

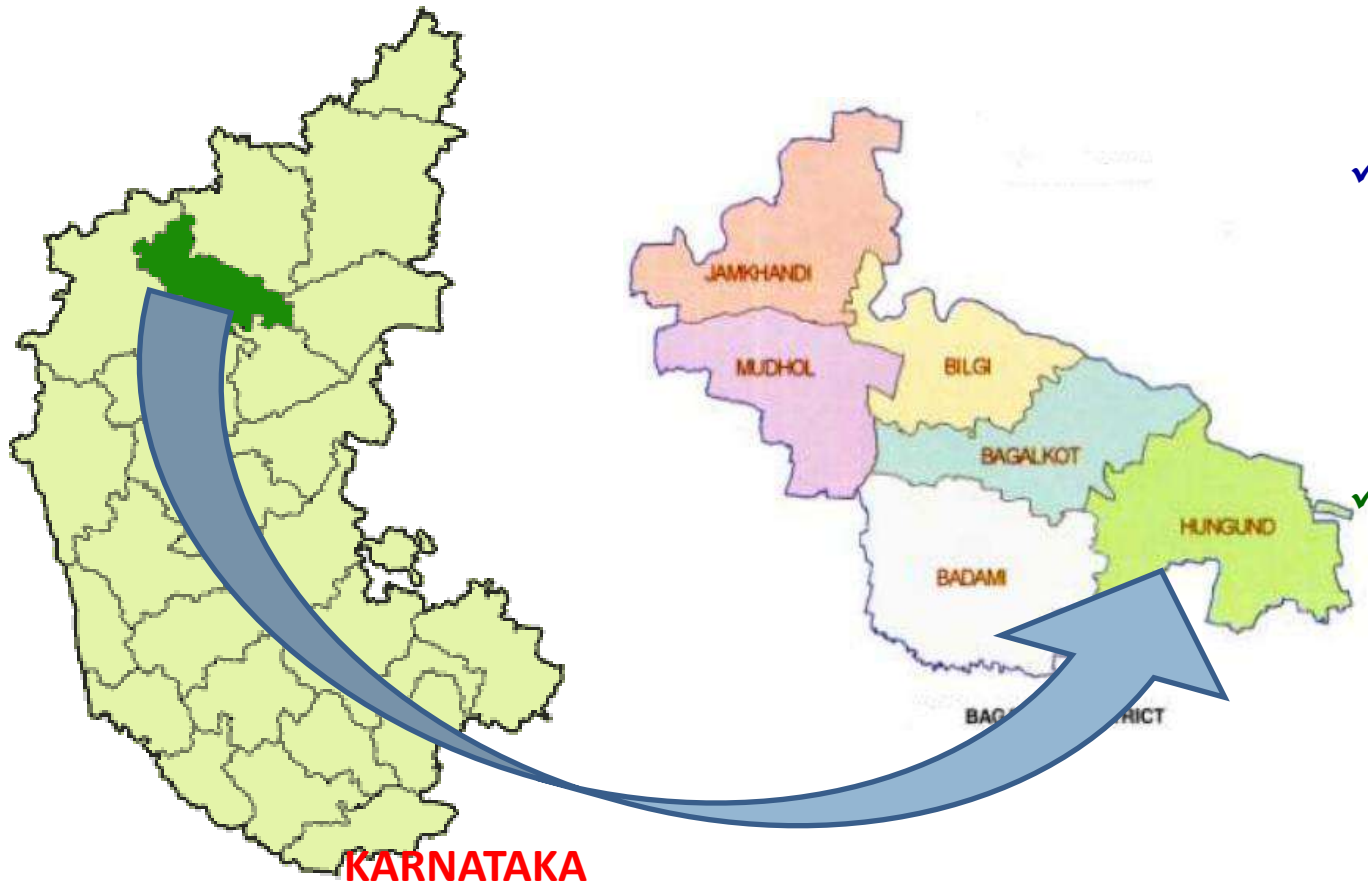
RAMTHAL (MAROL) COMMUNITY DRIP IRRIGATION PROJECT FOR 24,000 Ha. OF COMMAND IN HUNGUND TALUK OF BAGALKOT DISTRICT, KARNATAKA



