

## 1.0 Marketing KB Drip – A Low Cost Drip Solution

### 1.1 Introduction

Lack of irrigation is the single most important limiting factor for increasing productivity, cropping intensity and thus, returns to the farmer. In the last three decades in the absence of large public investments in creating irrigation infrastructure in the country, ground-water based irrigation driven by private initiative has emerged as the largest contributor to increase in irrigated area. Aided by little or no electricity costs and low cost of owning an electric pump set, shallow tube wells have emerged as the major source of irrigation (>40% of net irrigated area<sup>1</sup>) in the country.

However, indiscriminate use of groundwater has resulted in fast depletion of the resource, frequent failure of the tube well, shortened period of yield and the need to dig deeper and deeper tube wells. Drip irrigation is a well known technology to help conserve such precious water with the added benefit of improving yield and quality of produce due to maintenance of suitable soil moisture status. However, conventional drip technology despite subsidies (often available to limited no. of farmers) has remained beyond the reach of small and marginal farmers. Further, the technology has been often promoted only for wide-spaced crops such as coconut, mango, grapes, etc., mainly due to the high cost of the equipment, especially, the lateral tubes and the emitters.

### 1.2 Intervention

International Development Enterprises (India) (IDE-India) a Section 25 company first challenged this notion by introducing micro-tube based drip irrigation technology that could be used in close-spaced crops such as mulberry, cotton, tomato, chillies, etc. However, even this technology was found costly for most small and marginal farmers.

In a quantum leap of innovation, IDE-India introduced “pepsi tapes<sup>2</sup>” with punched holes into which micro tubes were inserted. At one stroke it reduced the cost of the equipment and did away with the need for an engineer to design and install the drip system in the farmer’s field. Needless to say, this was more affordable but still needed considerable labour in installation and in removing after the crop season and re-laying it for the next crop.

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<sup>1</sup> Groundwater Irrigation in India: Gains, Costs and Risks. Vasant P. Gandhi, N.V. Namboodiri, IIM(A), March 2009

<sup>2</sup> Ice candy is sold in transparent polythene tubes. Locally, they are called “pepsi”, hence the name “pepsi tapes” for low cost IDE drip tapes.



The next generation of “pepsi tapes” now called KB<sup>3</sup> Drip tapes were made of better material; a mixture of LLDPE & LDPE<sup>4</sup> and came with pre-punched drip holes. They were also available in different thicknesses of 125, 250 & 500 microns. As compared to conventional drip systems these systems were cheaper by 70-80% depending on the thickness of the KB Drip tape. A comparison of costs for conventional drip with KB Drip for close-spaced vegetable

crops is given in Table 6.1.

Table 1-1: KB Drip vs. Conventional drip				
Crop: Vegetables, Tapioca, Turmeric, Cotton, Spacing: 3.5 feet		125mic with Prepunch KB Drip	250mic with Prepunch KB Drip	Regular system with In line lateral
Sl no	Particulars	Amount Rs./acre	Amount Rs./acre	Amount Rs./acre
1	Tube 16 mm	4604	9207	33500
2	Dripper	0	0	0
3	GTO16mm	540	540	540
4	joiner & End cap	308	308	550
5	Lateral 16	578	578	975
6	Ball valve 63mm	135	135	300
7	S/m pipe 63mm	2024	2024	2730
8	installation	500	500	750
9	<b>TOTAL</b>	<b>8688</b>	<b>13292</b>	<b>39345</b>



Soon other products followed such as Ventury Injectors for fertigation and KB Layflat pipes that replaced costly PVC pipes that are used as mains and sub-mains in conventional drip systems.



