

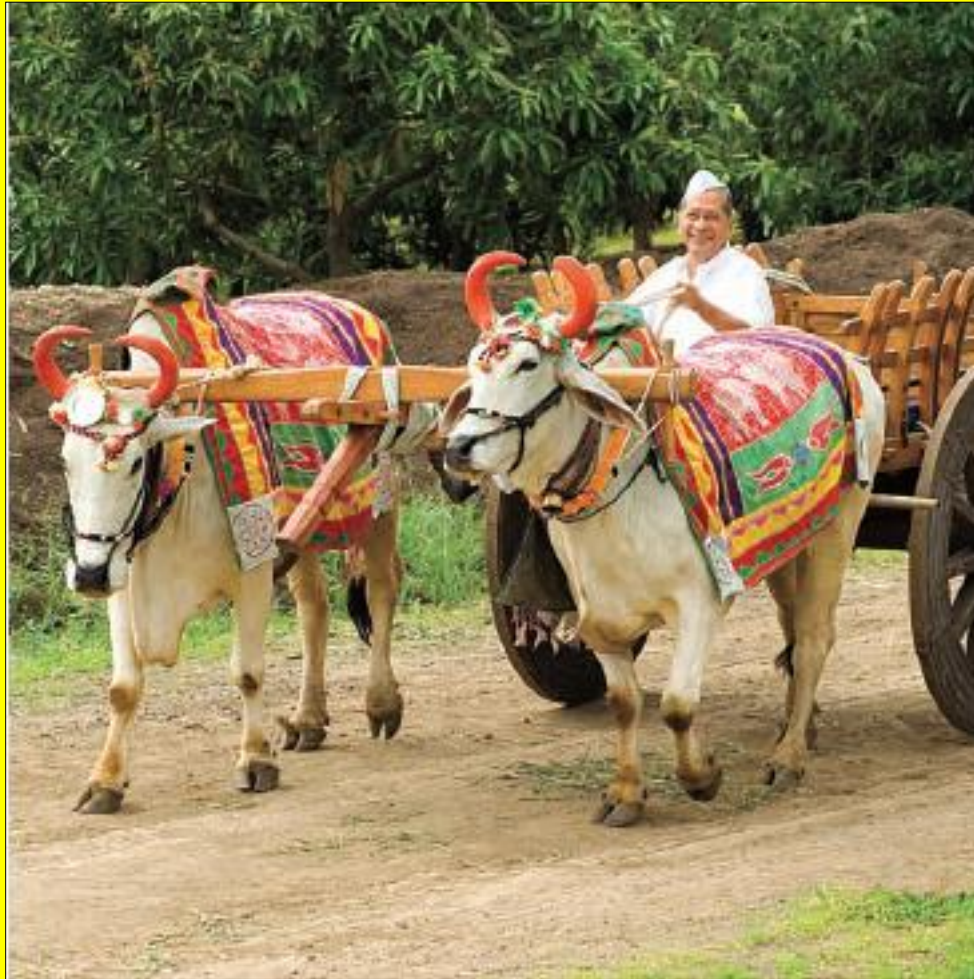
SMART WATER FOR AGRICULTURE & RURAL DEVELOPMENT

S MAKHIJA

JAIN IRRIGATION SYSTEMS LTD

www.jains.com

Founding Father: Late Padamshri Dr. Bhavarlal Jain (Bade Bhau)



**Born in a farmer's family in the tiny village (Wakod, Jalgaon)
Founder Chairman began in 1963 as trader in agriculture inputs and equipments**

Product Divisions

Agriculture Division



- Agricultural R&D
- Farming
- Tissue Culture
- Vermi-compost

Applications

- Agriculture
- Horticulture
- Nursery

MIS Division



- Drip Irrigation
- Sub Soil Irrigation
- Sprinkler Irrigation

Applications

- Open Field Irrigation
- Controlled Irrigation
- Landscape Irrigation

Green Energy Division



- Bio Gas Power Plant
- Solar Water Heating
- Solar Lighting
- Solar Inverter
- Solar Pump
- Solar Fencing
- Solar PV Power Plant
- Wind Hybrid System

