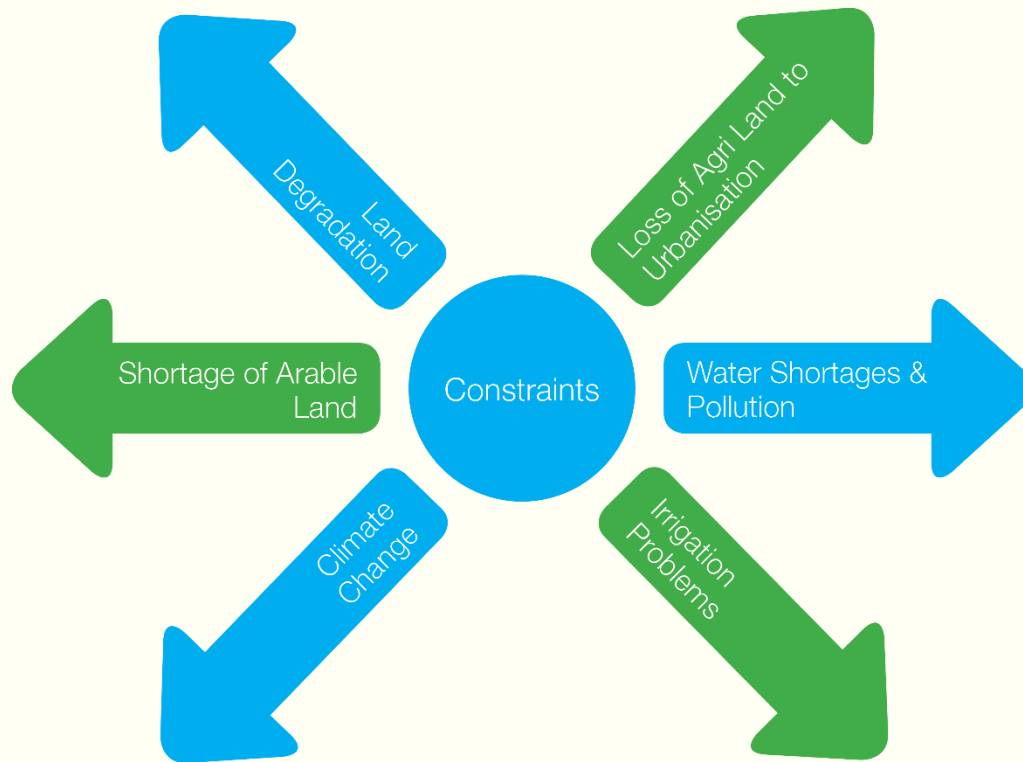




Integrated Irrigation Solution



Present Agriculture Scenario



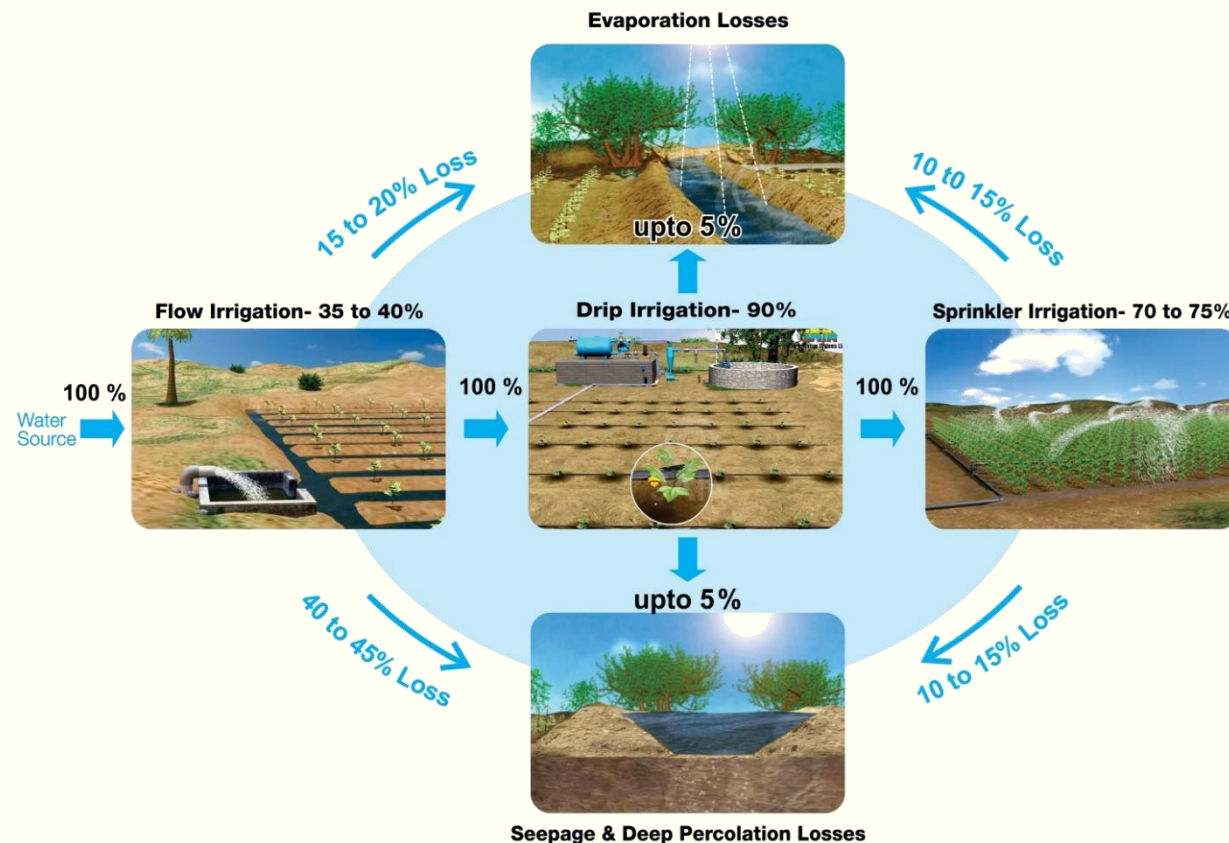
Future Water Demand from India in different sectors

Particulars	Water Demand in km ³ or BCM		
Year	2010	2025	2050
Water Demand from all Sectors	710	843	1180
• Irrigation	557	611	807
• Drinking Water	43	62	111
• Industry	37	67	81
• Energy	19	33	70
• Others	54	70	111
Availability of Utilisable Water	1123	1123	1123
Excess / Shortfall	413	280	-57

Source : Ministry of Water Resources, Gol, New Delhi



Water Losses in Different Irrigation methods



Canal Type	% loss of water	Cumulative Loss%
Main Canals	6	6
Branch Canals	8	14
Distributories	10	24
Water Courses	20	44
Evaporation	15	59