A STEP TOWARDS ADVANCED AGRICULTURE IN COMMUNITY IRRIGATION PROJECTS

RAMTHAL(MAROL) LIS AT HUNGUND TQ. BAGALKOT DISTRICT

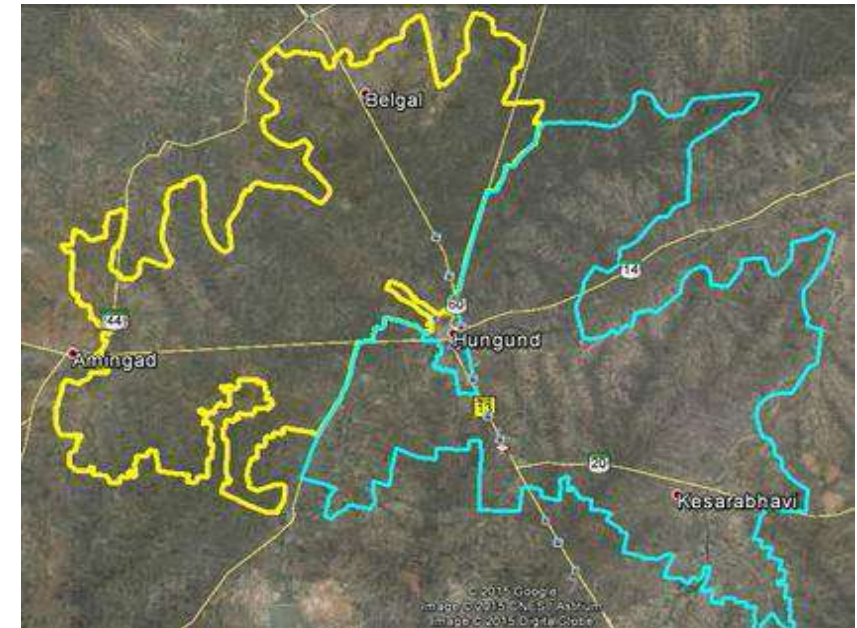
- ❖ KBJNL GOK is implementing Drip Irrigation under 2nd Stage of Ramthal (Marol) LIS Project for 24,000 Ha. of Command Area in Hungund Taluk of Bagalkot District.
- ❖ The Project is completed and Trail commissioning made.

