

# International Development Enterprises



## Annual Progress Report

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Project Title:

**Creating New Markets For The Poor With  
Micro Irrigation Technologies  
In Maharashtra, India**

January 22, 2003

## **LIST OF ACRONYMS**

<b>AMIT</b>	<b>Affordable Micro-Irrigation Technologies</b>
<b>BDS</b>	<b>Business Development Services</b>
<b>GoI</b>	<b>Government of India</b>
<b>IDE</b>	<b>International Development Enterprises</b>
<b>MIS</b>	<b>Management Information System</b>
<b>MSE</b>	<b>Micro and Small Enterprises</b>
<b>NGO</b>	<b>Non Governmental Organization</b>
<b>USAID</b>	<b>Unites States Agency for International Development</b>

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## INTRODUCTION

This annual report summarizes the first year (from October 2001 to September 2002) activity of the three year Business Development Services (BDS) program implemented by International Development Enterprises (India) under a USAID supported BDS Grant Award No. GEG-A-00-01-00012-00. In this program of “Creating New Markets For The Poor With Micro Irrigation Technologies In Maharashtra, India” and using a BDS approach, IDE proposes to scale up dissemination of the AMIT technologies – combined with complementary horticulture-related services. With substantial experience in market facilitation under the AMIT and treadle pump programs, IDE aims to develop the market with less direct involvement, more efficient use of the available scarce resources, and an exit strategy that is built into IDE’s very approach. As facilitator, IDE will develop the market for AMIT Plus products and services by addressing demand and supply-side constraints.

International Development Enterprises (IDE) was launched in 1981 by a handful of socially conscious businessmen, believing that through a business-like approach they could affect poverty around the world. From its inception, IDE has used a “market creation” approach to development. Since 1992, IDE-India’s (herein after referred to as IDE), major programmatic focus has been the treadle pump. In 1997, using USAID/BHR/PVC Matching Grant funds, IDE initiated a new program to expand into a new product line, “affordable micro-irrigation technologies” (AMIT). IDE viewed AMIT as having the potential to address the needs of small horticulturalists in semi-arid regions that constitute three-fourths of the country and are unserved by the treadle pump program.

Consisting of sprinkler and drip irrigation, micro irrigation applies water slowly to keep the soil moisture within the desired range of plant growth, vastly improving the ability of the farmers to manage the soil, water and crops so as to obtain optimum yields. Under the Matching Grant program, the AMIT program developed, field-tested, and market-tested micro irrigation products<sup>1</sup> adapted to the needs of small horticulturalists. BDS grant support for the AMIT Plus program builds upon this past effort.

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<sup>1</sup> The program conducted field and market tests in seven states, including Maharashtra and Gujarat.

## SECTION I – SUMMARY OF MAIN ACTIVITIES

This section presents a summary of the first year key activities.

### 1.1 Pre-planning workshop

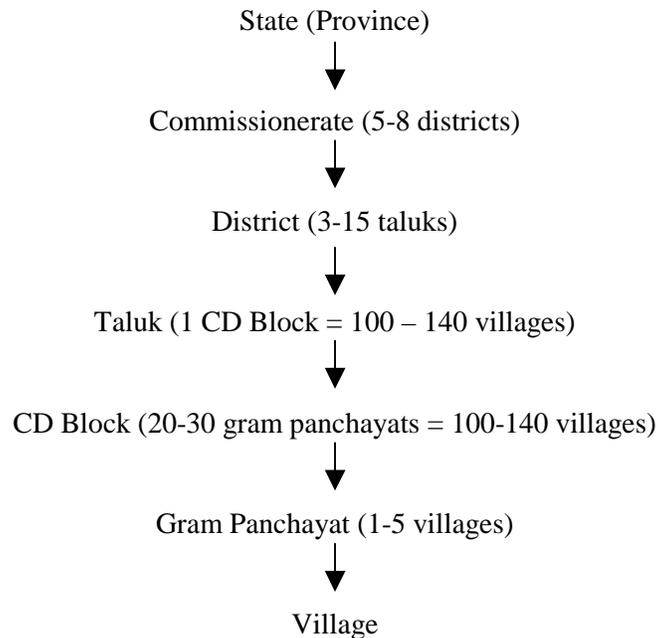
IDE started the BDS program on October 1, 2001. The program staff moved into the field in the first week of October and commenced the initial program activities. A 2-day planning workshop was conducted in the last week of September prior to the field staff moving to Maharashtra. During this workshop, the team worked out a detailed work plan for the first quarter.

