

# GGRC- Achieving prosperity through smart agriculture

The need for water conservation and its efficient use in agriculture is the need of the hour. Micro Irrigation is the way forward



THE efficient utilisation of available water resources is crucial for a country like India, which shares 17% of the global population with only 2.4% of land and 4% of the water resources. The per capita water availability, in terms of average utilizable water resources in the country, which was 6008 m<sup>3</sup> in 1947 and presently 1250 m<sup>3</sup> is expected to dwindle down to 760 m<sup>3</sup> by 2050. All these emphasized the need for water conservation and improvement in water –use-efficiency. Large Scale adoption of micro irrigation in Indian agriculture is one of the answers to this problem.

## WATER USAGE IN DIFFERENT SECTORS:

The world uses about 70 percent of fresh water for Irrigation, 22 percent for industry and nearly 8 percent for domestic use.

(Source: World Water Assessment Programme (WWAP) UNESCO)

## WATER SCENARIO IN THE STATE OF GUJARAT:

In Gujarat, Agricultural sector consumes nearly 85 percent of available water. 80 percent of Irrigated land area is through ground water and 20 percent through surface water. In Gujarat, net cultivated area is 9.795 Million hectare, out of which 3.387 Million Hectares is the net cultivated area.

Gujarat comes close to water stressed condition and to mitigate the situation the Government of Gujarat took a new initiative by establishing a special purpose vehicle called GGRC to implement Micro Irrigation Scheme throughout the state in a uniform mode.

## GUJARAT MODEL TO IMPLEMENT MI SCHEME:

A unique GR was issued by the GoG in 2005 different from other states, wherein any farmer can go for Any Area/Any Crop/Any Type of Micro Irrigation System/Choice of MIS Supplier.

Other features: Electricity connection on overriding priority and no subsidy ceiling limit for area under MI Scheme.

## TYPES OF APPROVED MI SYSTEM:

Rain Gun  
Sprinkler irrigation  
Porous Pipe  
Drip irrigation

## ACHIEVEMENT UNDER MICRO IRRIGATION SCHEME:

Before establishment of GGRC the achievement under MI Scheme was 2.26 lakh hectares with approximately 1.41 lakh beneficiary farmers (from 1991 to 2005), with average annual achieve-



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ment of 15,000 ha/year.

Over a period of 10 years, after establishment GGRC, the achievement under MI Scheme is 11,05,921 hectares with 6,85,714 beneficiary farmers (from May-2005 to March-2015) with average annual achievement 1.10 lakh ha/year. Potato, banana, Mango, Papaya, lemon

## LARGE-SCALE ADOPTION OF MICRO IRRIGATION IN INDIAN AGRICULTURE WILL HELP IN THE CONSERVATION OF WATER RESOURCES

are the major Horticulture crops covered under MIS while, Ground nut, Cotton, Sugarcane, Castor and Wheat are the major agricultural crops covered under the scheme.

## NEW INITIATIVES BY GGRC:

4.2.1 Promotion and sales of Water Soluble Fertilizers

4.2.2 GGRC has tied up with GSFC to make Water Soluble Fertilizers (WSF) available to MIS beneficiary farmers from GSFC depot/warehouse so as to enhance the fertiliser use efficiency coupled with reduction in fertiliser cost.

4.2.3 Till date, a total of 175 MT WSF has been provided to the farmers.

4.2.4 Implementation of Protected Cultivation (Green House Structures)

4.2.5 With a vision to generate daily income for the small and marginal farmers of the State, the Government of Gujarat entrusted GGRC to implement Protected Cultivation and issued a GR dated 08/08/2014.

4.2.6 Solar Pump for Irrigation

4.2.8 To go for further steps in adopting Climate-Smart Agriculture which seeks to increase

productivity in an environmentally and socially sustainable way, strengthen agriculture resilience to climate change, and reduce agriculture's contribution to climate change by reducing greenhouse gas emissions and increasing carbon storage on farmland, the integration of Micro Irrigation especially drip irrigation

with solar pumping system is technological solution available today.

4.2.9 This concept of providing eco-friendly source of energy - solar pumping system for lifting irrigation water can be implemented in integration with the Micro Irrigation Scheme and Protected Cultivation Scheme. Use of solar pumping system will replace energy source like electricity generated through conventional sources and diesel engines.

4.2.10 Promotion of Sardar Package

4.2.11 A package combining all the above components.

4.2.12 Micro Irrigation System - wa-

ter, energy, labour, fertiliser saving technology coupled with the increase in the yield.

4.2.13 Solar Pump - Eco-friendly system to lift water through pump for agriculture irrigation.

4.2.14 Protected Cultivation Structure - to further save water, energy, labour coupled with high quality of produce with increase in yield.

4.2.15 Water Soluble Fertilizers - for precise use of fertilizers by the way of application through Drip Irrigation System to enhance fertiliser use efficiency.