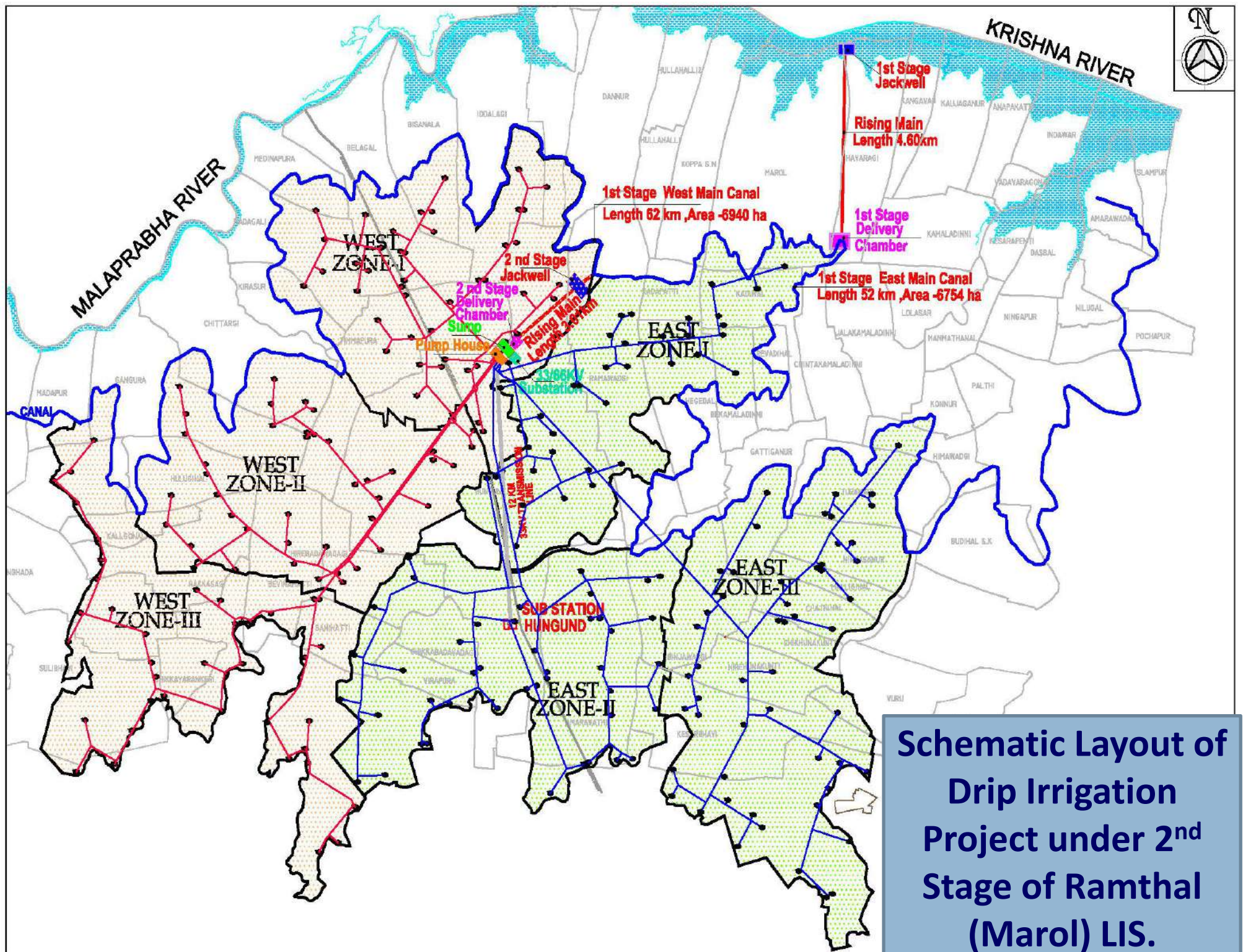


- ✓ This is the one of the largest of its kind Drip Irrigation Project in the World.
- ✓ KBJNL is also considering developing downstream linkage with Agri-processing firms for better price realisation for farmers.
- ✓ Implementation of this project will result in economical use of water, increase in irrigation potential and yield, and all these benefits will together contribute to improving the economic status of farmers in the region.

UNIQUENESS OF PROJECT

- ❖ Its mega **Community Drip Irrigation Project**
- ❖ Total beneficiaries = 15,000 plus farmers
- ❖ Total infrastructure cost is by Govt.
- ❖ System operation is through wireless automation
- ❖ O&M of the system for first 5 years is our responsibility
- ❖ Formation of WUA & Marketing Linkages
- ❖ Irrigation is only for partial command area – 80% during Kharif Season & 50% during Rabi season





Schematic Layout of Drip Irrigation Project under 2nd Stage of Ramthal (Marol) LIS.

MIS SOLUTION FOR CANAL COMMAND AREAS

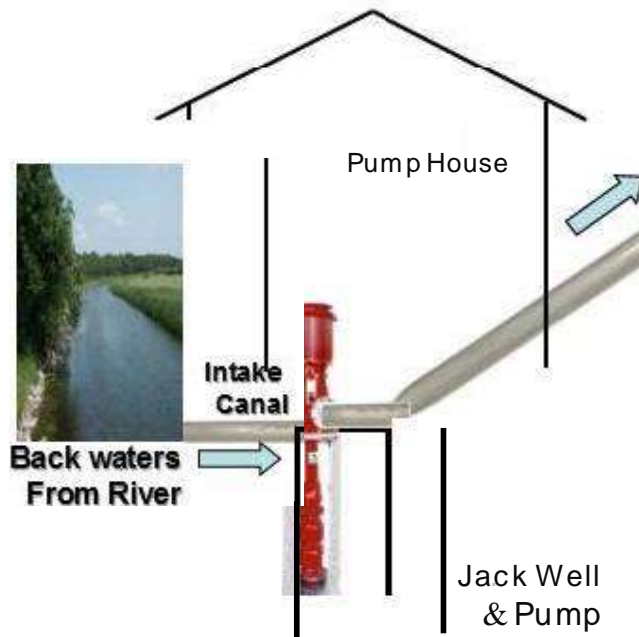
Drip Irrigation System



Adoption of drip from DC's or canal system enables efficient use of precious water and improved yield & quality of farm produce. Also due to water savings the irrigation area can be doubled.



MDC



Ensuring Equitable Distribution of Water with Efficiency

DRIP IRRIGATION OFFERS SEVERAL ADVANTAGES

ENHANCED YIELDS, QUALITY AND UNIFORMITY

- Lowers dependence on weather, enabling greater control over yields & peace of mind.

SIGNIFICANTLY HIGHER YIELDS

- Irrigation uses resources more effectively, leading to higher overall yield production.