Applications

- Domestic
- Commercial
- Industrial

Pipe Division



- PVC Pipes & Fittings
- PE Pipes & Fittings
- Well Casing & Screen Pipes
- Corrugated Pipe

Applications

- Drinking Water
- Farm Irrigation
- Plumbing
- Sewerage
- Effluents
- Cable Ducting
- Gas
- Dust suppression

Sheet Division



- PVC Free Foam
- PVC Celuka
- PVC Rigid
- PC Compact
- PC Corrugated

Applications

- Advertising
- Interior Designs
- Industrial
- Building & Construction
- Marine Industry
- Transport
- Greenhouse
- Stadium Roofing

Food Division

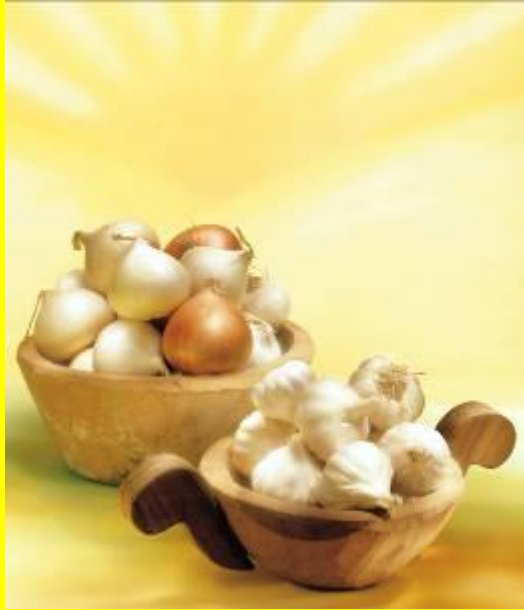


- Dehydrated Onion & Vegetables
- Fried Onion & Vegetables
- Frozen(IQF) Vegetables
- Aseptic Fruit Purees and Concentrates
- Frozen Fruit Purees and Concentrates
- Frozen (IQF) Fruits
- Canned Fruit Purees and Concentrates

Applications

- Soups
- Salad Dressing
- Juices
- Baby Food
- Ice creams and Yogurts
- Confectionary
- Prepared Foods