4.2.16 Biofertilizers - to facilitate organic farming by using bio-fertilizers.

4.2.17 Biofertilizers will be made available to the farmers in a package so as to save time of farmers in getting all the benefits at one place as well as to save time for the agencies to implement the Schemes.

4.2.18 GGRC IT Consultancy Services GGRC has implemented successfully their in-house developed IT Business Module (C-MIMS) popularly known as Gujarat Model for Micro Irrigation Scheme. Based on this, GGRC has started providing Customised Enterprise Resource Package (ERP) for Water Management and Agro Business or any business based project or Scheme in Government or Private Sector. Looking at the wider acceptability of the Module followed by GGRC.

Govt. of India, Ministry of Agriculture, contacted GGRC to develop a monitoring system for its ongoing On Farm Water Management Scheme under NMSA.

Sardar Sarovar Narmada Nigam Limited, Gandhinagar appointed GGRC as a consultant to advise them on adopting GGRC module in their Under Ground Pipeline Sub-minor Scheme on a large scale.

Govt. of Karnataka, Dept. of Horticulture has appointed GGRC as consultant to develop Scheme implementation module.

# Recycling will help the environment

YOU must be aware of notorious propaganda by certain NGOs and some of international media to project Ship Recycling as a highly polluting industry.

Contrary to popular belief, the fact is that the Ship Recycling industry is actually a green and eco-friendly industry, which involves all 4R principle required for protection of environment. The industry extensively does 1) Recycling, 2) Re-use, 3) Reduce & 4) Recover, and that makes it extremely environment friendly industry.

Recycling often occurs at small scale and has failed to be useful at a large level. Understanding the impact of recycling is essential on a large scale which if done effectively can bring in positive results, beneficial to human beings and environment as well.

Ship Recycling Industry every year reintroduces 3 million tones of steel without utilising non-renewable natural resources like, iron ore, coal etc., in comparison to steel produced by integrated steel plants.

The Industry recycles more than half of all ships salvaged around the world - in a precious recourse of very Economic Raw material for many industries in India which largely contributes to the Indian Growth engine.

Recycling of industrial products helps to cut down pollution levels considerably, as these materials are reused, instead of throwing them away recklessly.

Along Ship Recycling Industry is rapidly improving the Recycling Methods by adopting International Standards and making it more and more perfect for protection of Environment and Workers safety.

With the growth of Ship Recycling activities, the awareness towards maritime environment has increased, and the concept of Green Ship Recycling has become a main stay.

There are several reasons that have made

the concept of green ship recycling famous, such as:

● To identify & isolate hazardous waste of the ship which are harmful and dangerous to both environment and human lives.

● To conserve marine ecosystem by proper handling & disposal of hazardous & non-hazardous wastes obtained by ship recycling.

● Recycling parts of the ship that are important and can be successfully used as raw material for other purposes

Along Ship Recycling Industry is working hard in all the areas, to provide the Best Environment, Health and Safety (EHS) standard. This industry is bounded by many regulations pertaining to Environment, Health and Safety (EHS). It also takes due care of workers safety/health and takes care of their welfare. And strict observance of this regulation is monitored by the National Legislations by the respective Government.

At Alang, which is the World's biggest ship recycling yard, the following agencies are involved in clearances upon the arrival of a vessel:

1. Gujarat Maritime Board
2. Gujarat Pollution Control Board
3. Explosives Department (for tankers only)
4. Customs
5. Atomic Energy and Research Board.

These agencies take due care and do not allow any instance which may harm the Environment or human life. Industry is adopting upgraded facilities and improvising in all areas of EHS to make available superlative culture for protection of Environment and work force safety.

Ship Recycling Industries Association (SRIA) promotes "Green Recycling at Alang". So in accordance with this, industry follows the phrase: "GREEN ALANG- CLEAN ALANG-SAFE ALANG"

# Consume with care

Many of the Earth's ecosystems are nearing critical tipping points of depletion or irreversible change. By 2050, if current consumption and production patterns remain the same and with a rising population expected to reach 9.6 billion, we will need three planets to sustain our ways of living and consumption. Achim Steiner, UN Under-Secretary General and UNEP Executive Director, writes that each day, almost 900 million people go hungry, though the world produces enough food to ensure everybody could have enough to eat. But one-third of the food produced is thrown away. Food waste and loss is an astonishing 1.3 billion tonnes per year.

Foodwaste costs roughly \$680 billion in industrialised

countries and \$310 billion in developing countries. About 10% of developed countries' greenhouse gas emissions come from growing food that is never eaten. As much as 1.4 billion hectares of land is used to produce the total amount of food that is lost and wasted.

There are many solutions to tackle the problem. Infrastructure and technology can reduce the amount of food that perishes before it reaches the market. Developed nations can rationalise sell-by dates and other labelling systems. Businesses can revise their criteria for rejecting produce. Consumers can minimise waste by buying only what they need and re-using left-over food.

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