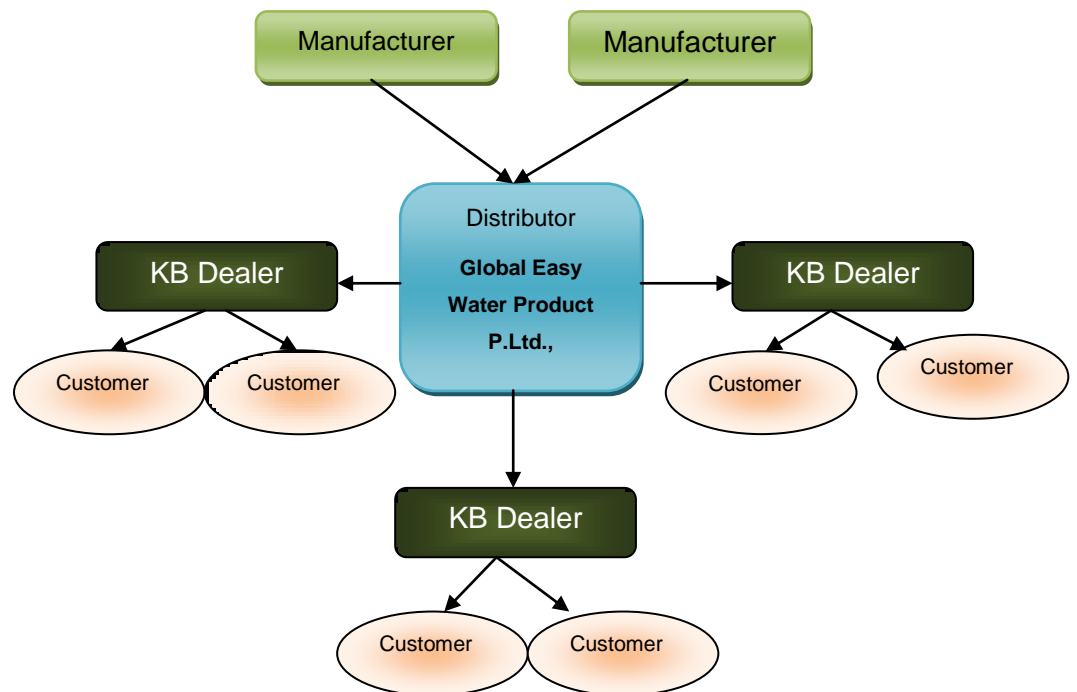
<sup>3</sup> Krishak Bandhu is the brand name of IDE-India products

<sup>4</sup> Linear Low Density Polyethylene and Low Density Polyethylene

### 1.3 Implementation strategy

Among developmental NGO's, IDE-India is unique in its strategy of using market forces to promote and distribute its low cost drip technology

Figure 1-1: Channel partner of IDE-India



without the use of subsidies. Indeed, IDE-India uses developmental money to create new products and open up new markets through extensive and intensive promotion, recruit and train dealers and field-mechanics.

Currently, IDE-

India has drip operations in 7 states of the country.

The entire channel is managed by a team headed by an Area Manager supported by Business Supervisors and Business Associates (BA). 1 or more blocks are covered by a BA, who is responsible for conducting and organizing promotion of KB products and provide marketing support to the KB Dealers in the area. In all there are 35 BAs in Tamil Nadu covering more than 8 districts. A BA gets a fixed base salary and commission at 4% of the total sales turnover achieved by his dealers. On an average a BA<sup>5</sup> who had worked for 2 or more years with IDE-India earned about Rs.5, 650/month as commission alone.

There are 2 manufacturers in Tamil Nadu who supply to Global EasyWater Product P.Ltd., (GEWP) a wholly owned subsidiary of IDE-India which is the sole distributor for Tamil Nadu. GEWP provides technical knowhow and information about suppliers of KB Drip tape manufacturing units. It also provides the manufacturer specifications of raw materials and approved suppliers. GEWP pays a fixed processing cost of Rs.20-23/kg of KB Drip tape

<sup>5</sup> Data is for Tamil Nadu

manufactured which usually leaves a margin of 5% to the manufacturer. A Quality Supervisor<sup>6</sup> is placed at the manufacturing unit to ensure quality of input and output.

Dealers buy from GEWP on a cash and carry basis. Often, given the proximity of GEWP to most dealers, delivery is also just-in-time, thus reducing the inventory costs of dealers. In fact, for most dealers initial investment is just the value of the first order<sup>7</sup> of which 50% is received as advance from the end-customer. In Tamil Nadu there are 135 dealers spread over 8

districts. A dealer is allowed a margin of 20% on total sales turnover. On an average a dealer with 2 years experience in the KB Drip business had a turnover of Rs.8 lacs with a profit margin of Rs.1.6 lacs. The highest sales turnover was of Rs.20 lacs with a profit margin of Rs.4 lacs.

A typical dealer employs 2-5 Fitters and 8-10 Helpers who install the KB Drip systems. Each team of a Fitter and 2 Helpers are paid Rs.1500/acre. Average earning/Fitter is about Rs.60,000-80,000/year.