FOOD PROCESSING AVOID WASTAGES, WILD FLUCTUATIONS IN PRICES



Onion & Vegetables Dehydration



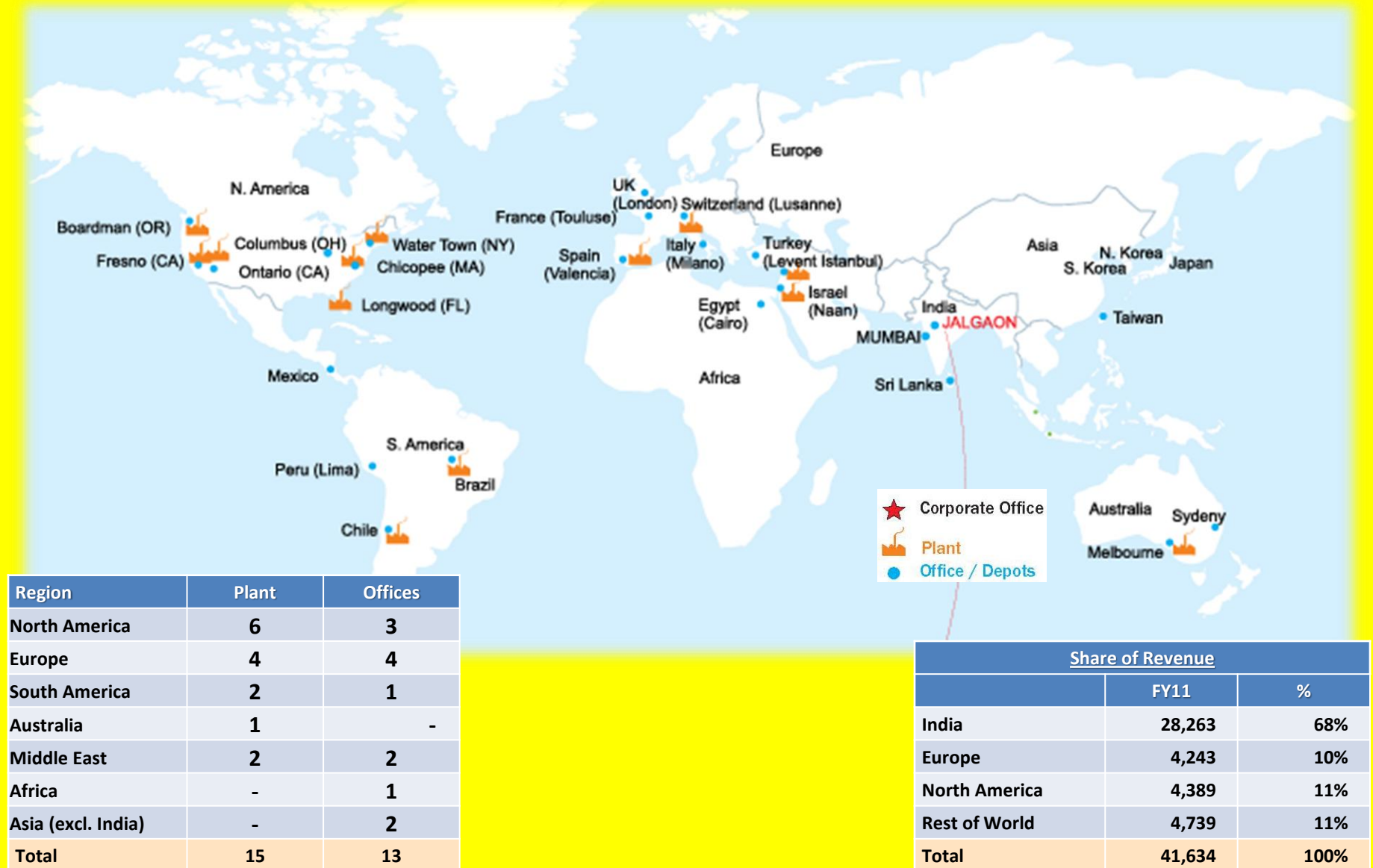
Fruit Puree, Pulp and Concentrate



IQF

Applications: • Soups • Salad Dressing • Juice • Baby food • Ice cream • Confectionary • Prepared Foods

JAIN IRRIGATION- GLOBAL PRESENCE



HOW DID WE TREAT WATER IN PAST SIX DECADES

PRESERVE IT FOR THE NEXT GENERATION.....



1960



1980



2013

One share for next generation

GLOBAL USE OF WATER RESOURCES

Usage in (%)	World	Europe	Africa	India
Agriculture	69	33	88	82
Industry	23	54	5	12
Domestic use	8	13	7	6

CHALLENGES

FOOD & AGRICULTURE

- **INCREASED POPULATION FROM 1300 M TO 1500M BY 2050 & FOOD DEMAND .**
- **TO MEET INCREASED DEMAND OF DAIRY, FODDER, MARINE PRODUCTS & FIBRE CROPS**
- **ADVERSE IMPACT OF CLIMATIC CHANGES ON CROP YIELDS. MORE WET, MORE DRY OR MORE HOT OR MORE COLD**
- **INCREASE THE IRRIGATED AREA , USING LESSER AMOUNT OF WATER.**

***We need a Blue Revolution in agriculture
that focuses on increasing productivity
per unit of water –
“more crop per drop”***



**Mr. Kofi Annan, Secretary General of the United Nations, Report
to the Millennium Conference, October, 2000**

SMART WATER = SMART USE OF WATER WITH IMPROVED WATER USE EFFICIENCY

There are large number of definitions of Water Use Efficiency.
Most relevant is-

Water use efficiency is a quantitative measurement of how much biomass or yield is produced over a growing season, normalized with the amount of water used up in the process.