Legend

JiIS Jain Integrated Irrigation Solution

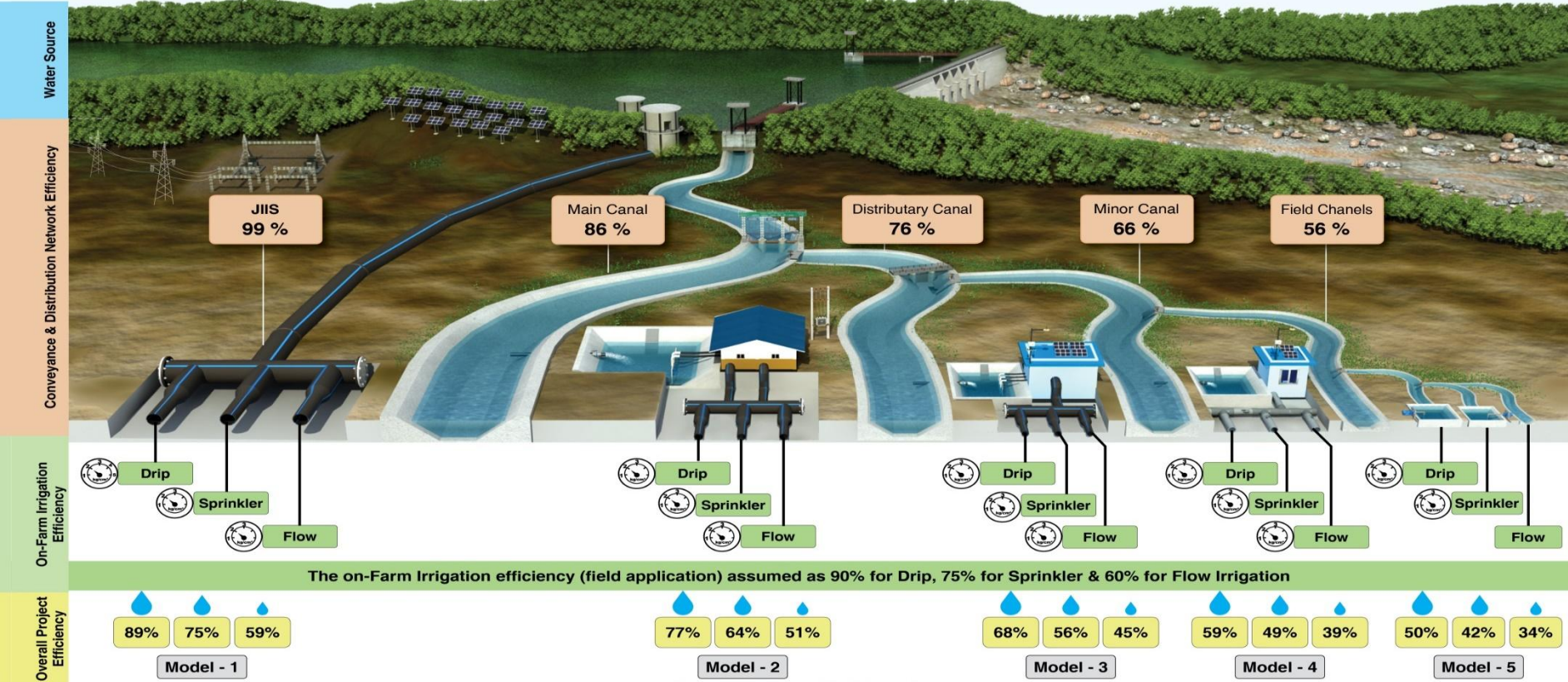


Drip & Sprinkler are pressurised network and flow irrigation is designed with pressure of 2kg/cm² at outlet. So that whenever required Micro Irrigation Systems can be installed to obtain higher efficiency



Conclusion :

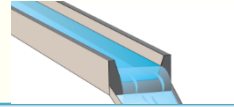
- 1) If the water conveyance is through only open canals and on farm application through flow, then the maximum achievable efficiency of **Model-5** would be only 34%.
- 2) In case open canal are partially converted into piped network the overall efficiencies **Model- 2 to 4** would be between 39% to 77% depending on the on-field Irrigation method chosen.
- 3) If the pipes are chosen for water conveyance & Drip Irrigation is chosen as on-farm irrigation system, the overall irrigation efficiency will be the highest at 89%, hence this model -Jain Integrated Irrigation Solution "From Resource to Root" is highly recommended.



Resource To Root Vs Traditional Approach



Resource To Root
Demand Based
Integration of all important components in holistic manner
Last mile connectivity is an integral part of the project
Complete Solution of Water and Agriculture is addressed
More Crop Per Drop is ensured
Irrigation Efficiency is Higher and can be taken to 90%
Productivity and Value Creation is measurable
What is measurable is manageable



Traditional Approach
Supply Based
Most of the components are done in isolation
Not Always
Partial Solutions are Harmful
Trying to cover larger areas with less water may be dangerous
Irrigation Efficiency is as low as 30%
Nothing is measurable
What is not measurable is not manageable

Benefits of Resource to Root™



ECONOMIC

- Higher income for farmers.
- Pipeline network life 100+ Years.
- Water productivity is 5 times high.
- Farmers can take high value / cash crops.
- Results in sustainability.
- Concept ensures Water, Energy, & Food Security.