## 1.4 Benefits of KB Drip

### Economic benefits at farm level

Economic benefits of KB Drip at the farm level are well known. A study<sup>8</sup> carried out by the present author in 2007 captured the impact as depicted in Figure 6.3.

Figure 1-2: BA to KB Dealer - Palanisamy of Erode

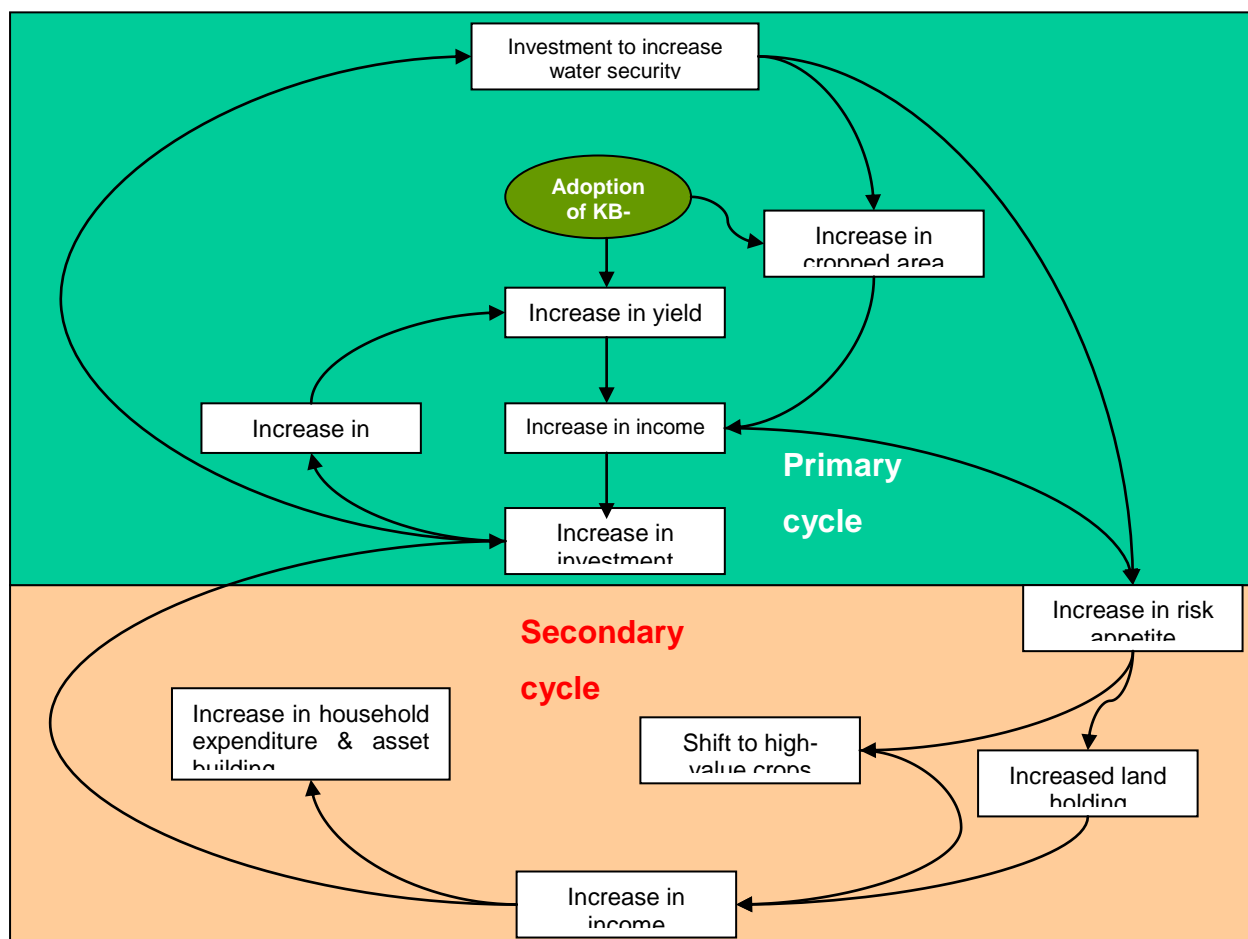
S.Palanisamy is the dynamic dealer of KB products in Erode district of Tamil Nadu. He had worked with IDE-India as a Business Associates for 3 years before quitting his job to take-up the dealership. He says that as a BA he was making a commission of only 4% on the turnover (Rs.20-25 lacs) in his territory, while as a dealer he would get 20% on his turnover (Rs.30 lacs this year). Therefore, it is better to be a dealer than being a BA!!