### 1.2 Placement of field staff

The BDS team led by Tapan Kumar Pattanayak, Regional Manager, commenced the program activities on October 1, 2001. Five team members have been located in the major horticulture belts. These are Solapur region (pomegranates), Aurangabad and Jalna region (sweet lime), Jalgaon region (banana) and Amrawati region (oranges).

### 1.3 Administrative structure in Maharashtra

The state is divided into commissionerates, districts, taluks, Community Development (CD) blocks and Gram panchayats as explained in the half yearly report and reproduced in the chart below:



## 1.4 Operational area identification

IDE had initially planned to work in the entire state of Maharashtra, then comprising 31 districts and now further divided into 35 districts. It was soon realized that facilitation by a team of 6 persons could not be effective in such a large state. Also, since our program focuses on horticulture crops, there was a need to focus specifically on the horticulture pockets within Maharashtra. Therefore, area identification was done on the basis of IDE's previous experience in the state of Maharashtra and the criteria for selection of areas were:

- Watershed activities in region and presence of NGOs
- Horticulture belts
- MSEs perception about the scarcity of water

Rationale for selection with the above mentioned criteria has been highlighted in the 6 month report. The following 12 districts have been finalized as our BDS program area in Maharashtra:

- Solapur
- Osmanabad
- Latur
- Amrawati
- Buldana
- Yavatmal
- Jalgaon
- Nasik
- Nandurbar
- Ahmednagar
- Aurangabad
- Jalna

Please note Wardha has been replaced with Buldana district as it was found to have a larger potential for making an impact. Also, Dhule has been divided into 2 districts i.e. Dhule and Nandurbar. IDE will work only in Nandurbar part of undivided Dhule.

## 1.5 Field assessment and relook at targets

In the first half of the year, the team completed collection of taluk level data on various parameters. These data have been compiled and were reported in the half yearly report. An attempt was made to focus on water scarce taluks where horticulture is predominant. The baseline data included the following information:

- Classification of the block based on ground water availability<sup>2</sup>
- Key horticulture crops in the area
- Total area under horticulture
- No. of wells and electric pumps in the taluk
- Area under drip

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<sup>2</sup> The Central Ground Water Board has classified the taluks based on their ground water development status as Dark, Grey or White – Dark being one where the groundwater draft for irrigation exceeds 85% of the utilizable groundwater recharge i.e. a dark block suffers from groundwater over exploitation.

- Horticulture area not under drip irrigation

The total horticulture area not under drip in the 12 districts is about 150,000 hectares. It is estimated that of these, 75% are MSEs who flood irrigate when water is available and do not provide the critical water input for improved productivity during the water scarce season. Taluk level information from government officials coupled with IDE field staff visits puts this number to 115,000 MSEs who can potentially use drip for improved economic benefit. IDE via its BDS project expects to be able to reach out to 25% of these potential MSEs over a 3 year period i.e. 28,750 MSEs.

This involves a relook at the targets set prior to the project when IDE had looked at the possibility of working in the entire state. Based on discussions held with USAID in the last six months, IDE is now to submit a revised target plan for the 3 years. Based on area assessment and our first year experience, IDE will hold detailed discussions with all field staff and arrive at revised plans to be submitted to USAID in the coming quarter.