Benefits of Resource to Root™



TECHNICAL

- Daily irrigation schedules are tailored as per crop requirements.
- Precise application of fertilizer & nutrient is feasible.
- Suitable for undulating terrains.
- Equitable distribution of water.
- Very high Water Use Efficiency up to 95%.

Benefits of Resource to Root™



SOCIAL

- No land acquisition.
- No rehabilitation related issues.
- Social justice for all stakeholders.

Benefits of Resource to Root™



ENVIRONMENTAL

- No water runoff & wastage.
- No leaching - No health hazard
- Maintains Soil Health.
- Saves Energy.
- Reduces GHG Emissions.
- Conserves natural resources.

Benefits of Resource to Root™



Goals of Resource to Root

- ▷ To provide most efficient irrigation strategy to mitigate the impacts of climate change and achieve food security and helps to guide actions to transform agri-food systems towards green and climate resilient practices.
- ▷ Supporting smallholding farmers and large agricultural enterprises.
- ▷ Improving farming activities to achieve higher crop yields.
- ▷ Reducing the impact agriculture makes on the environment.
- ▷ Ensuring the preservation of soil fertility and biodiversity.
- ▷ To allow farmers to retrieve valuable insights from vegetation indices, weather analysis, and field historical data for smart farm management.



Details of Projects Executed

Location	MRP Tirunelveli (T.N.)	AMRP Nalgonda (A.P.)	SSNNL / GWRDC Different Districts (Gujarat)		LIMIP Pulivendula (A.P.)	Purna C.Bhaga (MS)	Balh Valley Sundernagar (HP)	KNNL Shiggaon (KS)	IGNP Bikaner (Raj.)
Area to be / Irrigated (Ac)	988	533	617	455	14,820	29600	5,817	24,453	37,050
Beneficiaries	600	180	200	216	5,000	10544	7,500	8,154	3,000
Water Source	M.I. Tank	Canal (AMRP)	Canal (SSNNL)	Community Tubewells	Canal (PBC)	Canal (Purna)	Canal (BBMB)	River (Varada)	Canal (IGNP)
Cost Per Acre (In Rs.) *	40,486	9,750	43,450	14,500	31,000	7,080	1,11,700	68,700	5,950
Duration (Mnth)	6	12	9	6	4	26	36	26	12
Handed Over	2008	2009	2010	2011	2011	2011	2012	2012	2012
Maintenance Contract (Yrs.)	1	2	1	1	3	2	5	2	2
System Type	Pressurised Drip / Sprinkler		Pressurised Drip		Pres. Drip / Sprinkler	Gravity Pipe	Pres. & Gvty. Sprinkler	Pressurised Drip / Sprinkler	

Details of Projects Executed

Location	NCP Sanchore, (Raj.)	Ramthal Hungund (Kar.)	Cane Agro Sangli (MS)	Kandi Integrated Kandi (Punjab)	Nadaun Hamirpur (HP)
Area to be / Irrigated (Ac)	3,38,400	30,381	2,009	1,642	7,360
Beneficiaries	40,000	7,382	1,255	1,200	3,000
Water Source	Canal (Narmada)	Canal	Tank	Canal	Beas River
Cost Per Acre (In Rs.) *	8,190	1,27,000	1,36,706	2,49,270	1,32,500
Duration (Mnth)	21	24	12	12	24
Handed Over	In Progress	In Progress	In Progress	In Progress	In Progress
Maintenance Contract (Yrs.)	3	2	1	7	5
System Type	Pressurised Drip / Sprinkler	Pressurised Drip	Pressurised Drip	Solar Powered Drip	Pressurised Sprinkler

Ultra Low Energy Drip System



Name	Sukhvinder Singh
Address	Village Shahpur, District SAS nagar (Punjab)
Area	2 Acre
Crop / Variety	DSR Paddy/ PR 126
Drip System	Tank Size 1000 liters installed at 0.5 m height
Name of the dripline	Jain Turbo Slim – 22mm ID
Dripper	0.7 lph at 1 m head
Lateral spacing	0.6m
Yield	29.35 Qtl/acre
Water Use/Acre	2225950 liter

The best bottomline is a farmer's smile.



Thank You