INCREASES PROFITABILITY

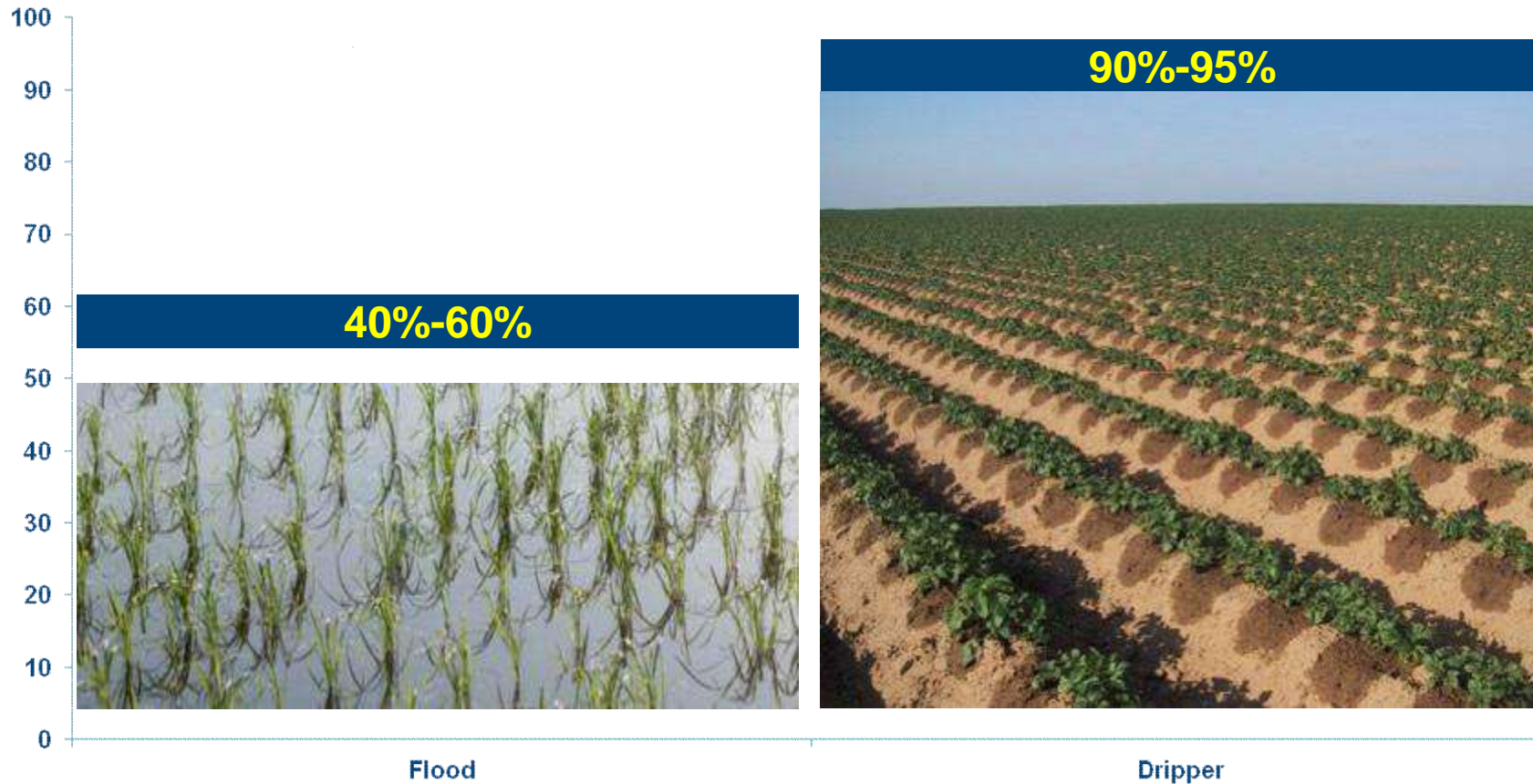
- Increasing profits with enhanced crop planning, irrigation scheduling, while reducing input and manpower costs.

SIGNIFICANT RESOURCE SAVINGS

- Drip uses 30%-50% less water and up to 30% less nutrients.