### **1.6 Crop selection**

Based on the area assessment data and the suitability of the crops to drip irrigation, the following key horticulture crops have been identified:

- Orange
- Mango
- Sapota
- Pomegranate
- Lemon
- Sweet lime
- Amala
- Banana
- Vegetables

### **1.7 Watershed NGOs as local facilitators**

Old contacts with 24 NGO partners were revived and 46 new NGOs contacted. Of these 70, 30 NGOs have expressed an interest in participating in the AMIT plus program. In view of the revised area focus, IDE will not be in a position to work with all watershed NGOs in the state. IDE works with NGOs that understand the relevance of affordable drip systems and have expressed a keenness to work with us in the 12 operational districts identified. While these NGOs are keen to partner with us, they are yet to adopt the role of local facilitators more fully. IDE's experience of working with NGOs is further highlighted in section IV below.

### **1.8 BDS providers linked into program**

As per schedule of activities mentioned in the implementation plan, all team members tried first re-establishing contact with previous BDS partners. It was heartening to find some of the old assemblers and dealers still continuing their business. Meetings were held with old BDS providers of which 3 assemblers, 10 agri-input dealers and 6 nursery growers expressed their desire to work with IDE again. In addition, IDE has identified 68 assemblers/ drip dealers, 101 agri-input dealers and 36 nursery growers. Linkages between assemblers, agri-input dealers and nursery growers have been made in the last year.

## **1.9 Training and demand creation activities carried out**

Training has been conducted in the 12 districts for NGOs, assemblers and drip systems dealers. They have been trained in assembling, micro-enterprise development and rural marketing. The focus was on an interactive and practical training for small drip systems. In addition, the field staff has initiated village level meetings with the MSEs with the help of trained assemblers and NGO staff to increase awareness about drip systems for small holders.

In Maharashtra there are a large number of dug wells with very little water in them during the summer season. Training regarding the utility of the limited water available and drip systems has been a key aspect of training to MSEs, assemblers, nursery growers and input dealers.

Agri-input dealers and nursery growers are linked into the system by involving them in training programs for MSEs especially on horticulture best practices. IDE has also put together small hand outs on best practices of the region for some key horticulture crops. These have been compiled based on information from horticulture experts and progressive farmers of the region and are distributed amongst MSEs, agri-input dealers and nursery growers.

IDE staff has also initiated work in creating awareness amongst the MSEs. This included printing of promotion material, village level meetings, short campaigning, demonstrations and participation in agriculture fairs in the local area.

In the first year of the program, IDE has conducted 48 training programs and over 375 dynamic promotion and demand creation activities.

## **1.10 Management Information System (MIS)**

Detailed MIS formats have been developed to track information against the 6 market development goals. A software package for recording data has undergone initial tests and has provided useful information especially on sales and gross returns. For estimating profitability of the BDS providers, the field staff has been working with the assemblers during the course of the year to estimate their investment in the business, operating costs and overheads to arrive at net profit for them. Interaction with the BDS providers has been both formal as well as informal. It is our experience that BDS providers are fairly hesitant to reveal exact extent of returns to them so the figures reported may actually be a bit of an underestimation.

In the case of profitability of the MSEs, we are in the process of collecting crop-wise profitability data. It has been proposed that 600 MSEs will be interviewed on a sample basis with 100 MSEs to be interviewed in year 1. The field staff has completed the interviews with these 100 MSEs. Some crop wise profitability information has started coming in based on these interviews and is presented in Table 1.

## **1.11 BDS workshop**

Dr. Sanjiv Phansalkar, a well-known BDS consultant, facilitated a 2-day workshop on the BDS approach in Nagpur. The BDS program team attended this workshop. The workshop clarified the BDS approach and process for the project staff and led to the finalization of a more focused operational strategy. Some of the key issues discussed were:

- The type of drip systems being sold to MSEs especially the bucket kit raised the issue of profitability for the MSEs. It was felt by the team that though the bucket kit does not directly

impact poverty, it improves nutrition for the family and its successful use also opens up the possibility of higher capacity kits being used in the future by the household.

- Should IDE work in existing horticulture belts with small holders or promote horticulture in new areas? It was felt that introducing low cost, divisible drip systems for MSEs in existing horticulture belts will be beneficial as output market linkages in these areas exist and marketing of output will not be a constraint for the small holder.
- In view of the extreme water scarcity in most of the regions, should the program also look at a low cost water sourcing/harvesting component?

