea saving	11261 tons
4	Pesticides usage	26 % reduction in usage
5	Energy saving	381 Lakh kWhr
6	Labour saving	30-35%
7	Additional income due to increased production	240 crore
8	Monetary benefits due to water saving	297 crores

Between farmer and government, the estimated savings has been observed to be Rs 280 crores as against Rs 330 crores for the government. The estimated total savings has been observed to be Rs 610 crores.

In addition to above mentioned reported benefits, Micro Irrigation technology also offers advantages of irrigating undulating land, prevent soil erosion, reduce incidents of crop diseases and pest, uniform distribution of water in the crop root zone and improvement in quality of crop produce.