

BHAVARLAL JAIN THE REAL CATALYST OF MANKIND**Bafana Sangita Raj****And****Dr. S. R. Waje**

The man for whom 'Work was life and life was work' can also be connoted as 'Son of the soil' or 'The farmers' champion', as well, who is none other than 'Bhavarlal Jain', founder Chairman of Jain Irrigation Systems- which owned 30% in the Bombay Stock Exchange-listed firm, had featured among India's richest in with a fortune of more than \$600 million. The second-largest micro-irrigation company in the world, Jain Irrigation has revenues of over \$1 billion, 30 factories and supplies to 116 countries.

Known as "Bhau" or big brother, Jain was born in 1937 in a village in Maharashtra's rural heartland to a family of famers and petty traders. Contribution of parents and teachers, was immense in shaping 'Bhau'. Simplicity, courage, morals and ethical traits were imbibed in 'Bhau', since childhood. Having bolder ambitions, he moved to what was then Bombay to study commerce and law, after which he prepared to join the civil service. But his mother, who never went to school, urged him to do something that would help the cattle and birds.

Jain began trading in agricultural products--tractors, fertilizers, seeds and pesticides. He stumbled into his niche when he saw a drip irrigation system in 1985 at an agricultural trade show in Fresno, California and decided to start making them in India, targeting small farmers.

Emboldened the company expanded into fertilizers, plastic sheets, food processing and solar water heaters. In 1994 it raised \$30 million on the Luxembourg Stock Exchange, using it for a slew of new ventures, including merchant banking, granite quarrying, software and telecom. All of these failed and the company almost went under. A timely bailout by a private equity firm helped put Jain Irrigation back on track.

Jain, who described himself as a dreamer, had long handed over charge of operations to his four sons. The family lived together in a house in Jain Hills, Jalgaon, headquarters of his business group. The 1,000 acre campus, converted from virtually barren land to a verdant landscape, is testimony to what micro-irrigation can achieve. It includes an agricultural institute to train farmers on the latest techniques of farming and irrigation and hundreds of other amenities. Bhau integrated technology in the right sense and wanted the fruits of technology to be tasted by all. The organization has flourished lives of many. All of which was possible only because of 'Bhau'.

A chunk of 'Bhau's' time was also devoted to Gandhi Research Foundation. These are other pet-projects. He was a great speaker and spent his time in enriching life of not just hundreds but thousands of people. He inspired many to be 'True Leaders and great entrepreneurs' so that they can in return flourish lives of many. A prolific author, the book closest to his heart was "Tee ani Mee" written in his native Marathi about his life with his late wife.

In the company's 2015 annual report, Jain outlined his business purpose: "My religion, my simple, middle class agrarian background have ingrained in me values, which guided me by instinct to do good for others and wait for a little while for something good to happen. I have never been disappointed!"

Unfortunately, Bhau, physically is no more with us but his ideas, thoughts, lessons, inspiration are immortal. One of the most precious gift on earth- Bhau. And, so he truly can be called as a SUPER HERO.

Jain Irrigation is the 2nd largest Micro-Irrigation company in the world. The division manufactures full range of irrigation products; provides services from soil survey , engineering design to agronomic support; nurtures two sprawling 15000-acre R&D and technology demonstration farms and a Hi-tech Agri Institute . Over 1000 agri and irrigation scientists, engineers, technologists and technicians are engaged in offering consultancy for project planning & implementation

Jain Irrigation is also the largest plastic pipe manufacturer in India covering a wide range of pipes and fittings. Annual production of polymers is about 200,000 MT. Jain Irrigation is a 'Total Solution Provider' for various thermoplastic piping systems that are used in transportation/conveyance of water and other fluids, semi solids, gases and cables.

Tissue culture Division produces Grande Naine Banana plantlets and has established matching primary and secondary hardening facilities as well as independent R&D and labs for production quality control.

Application of Micro Irrigation System

Jain Irrigation is perhaps the first company to undertake extensive R&D trials. It standardised cost effective micro irrigation systems, for small farmers for various agricultural /horticultural crops to improve productivity. Till date Jain Irrigation have standardised hi-tech cultivation practises for about 42 crops using drip and fertigation such as banana, sugarcane, pigeon pea, rice, wheat, etc. Many of them, for example, rice was never considered for cultivation under MIS.

THRUST AREAS OF RESEARCH

A) Agriculture and Bio-technology

Micro Irrigation (DIS/SIS)

Research is carried out with the ultimate goal of saving agricultural inputs and improving productivity of crops through drip/sprinkler irrigation and fertigation. Application of micro irrigation techniques to new crops and developing new irrigation systems is a major focus area of research.

Crop Agronomy

Developing new and improved cultivation methods with focus on input use/optimisation for field crops.

Protected Cultivation

Standardisation of Protected Cultivation methods for vegetables, herbs and flowers.

Plant Tissue Culture

Development of tissue culture protocol for various crops for efficient multiplication of elite and healthy planting material. Besides propagation, standardisation of transformation protocols for many crops is in progress.

Plant Molecular Biology

Advanced research on mandate crops like onion, banana, mango, pomegranate, and aolna is carried out to decipher important biological process to help in improving crop productivity.

Drought and salinity Resistance

Jain Irrigation have initiated work on drought and salinity resistance in crops such as banana and maize. This will primarily focus on aspects related to abiotic and biotic stress related areas.

Crop Improvement

Focused research is carried out on onion, pomegranate, banana, mango and some pulses for varietal improvement for commercially important characters.

(B) Food Processing

Development of new processes for fruit and vegetable processing with special focus on tropical crops.

(C) Renewal Energy**Solar**

Development of thermal, photovoltaic products for Domestic, Industrial and Agriculture applications.

Biogas

Research is in progress to study efficient utilisation of processing and agriculture waste towards energy conservation.

(D) Plastic products and polymer R&D**Drip & Sprinkler Irrigation Systems**

Development of products for conserving water and fertilisers and to enhance productivity . Continous development of various Drip, filters, and sprinkler irrigation system components.

Pipes and fittings

Development of chlorinated PVC pipes and fittings, ASTM pipes and fittings, Butt and Electro fusion fittings, spirally wound higher MRS (minimum requires strength) solid PE pipes , higher diameter HDPE and corrugated pipes, Biaxially oriented PVC pipes, modified PVC pipes, etc.

Agricultural Implements

Development of special purpose implements for agricultural operations to improve efficiency.

Summary**Jain Hi-Tech Agri Institute (JHAI)**

“I have a dream to change the way Indian farmers do agriculture.” Dr. Bhavarlal Jain, Founder Architect.

Jain as an enterprise began with grouping farmers and teaching them to grow papaya for the extraction of papain, an industrial enzyme for export. Started as a contract farming practise in 1978,

a model that was developed, which is a much discussed one, proved to be the most successful model in India. Farmers from Maharashtra, Madhya Pradesh and Gujarat participated in this contract farming venture and supported Mr.Jain. Tissue culture eventually proved to be a highly successful activity benefiting the farmers with higher productivity and the company through good profits. However, training and educating the farmers for adoption of this technology, at that time, was merely a collateral service. Later, it developed into a major activity by Jains.