**SECTION II: TABLE 1 – MEASURING PERFORMANCE AGAINST TARGETS**

<b>ASSESSING THE MARKET FOR GOODS &amp; SERVICES (Final Sales)</b>			
		<b>Target for year 1</b>	<b>Progress (12 months)</b>
Only applicants targeting a specific subsector	<b>MARKET-LEVEL</b>		
	1. Annual value of sales (in US\$)		
	<b>PROGRAM-LEVEL</b>		
	2. Annual value of sales (in US\$)		Net returns \$ 1,246,185

<b>ASSESSING THE DEVELOPMENT OF THE BDS MARKET</b>				
		<b>Target for year 1</b>	<b>Progress (12 months)</b>	
All applicants	<b>MARKET-LEVEL</b>			
	3. Total number of BDS providers, by service			
		a. Service 1 (AMIT systems dealers/assemblers)		296
		b. Service 2 (Agri-inputs)		3215
		c. Service 3 (Nursery growers)		324
	<b>PROGRAM-LEVEL</b>			
	4. Number of BDS providers participating in the program, by service			
		a. Service 1	26	68
		i. Percent private, for-profit providers		100%
		b. Service 2	145	101
		i. Percent private, for-profit providers		100%
		c. Service 3	125	36
		i. Percent private, for-profit providers		100%
	5. Total number of firms acquiring BDS from program-supported providers, by service			41724
		a. Service 1		8160
		b. Service 2		30300
		c. Service 3		3264
	6. Number of microenterprises acquiring BDS from program-supported providers, by service		7200	4685
		a. Service 1		4685
		b. Service 2		4685
		c. Service 3		1874
	7. Microenterprises as percent of total firms (line 6/line 5)			11.2 %
	8. Number of woman-owned microenterprises acquiring BDS from program-supported providers, by service			713
	a. Service 1		713	
	b. Service 2		713	
	c. Service 3		285	
9. Woman-owned microenterprises as percent of total microenterprises (line 8/line 6)			15%	

<b>ASSESSING THE FACILITATOR'S COST-EFFECTIVENESS (PROGRAM-LEVEL INDICATORS)</b>			
		<b>Target for year 1</b>	<b>Progress (12 months)</b>
All applicants	10. Total program costs		\$103, 523
	11. Total program costs per microenterprise served (line 10/line 6)		\$22
<b>ASSESSING THE BDS PROVIDER</b>			
		<b>Target for year 1</b>	<b>Progress (12 months)</b>
12, 13 &14 are only for direct Providers of BDS. 15 is for all Other applicants.	12. Total earned revenues (do not include any grants or donor contracts)		-na-
	13. Total expenses		-na-
	14. Return on operations (line 12/line 13)		-na-
	15. BDS Providers' profitability (please suggest appropriate indicator(s) to measure the profitability of the BDS providers with whom you work and/or services they provide, and explain/justify this measure in the narrative section)		Net profit = \$ 86,650
<b>ASSESSING THE IMPACT ON THE MICROENTERPRISE CLIENT (Program Level)</b>			
		<b>Target for year 1</b>	<b>Progress (12 months)</b>
All applicants	16. Annual value of sales by microenterprises participating in program (in US\$)		Net returns \$ 1,246,185
	17. Microenterprise client satisfaction (see "Guidelines" for further explanation):		
	a. Service 1: number of referrals		4216(90% of 4685)
	b. Service 2: number of repeat clients		3748(80% of 4685)
	c. Service 3: number of referrals		997(50% of 1874)
<b>OTHER INDICATORS</b>			
		<b>Target for year 1</b>	<b>Progress (12 months)</b>
All applicants	18. Exchange rate used to calculate US\$ figures		INR 48 = \$ 1
	19. Estimated percentage of microenterprises on line 6 who have poverty loans from any source		70%

## **NOTES TO TABLE 1**

### **Line 1& 2**

IDE is working with a host of fruits and vegetable growers. While they all fall under the broad category of horticulture, the total number of crops is too large to estimate the final market of these goods/crops. However, IDE is able to estimate the annual value of sales at the Program Level for all microenterprises participating in the program.