DRIP IS THE MOST EFFICIENT IRRIGATION METHOD THAT INCREASES YIELDS, BY USING LESS WATER, NUTRIENTS AND ENERGY

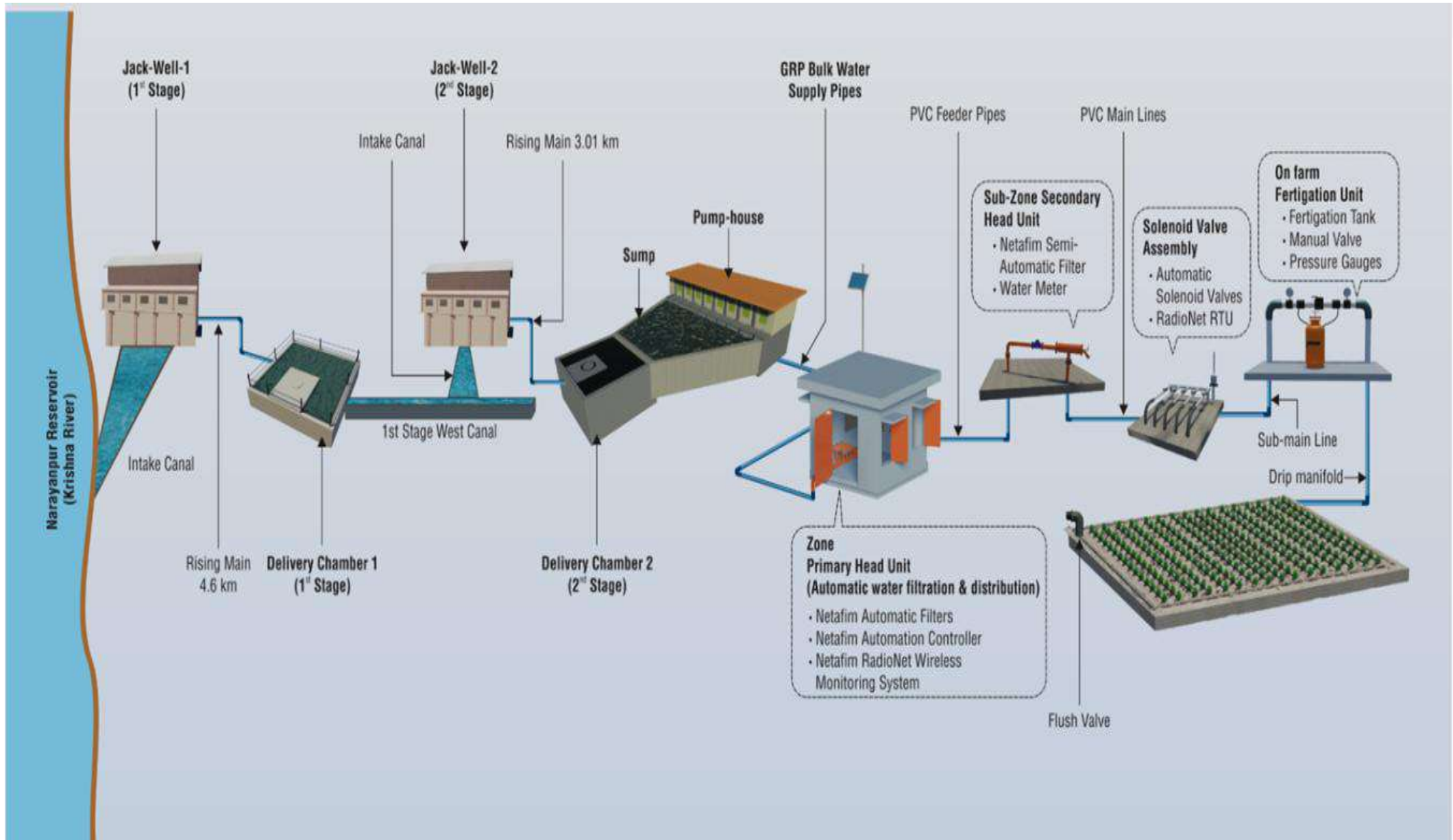
Efficiency



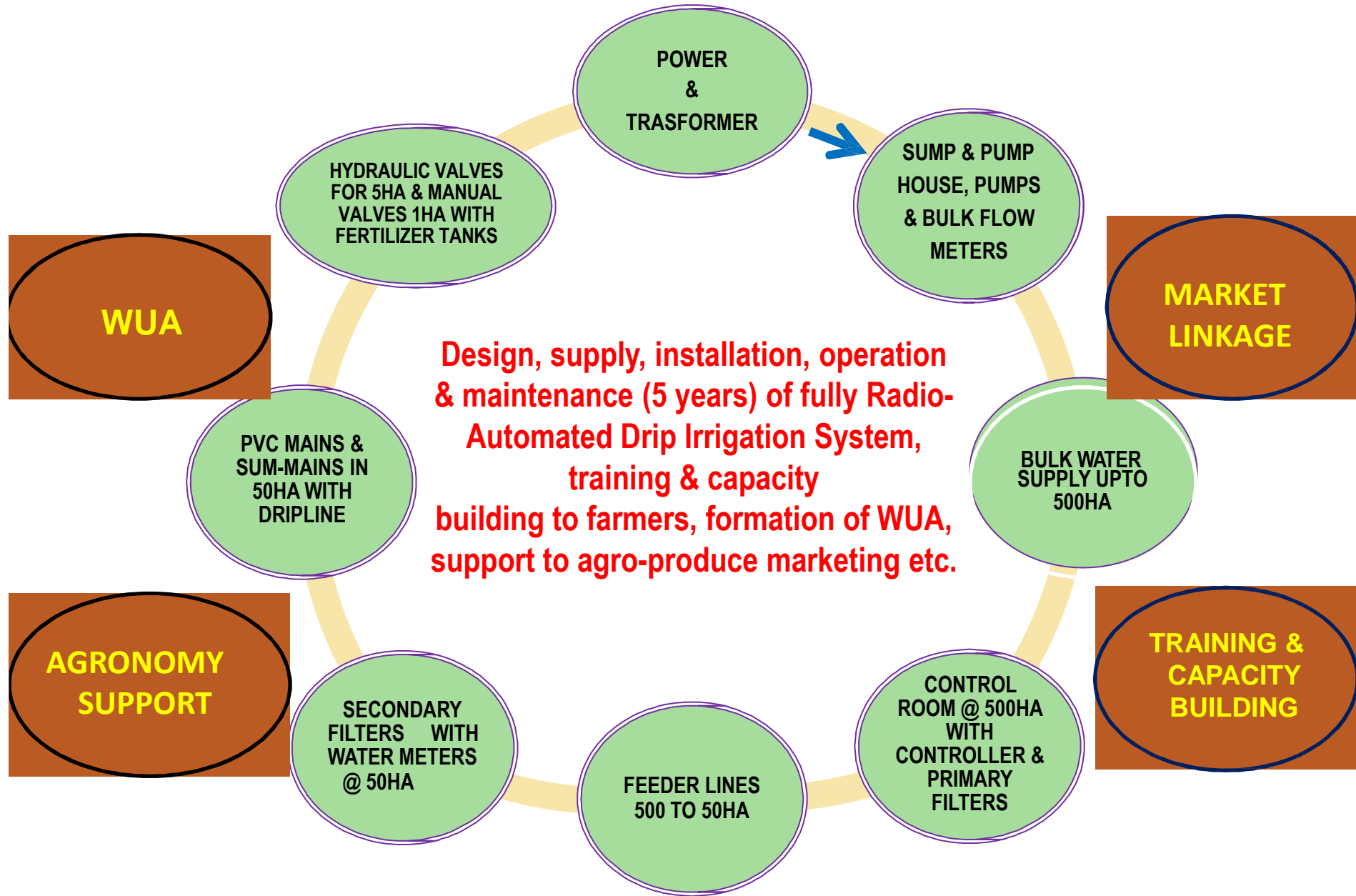
Irrigation Methods

Efficiency is defined as the maximum output per unit of area and input.

PROJECT LAYOUT



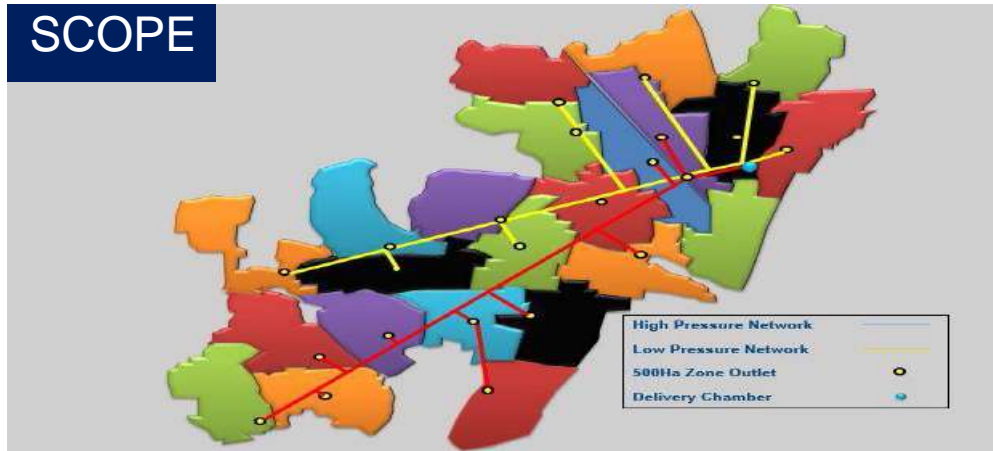
DETAILED PROJECT SCOPE



