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Opinion

Micro Irrigation – Untapped Potential

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Water is becoming scarce in many parts of the world limiting towards the agricultural development. The capacities of large and agrarian country like India need to manage the available natural resources to which water being the most important and its judicious management. The agro-climatic conditions of the country are suitable for growing variety of crops. Judicious exploitation and management of water, therefore, holds the key for the future growth of Indian agriculture. The micro irrigation technologies such as drip and sprinkler irrigation are the key interventions in water saving and improved crop productivity.

Micro Irrigation

Micro Irrigation is a system where low volume of water is applied in high frequency within and around the plant root zone. The micro irrigation system consists of a network of pipes along with a suitable emitting device. Conceptually micro irrigation refers to low pressure irrigation system that either drips or sprinkles water needed by the plant for its optimum growth.

Advantages of micro irrigation

- Low water application rate
- Uniformity of water and nutrient application
- Suitable for undulating/difficult terrains
- Eliminates weed growth and saves labour
- Reduced attack of disease and pests

Prospects of micro irrigation in India

Micro irrigation technologies are promoted in India by the central government and state governments by providing different kinds of financial, institutional and technical support systems. Despite the reported significant economic advantages and the concerted support, the current micro irrigation area in India remains an insignificant proportion of its potential.

Classification of Micro Irrigation Technology

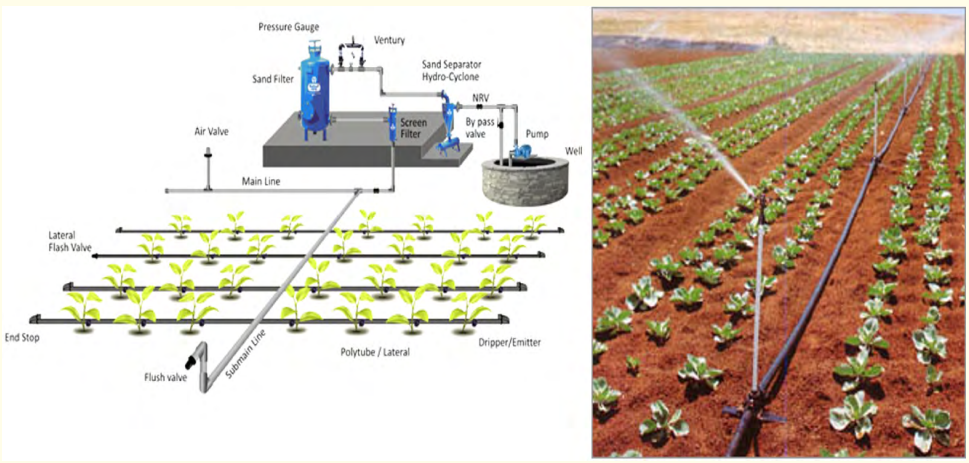

Figure 1: Micro Irrigation Systems.