### **Line 3: Total number of BDS providers, by service**

These numbers reflect the total providers for these services in all potential taluks of 12 districts of Maharashtra. The data for agri-input dealers has been derived from government statistics as all agri-input dealers are registered with the agriculture department. The other two, have been estimated by IDE during our area assessment study. Of these total numbers, the potential providers are about 60% as the rest exclusively deal with the larger drip irrigation systems or in the case of agri-input dealers, they deal in sugarcane, cotton and floriculture.

### **Line 4: Number of BDS providers participating in program**

In case of assemblers/dealers of drip systems, IDE had estimated one assembler per district in the 31 districts IDE had planned to work in. Of these, 5 assemblers had worked with IDE from 1997-2000 i.e. the Matching Grants phase. So, we were to work with an additional 26 in year 1. As mentioned earlier and further explained in section III below, IDE has decided to work in 12 of the 35 districts in the state. Also, one assembler/dealer per district/NGO was found to be too small a number to reach out to the potential MSEs in the area. It was thus decided to increase the number of assemblers/dealers per district to about 5-6 in year 1 to effectively reach the MSEs. Similarly, the agri-input dealers that have been included in the program operate within the area of the assemblers. Typically there are 3-4 agri-input dealers in a market per drip system dealer and all these have been included in the program. On the other hand, nursery growers estimated at the time of the DIP was found to be too high and it has been observed that a) there aren't as many nursery growers within the smaller area defined and b) even if they do exist not all MSEs use their services as some grow their own nurseries or several MSEs have adopted drip in existing plantations or in vegetables and have not required nursery inputs.

### **Line 5: Total firms acquiring BDS services from program-supported providers**

These numbers reflect the total farmers who purchase either drip systems or agri-inputs or saplings from the 205 BDS providers in the program. This information was collected from the BDS providers on a sample basis during the course of field discussions.

### **Line 6: Number of microenterprises acquiring BDS from program-supported providers**

In the last year, IDE has facilitated the adoption of 4685 AMIT kits by MSEs. Assemblers and NGOs have sold these kits. Product-wise breakup of these kits is as below:

Bucket kits - 217

Drum kits - 119

Customized horticulture systems - 3773

Easy Drip - 576

\*\*Also, the total of line 6 does not add up to the sum of sub-lines a, b & c as it is the same MSEs who have both purchased the drip technologies (a), bought inputs for farming (b) and some of them have purchased nursery inputs (c). Very few have purchased nursery inputs in the initial stages as several MSEs have installed the drip systems in existing crops.

### **Line 8: Women owned microenterprises**

IDE has observed in the field in Maharashtra as well as in the past in other parts of the country that while women are involved significantly in most agricultural work including irrigation, typically the market end (both purchase of inputs, technologies, etc. as well as selling of output) is often handled by the men. More specifically, the drip irrigation systems though operated by both men and women, are purchased in the name of the man unless it is a woman headed household. However, what can specifically be pointed out is that in case of smaller systems, i.e. bucket kits and drum kits, these are almost always primarily operated and managed by women. In the case of larger systems, while we do not have specific data, based on our experience we can safely assume that at least 10 percent of these systems are managed primarily by women.

As a part of the program, IDE is taking initiatives to include more women into promotional activities and training programs. It is hoped that such measures will lead to increased influence of women to use such BDS services even though these may be actually obtained/ purchased by men.

### **Line 11: Total program cost per microenterprise served**

IDE has incurred program costs of \$103,523 in FY1 in implementing the BDS program. Since the program targets micro-scale MSEs rather than firms, this cost has been divided by MSE served (4,685) to arrive at a cost of \$22.