PROJECT SCOPE

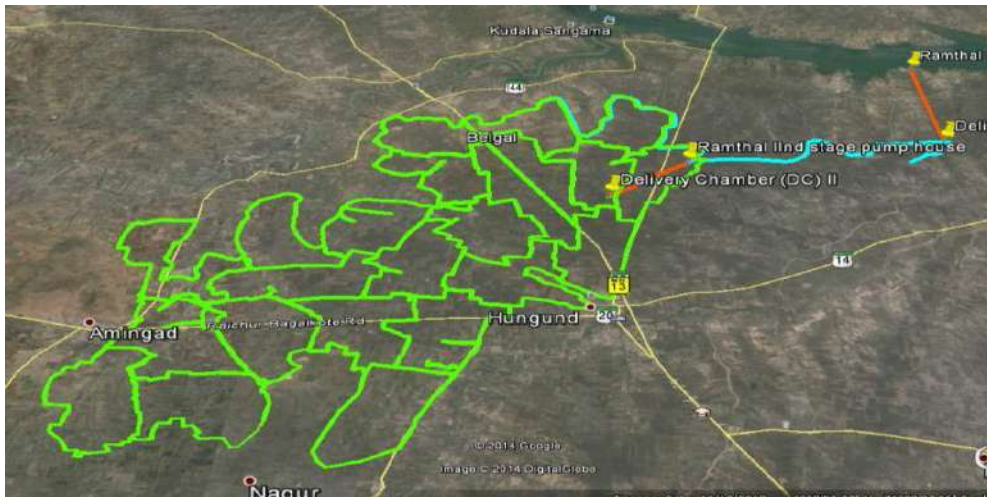
It's a fully automated project, scope includes design to O&M and marketing support

SCOPE



“Scope of project includes the design, supply, installation of electromechanical system, civil infrastructure, fully wireless

DECENTRALISED ZONES



The total project area is divided into 23 zones of an average area of about 500 Ha.