<sup>6</sup> In the unit visited by us, all the workers were women and the Quality Supervisor from GEWP was also a woman!

<sup>7</sup> S.Palanisamy invested 50% of the last salary he received as a BA to start the KB dealership

<sup>8</sup> This study covered 3 states and explored how the increased income was being used by KB Drip users.

Figure 1-3: Income impact of KB Drip



A case study (Table 6.2) carried out in the same study illustrates the economic, social and environmental benefits of KB Drip on marginal farmers in this case a women farmer from Maharashtra.

Table 1-2: Indomitable spirit – Akka Tai Jagannath Karande	
Name & address	Akka Tai Jagannath Karande, Karandewadi village, Sangola taluk, Solapur district
Family details	<ul style="list-style-type: none"> <li>2 adults &amp; 3 children. Husband is not educated, she has studied upto 1<sup>st</sup> standard</li> </ul>
Assets	<ul style="list-style-type: none"> <li>Kutchha house with no electricity and cooking in a makeshift thatch-roof room on traditional fire-wood cookstove</li> </ul>
Landholding	0.5 acres

<b>Water sources</b>	Does not own a well, but shares an ancestral well with 20 other families. The well itself has long run dry, but each family buys water at Rs.50/hr from a 5hP pump, fills the well and then repumps the water to their fields
<b>Cropping pattern</b>	Now only pomegranate
<b>Reasons for adopting KB Drip</b>	<ul style="list-style-type: none"> <li>• Akka Tai and her husband Jagannath Karande have been married for 16 years now.</li> <li>• They have always worked as labourers in other fields, sugarcane factory and even a textile mill</li> <li>• About 9 years back, Jagannath and his 2 brothers bought 2 acres of land at Rs.16,000/acre. Akka Tai received a share of 0.5 acres.</li> <li>• She spent a further Rs.15,000 in clearing the land and ploughing, thus the cost of her 0.5 acres is about Rs.23,000.</li> <li>• Initially, she grew jowar, bajra, while her husband continued to work in the factory</li> <li>• However, she observed that others around her were growing pomegranate and prospering</li> <li>• She applied for and received a subsidy under the Horticulture Development scheme that is available to all farmers to raise fruit orchards</li> <li>• With the subsidy, she blasted pits into the rocky land and planted 171 pomegranate plants (Ganesh variety that was popular then. Now she has replaced some of them with Bhagva variety that is more popular and fetches a higher price in the market)</li> <li>• She purchased water and started cultivating the orchard, but the yield was very low since the land is undulating and water was not reaching all the plants uniformly</li> <li>• She had heard of drip irrigation, but could not afford it. When she heard that KB Drip would cost her only about Rs.2000 she raised the money and purchased it. She has been using it since last 5 years.</li> </ul>
<b>Benefits from KB Drip</b>	<ul style="list-style-type: none"> <li>• In the very first year of using KB Drip her income from Pomegranate went up to Rs.30,000 from a meager Rs.10,000. This was entirely on account of better distribution of water among the plants (<b>Increased yield, increase in water use efficiency and increased income effects</b>).</li> <li>• In the second year it went up to Rs.40,000 and in the 3 year to Rs.50,000.</li> <li>• Earlier cropping yielded only some foodgrains and certainly no cash. Cash income was from her husband working in a factory and she herself working in a grape drying unit.</li> <li>• This year she is expecting an income of Rs.2.00 lacs from her 0.5 acres of pomegranate. After covering her farm expenses of Rs.40,000 (<b>Increased input usage</b>), she would be left with a cash surplus of Rs.1.6 lacs</li> <li>• In addition, her husband earns a further Rs.20,000 a year from selling the kulfi that Akka Tai makes at home and Rs.10,000 by</li> </ul>