### **Line 15: BDS Providers' profitability**

The total turnover (sales) of the BDS providers is as per calculations below:

#### *Assemblers/drip system dealers*

Bucket kit @ \$5 X 217 = \$ 1085  
Drum kit @ \$15 X 119 = \$ 1785  
Customised systems @ \$140 X 3773 = \$ 528,220  
Easy drip @ \$ 60 X 576 = \$ 34,560  
Total sales = \$ 565,650

#### *Horticulture Package (Fertiliser & Pesticides)*

Bucket kit @ \$ 1 X 217 = \$ 217  
Drum kit @ \$ 5 X 119 = \$ 595  
Customised systems @ \$ 120 X 3773 = \$ 452,760  
Easy drip @ \$ 100 X 576 = \$ 57,600  
Total sales = \$ 511,172

#### *Horticulture Package (Saplings)*

MSEs need saplings only for horticulture plants and MI systems have been installed for both old and new crops, therefore 40% of total customized systems users have been estimated as purchasing saplings.  
\$ 30 X 1509 systems = \$ 45,270

*Total Sale Value Of BDS Providers In Year 1 = \$ 565,650 + 511,172 + 45,270 = \$ 1,122,092*

Profitability for Assemblers / drip dealers has been calculated on the basis of average margin received by them in selling different components used for assembling of kits/systems. On an average, assemblers make about 18% gross margin and 10% net margin on drip systems.

In the case of agri-input dealers the margins are slim due to higher competition amongst them. For example in one rural market place if there is one drip dealer, there may be as many as 2 to 3 agri-input dealers in the same market. As a result, agri-input dealers make about 10% gross and 5 % net profits. Similarly, all MSEs do not purchase saplings from nursery growers. Those growing vegetables purchase seeds from agri-input shops, some grow their own nurseries and it is about 40% of the MSEs who purchase saplings from nursery growers. Thus net profit of BDS providers is as per calculations below:

Assemblers/ drip dealers @ 10% of \$ 565,650 = \$ 56,565  
 Agri-input dealers @ 5% of \$ 511,172 = \$ 25,558  
 Net profit by nursery growers @ 10% of \$45270 = \$ 4527

*Total Net profit of BDS providers in year 1= \$ 56,565 + \$ 25,558 + \$ 4527 = \$ 86,650*

**Line 16: Annual value of sales by microenterprises participating in program**

Profitability for MSEs has been calculated from the information collected from 100 MSEs interviewed by our staff. The MSEs were selected on a stratified random basis to reflect MSEs performance both across geographical area and typology of horticultural crop cultivated. Data has been recorded in a format called “Farmer Income Survey” developed by IDE.

All 100 MSEs own less than 5 acres of land. Cultivation using IDE technology is typically less than 2 acres. The following crops are cultivated by them:

Crop	No. of MSEs
Pomegranate	15
Banana	29
Sweet lime	25
Vegetables mainly Chili	16
Lemon	8
Mango	1
Water melon	1
Papaya	2
Mung	1
Orange	2

Of the above, 98 are users of customized systems while 2 use bucket kits. Therefore, we can safely assume the returns are for customized systems. In the case of bucket kit users, earlier studies have shown that these systems are primarily for growing vegetables for self-consumption. The value of vegetables grown for self-consumption is usually in the range of \$ 15 to \$ 25 per annum. The impact is thus more in terms of nutrition and food security for the family.

Data for the 100 MSEs reflects the following:

Total Income by 100 MSEs = \$ 80,312

Total Expenses by 100 MSEs = \$ 51,836

Total Net Income by 100 MSEs = \$ 28,475

Average net income per MSE = \$ 285

### **Approximate net profit for 4685 MSEs is:**

**Customized and easy drip users approximately \$ 285 per MSE = \$ 1,239,465**  
**For smaller systems approximately \$ 20 per MSE = \$ 6720**

Key points observed during survey are:

- Gestation periods in horticulture i.e. fruit trees complicates profitability calculations.
- In Jalgaon area most of the Banana growers have not completed a year. Banana crop yields fruit after a year.
- Most of the horticulture growers of sweet lime and orange (which yields fruit after about 5 years) have practiced inter-cropping with vegetables. This has resulted in incomes in these years too.
- Subsequent to IDE's intervention, a few horticulture growers with older (thereby fruiting) plants have also adopted our technologies. These MSEs were earlier practicing flood irrigation. Their profitability is definitely higher as the trees are older. Thus the average of \$ 285 per MSE reflects a higher picture than if drip was adopted by an MSE for a new plantation
- For MSEs adopting drip in existing crops it may be useful also to look at impact in terms of a) increase in area under cultivation, if any and b) increase in productivity of the crop. Some MSEs growing tomatoes estimate that they expect productivity to increase by more than 50%.