CROPS



For the judicious use of proposed irrigation infrastructure, KBJNL has approved high commercial crops like Baby corn, Soybean,

WIRELESS AUTOMATION

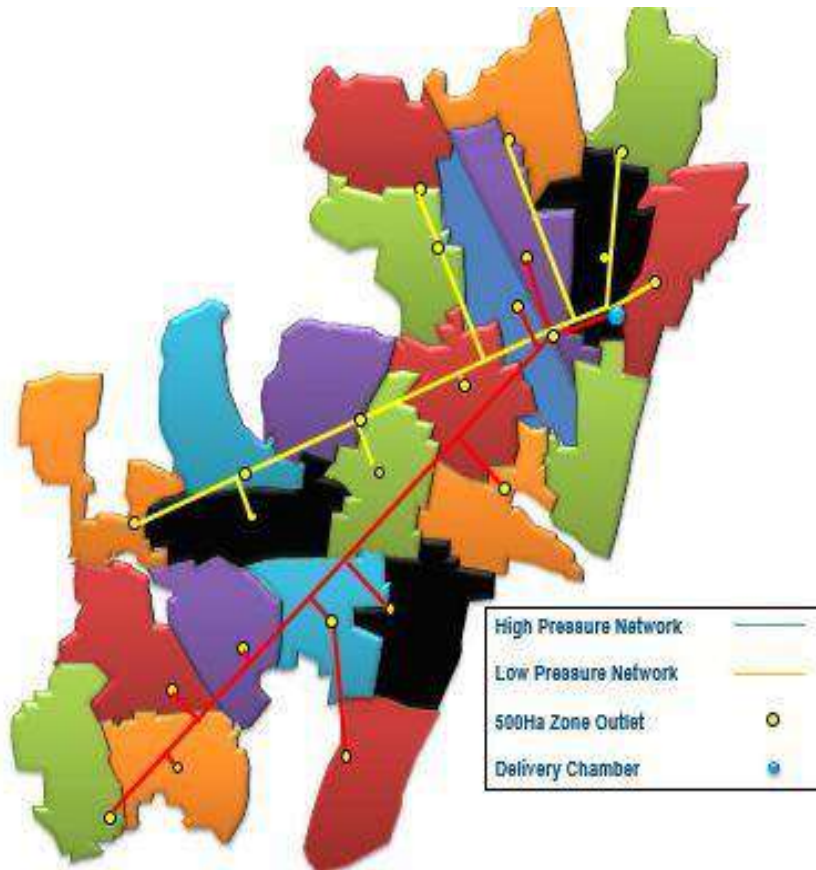


Entire system will be operated from single point with centralised pumping system. Also the operation of entire project is planned with the wireless automation.

OPERATING MODEL

It's a fully automated project, subdivided into BWS, Zones and Sub-zones

Bulk Water Supply – East Side -11,700 Ha



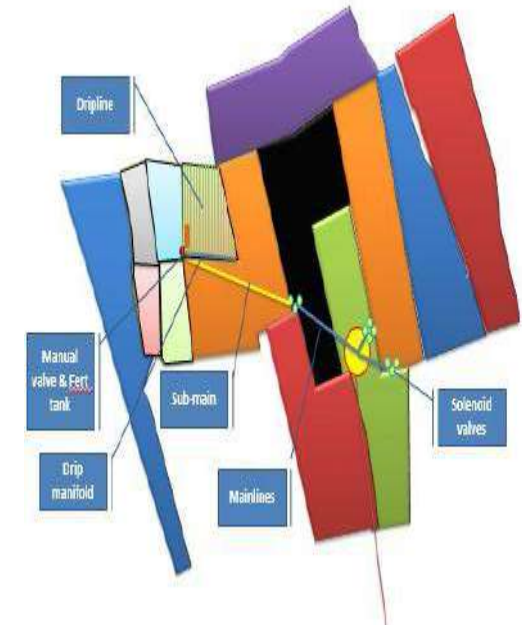
500 Ha Zone



Zone Control Room –

- Automatic filters
- Inlet & outlet manifold
- Butterfly valves
- Air release valves
- Pressure relief valves
- Pressure gauges
- Irrigation controller
- Automation antenna & RTU
- Solar panel