	<p>working as an expert pruner.</p> <ul style="list-style-type: none"> <li>• Akka Tai continues to work in a grape drying unit for about 2-3 months and earns Rs.5000</li> <li>• Thus this year's annual income is expected to be Rs.1.95 lacs</li> <li>• Of this about Rs.20,000 is being spent on household expenses. This has increased from Rs.10,000 (<i>Increased household expenditure</i>).</li> <li>• The increase is mainly on account of clothing, purchase of food grains and increased frequency of meat eating, about 2-3 times/week (<i>Increased food quality and security</i>)</li> </ul>
<b>Future plans</b>	<ul style="list-style-type: none"> <li>• Top priority is to dig a well and secure the source of water (<i>Asset building effect, reducing cropping risk</i>). When we met her she was supervising (<i>increased self-confidence</i>) the digging of a well and had hired a blasting expert to blast the rocks.</li> <li>• She has already invested Rs.1.0 lacs (<i>Increased investment capacity</i>) to dig upto 50 feet but is to yet strike water. She is planning to dig 20 feet more and then bore horizontally (<i>Increased self-confidence</i> and <i>increased risk-appetite</i>)</li> <li>• She has borrowed about Rs.1.0 lacs to dig the well (<i>increased risk appetite</i>)</li> <li>• She has made an offer to her neighbour (<i>Increased self-confidence, positive attitude towards life</i>) to purchase his land (<i>Asset building effect</i>) for Rs.20,000/acre should he choose to sell it</li> <li>• To convert the entire plot into Bhagva variety since it fetches higher returns as compared to Ganesh variety (<i>change in cropping pattern effect, increased risk-appetite</i>)</li> <li>• Her goal is to have an orchard in about 2 acre (<i>Positive outlook, clear vision and confidence of achieving it</i>), which she reckons would give her family a decent standard of living. Only after achieving this goal she would like to invest in improving the house, taking an electricity connection, etc.</li> </ul>
<b>Analysis</b>	
<b>Technical effects</b>	<ul style="list-style-type: none"> <li>• <i>Change in cropping pattern</i>, especially shift to high-value crops (Jowar to pomegranate, within pomegranate to higher yielding Bhagva)</li> <li>• <i>Increased water use efficiency</i> (higher yield from the same 0.5 acre plot on account of water being more uniformly distributed through KB drip)</li> <li>• <i>Increase in level of inputs</i> (She has spent Rs.40,000 on her 0.5 cre plot this year to ensure high yields from pomegranate. This is higher than the yield from pomegranate in the previous year)</li> </ul>
<b>Economic effects</b>	<ul style="list-style-type: none"> <li>• <i>Increased income</i> (from being barely able to make two ends meet to now having an income of Rs.1.6 lacs from only 0.5 acre of Pomegranate)</li> <li>• <i>Asset building</i>, she is digging a well and has made an offer to her neighbour to purchase his land</li> </ul>



<b>Social effect</b>	<ul style="list-style-type: none"> <li>• <b>Increased self-confidence</b>, from realization of set goals, increase in income, stability in income</li> <li>• <b>Increased risk appetite</b>, plans to bring entire area under Bhagva variety, has borrowed to dig a well, has made an offer to her neighbour to buy his land</li> <li>• <b>Improved quality of life</b>, now the family is clothed better and eats better (meat 2-3 times/week), does not work in others' fields, but continues to work in the grape factory, while husband sells kulfi icecreams</li> <li>• <b>Positive outlook about the future</b> reflected in clarity on future plans and the decision to put on hold asset creation and expenditure on the home front until she meets her set goals</li> </ul>
<b>Comments</b>	<ul style="list-style-type: none"> <li>• Akka Tai Jagannath Karande is the tale of a woman's indomitable spirit to overcome her circumstance by sheer will power and dint of hard work.</li> <li>• The choice of crop (pomegranate) and its economics is the key to her economic development, but it is KB Drip that is the critical input that enabled her to realize her goals.</li> <li>• Most importantly, it has turned her into a farmer who has a positive attitude towards life, full of self-confidence and a clear vision of what she wants to do.</li> </ul>

### **Economic benefits at business level**

As already described in the previous section, as a BA or as a dealer or even as a fitter, marketing of KB Drip provides a profitable source of livelihood. With the micro-irrigation market<sup>9</sup> pegged at Rs.17 billion in 2009 and expected to grow, the volume of KB Drip is also expected to grow leading to higher earnings for its channel partner as well. Thus, acquiring a KB dealership is an attractive business proposition given the high volume of business and the low entry barriers in terms of low investments.

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<sup>9</sup> Micro Irrigation System in India 2010; a report prepared by Netscribes (India) Private Limited