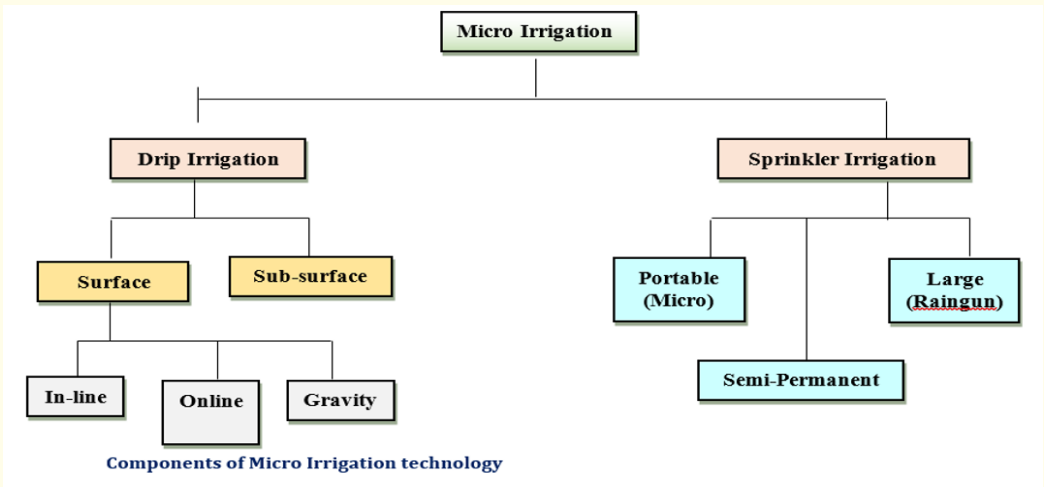

Figure 2

Figure 3: PE pipe.

Figure 5: PE Fittings.

Figure 4: PVC Pipe.

Figure 6: Compression Fittings.

Figure 7: Valves.

Figure 8: Laterals.

Figure 9

Note: All figues in the article have been taken from company's website and hence the author duly acknowledge the support taken.

Potential for Micro Irrigation in India

The potential for coverage under drip irrigation and sprinkler irrigation is estimated to be 27 mha and 42.5 mha respectively as reported in report of the Task Force on MI, however, in a recent study conducted by Government of India based upon the availability of source for irrigation in the country it is estimated that an area of 49.1 mha could be brought under micro irrigation technologies.

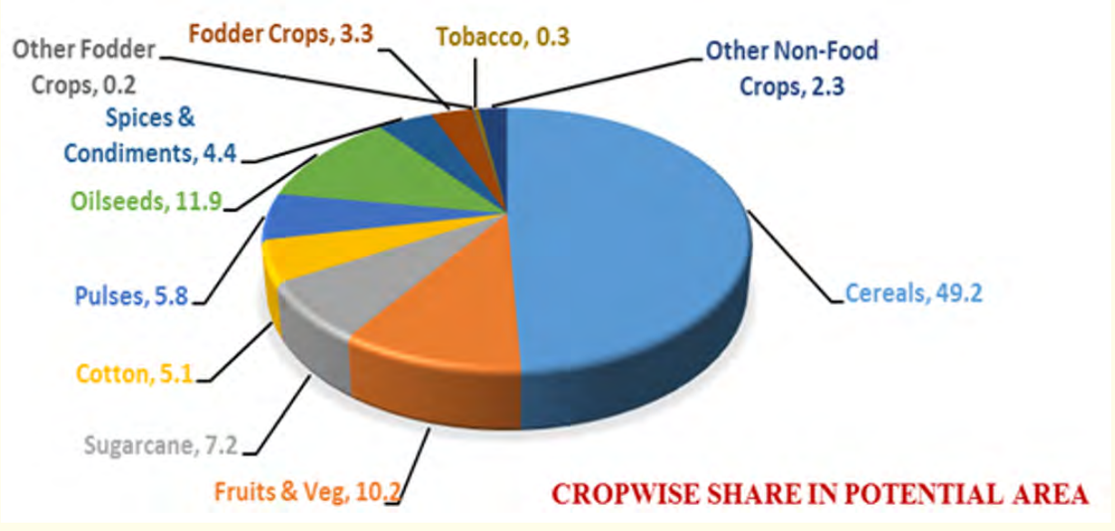

Figure 10

Presently approx.10 mha have been covered under micro irrigation technology in the country which highlights the huge untapped potential yet to be achieved under this very technology with tremendous polymer opportunities for polyethylene, PVC and polypropylene under the technology. Considering the future food demand couple with 1%+ population growth, reduced available water for agriculture and focused attention under Govt. plans and programmes to continue financial assistance for micro irrigation would bring more opportunities to for the Indian plastics industry to rise above the conventions to bring proven water saving techniques such as drip and sprinkler irrigation for ensuring next GREEN REVOLUTION in India.

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