50 Ha Sub-Zone



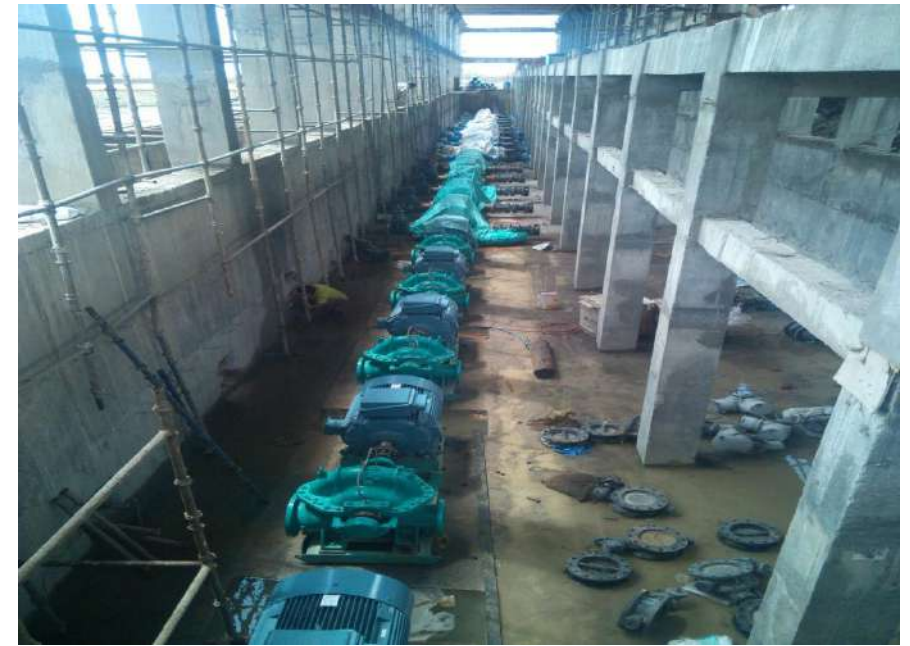
Sub-zone Control Room –

- Semi-automatic filters
- Inlet & outlet manifold
- Butterfly valves
- Air release valves
- Water meter
- Pressure gauge
- Automation antenna & RTU
- Automation antenna

Bulk Water Supply Installation Photos



Sump, Pump House, Sub-Station and Manifold Installation



Zone Control Room, PHCU, SHCU & SV Clusters



SHCU, SV Manifold and Automation Systems Installation



Formation of Water User Association (WUA)

General outline of the WUA :

- The entire package 1 Project Area will act as a one Water User Federation (WAF).
- Optimum size of WUA as 500 Ha which will be easy to maintain from operation point of view.
- The 500 Ha Zone is then further divided in 10 nos. Water User Group (WUG) @ 50 Ha area of sub zone.

Ramthal LIS Drip Irrigation System - 24,000 Ha.

Water User Federation (Group of WUA)

Water User Association (500 Ha Zone)

Water User Group (50 Ha Sub-zone)



Training and Capacity Building



Demo Plots During Project Implementation

Red Gram



Soyabean



Maize



Onion



CROPS WITH DRIP IRRIGATION SYSTEM



THE PROJECT IS GOING TO INCREASE THE AREA UNDER IRRIGATION BY 90%, WITH THE SAME AMOUNT OF WATER

Cost Benefits	Flood Irrigation through Canals	Ramthal, with Integrated Drip Irrigation	Benefits with Drip Irrigation
Area (Ha)	12,571	24,000	90% increase in area
Water Requirement	2.77 TMC	2.77 TMC	Same amount of water
1 TMC	4,538 Ha	8,664 Ha	90% increase in area
Total Cost	307.90 Crs	750.00 Crs	
Cost / Hectare	2.5 Lakhs	3.13 Lakhs	25% increase in cost/Ha



RAMTHAL PROJECT: IMPACT

- **Doubled the no of project beneficiaries with same resources**
- **With 2.77 TMC of water, irrigating 24,000 Ha area with Drip system as against 12,571 Ha in flood method.**
- **Improved standard of living of project beneficiaries**
- **Equitable Distribution of Water -Irrespective of topography & distance of farm from the water source**
- **Incremental returns to all the project associates.**

15 Thousand Farmers

“This project of 24 thousand hectares is going to change the lives of 15 thousand farmers, with same quantity of water double the area under irrigation, with same per Ha capital cost, same or lesser per Ha power requirement, reduced land acquisition requirement and reduced project execution time”



Summary

- Community Drip Irrigation Projects like Ramthal should be taken up to :
 - ✓ **Make judicious use of natural resources like Water and Energy.**
 - ✓ **Equitable distribution of irrigation water among all the beneficiaries.**
 - ✓ **Improve Water Use Efficiency (WUE) by 20% by 2020.**
 - ✓ **Reduce the gap between IP created and actual irrigation by 15% by 2020.**
 - ✓ **Sensible use and saving of fertilizers and manual labor.**
 - ✓ **To irrigate more / almost double area with same amount of water allocated for flow irrigation**
 - ✓ **Improve the crop quality and produce.**
 - ✓ **Improve standard of living of all the project associates.**