$WUE = \text{Yield kg/Irrigation water applied ML.}$

Smart Water= Higher Value Created per unit of water

IRRIGATION EFFICIENCY OF DIFFERENT SYSTEMS

TRADITIONAL IRRIGATION

- FLOOD IRRIGATION 30-35%
- FURROW IRRIGATION 35-40%
- PIPED CONVEYANCE+ FURROW IRRIGATION 45-50%

SMART WATER IRRIGATION-

- PIPED CONVEYANCE + SPRINKLER IRRIGATION 70-75%
- PIPED CONVEYANCE + DRIP IRRIGATION 95-98%

SMART WATER=REPLACE CANALS WITH PIPES
-MAKE PRESSURIZED COVEYANCE SUPPLY OF WATER



PIPELINE vs. CANALS

- NO LAND ACQUISITION
- FASTER, LESSER GESTATION PERIOD
- NO CONVEYANCE LOSSES.
- CALIBRATED DELIVERY OF WATER MADE EASIER.
- WATER AVAILABLE AT PRESSUE REQUIRED FOR MICRO IRRIGATION.



SMART WATER= SPRINKLER IRRIGATION SYSTEM



SMART WATER=IRRIGATE THE CROP, NOT THE LAND



SMART WATER-IRRIGATE THE CROP, NOT LAND



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SMART WATER= DRIP IRRIGATION WITH PLASTIC MULCH IN DRYLAND /LOW RAIN FALL AREAS



FERTILIZER APPLICATOR FOR SMART WATER



SUB SURFACE DRIP IRRIGATION-

SUGAR CANE IRRIGATION



**ONLY 5 % OF CULTIVATED AREA IN
MAHARASHTRA IS UNDER SUGERCANE**

**60% OF AVAILABLE IRRIGATION
RESOURCE IN MAHARASHTRA IS USED
FOR IRRIGATION OF SUGARCANE!!!!**

**GOVERNMENT OF MAHARASHTRA NOW
MAKES IT MANDATORY FOR FARMERS
USE DRIP IRRIGATION UNDER NEW
SUGAR MILLS.**

SUGARCANE- FROM SURFACE TO SUB-SURFACE DRIP IRRIGATION

WATER PRODUCTIVITY

- **USING CONVENTIONAL FLOOD IRRIGATION SYSTEM SUGAR CANE PRODUCTION IS AT 2.5 KG/M3 OF WATER or 63 TONS/HA.**



- **USING SUB-SURFACE DRIP IRRIGATION IT CAN GO UPTO 21 KG/M3 or 250 TONS/HA.**

SMART WATER= PER DROP, MORE CROP USE BETTER SEEDS & PLANTING MATERIALS



Agricultural R&D



Farming



Tissue Culture



Vermi-compost



Organic Manure

Applications: • Agriculture, • Horticulture, • Nursery

PROTECTED CULTIVATION

GREEN HOUSES, SHADE NET, LOW COST TUNNEL

HIGH PRODUCTIVITY & BETTER QUALITY ASSURED



**GROWN
HYDROPONICALLY**

VS.

**GROWN
IN SOIL**



SMART WATER=PRECISION FARMING



WATER RISK IS BUSINESS & FINANCIAL RISK



SMART WATER FOR ATMANIRBHAR BHARAT

- **Sustained availability of water will hold key to the success of this most ambitious initiative. There is no denying that even if all other key elements are in place, absence of adequate and sustained supply of water will create major pitfall to the growth momentum of ATAMNIRBHAR BHARAT mega project.**

RESPONSIBLE CORPORATES

GIRNA RIVER BEFORE CHECK DAM



KANTAI BANDHARA



AFTER THE DAM

KANTAI BANDHARA, JALGAON



SMART WATER

RECOMMENDATIONS

- 1. PER DROP MORE CROP TO CREATING MORE VALUE PER DROP. DRIP & SPRINKLER IRRIGATION TO BE PROMOTED ON LARGE SCALE.**
- 2. APPLY FERTILIZERS/NUTRIENT THRU DRIP SYSTEM**
- 3. USE BEST SEEDS/PLANTING MATERIALS.**
- 4. CREATE ROBUST VALUE CHAINS TO PREVENT WASTAGES.**
- 5. PREVENT CONVEYANCE LOSSES. SHIFT FROM CANALS TO PIPED FLOW.**

LEAVE THIS WORLD BETTER THAN YOU FOUND IT