In the meantime, IDE will continue to refine profitability data. IDE is now attempting to work out crop wise profitability experienced by MSEs for some of the key horticulture crops being grown by them using different types of systems.

## **SECTION III – IMPLEMENTATION ISSUES**

### **3.1 Location of the regional office and field staff**

It was decided to locate the regional office at Ahmednagar as a) Ahmednagar hosts several development NGOs of Maharashtra including the watershed NGO network, and b) it is well connected by rail network to various major horticulture belts within Maharashtra.

### **3.2 Selection of horticulture belts**

Horticulture growing areas were selected for a variety of reasons. The large farmers in these areas are using drip. Since the markets for horticulture output are developed, sale of produce and linkages with output markets will not pose an immediate constraint for promotion of drip systems. However, in these areas, the small and marginal farmers so far do not have access to drip irrigation due to lack of availability of divisible, affordable, small sized drip irrigation systems. Such small holders (MSEs) either do not practice horticulture or even if they do, they flood irrigate when water is available. Also, measuring impact in such cases of existing crops is more complex. Since some MSEs have adopted drip systems in existing crops, the impacts can possibly be measured at 2 levels:

- a) Increase in areas under cultivation due to water saved

- b) Increased productivity from existing crops

This will be incorporated into our monitoring formats in the following season.

### **3.3 Horticulture extension services for MSEs**

The horticulturist has been appointed and is in the field now. However, operationally, it is felt that one horticulturist will have limited reach if we expect to effectively provide such services to MSEs. For optimal reach, IDE uses retired agriculture extension workers, establishes linkages with agriculture universities and calls in experts at the local level to train the MSEs. The horticulturist is primarily responsible for activities in her own region and lends support to the other team members as and when required. Additionally, each area manager is responsible for identifying local experts, approaching them and organizing relevant training activities at the field level.

### **3.4 Subsidy**

Drip irrigation systems available in Maharashtra are large, usually for area larger than 1 hectare and are subsidized to the extent of 50% by the state government. Due to limited amount available for subsidy with the state government, many farmers have waiting periods before they can avail of this mount and several postpone purchase of drip systems. IDE has in the last one made a unique contribution by creating a market for small, affordable and divisible drip irrigation systems for MSEs at a price usually 20% lower than the subsidized system price.

Within one year time, one of the larger companies, seeing the potential for small systems has approached IDE for supplying components. They have also started selling components suitable for smallholders of Maharashtra and have recently launched a non-subsidized low priced system in the market as well. As a result, the market for affordable drip systems has further expanded in the state.

## **SECTION IV – PROGRESS ON LEARNING AGENDA**

Key lessons learnt in the first year of the program and IDE's progress in our learning agenda are highlighted below:

### **4.1 Strategies for effective BDS market facilitation**

#### *Working with NGOs*

IDE has felt in the last year that our strategy of working with and through NGOs may not work in all cases. Based on IDE's experience in various states of India and now in Maharashtra, it is felt that complete dependence on NGO partners for the identification of assemblers and for promoting the concept amongst MSEs will not help us in achieving our desired outcomes within the project period. While IDE will continue to work with NGOs that are committed, interested and forthcoming, we propose to simultaneously continue to identify private assemblers directly. We propose to track our progress with direct facilitation in the coming two years to arrive at a relevant, location specific and focused facilitation strategy.

What we have seen in the last 6 months specifically is that our MSEs do not belong only to the local NGOs area of operation. Especially in places where local partners are not present, IDE has

been experimenting with direct facilitation with field staff along with drip assemblers carrying out demand creation activities and training in the field. Such efforts at market facilitation have yielded good results with high sales in these areas. In the last year, approximately 25% of the sales have taken place in NGO supported areas. As is clear from data, all sales are unsubsidized. IDE agrees to work with NGOs only if they do not subsidize the system. In case of the systems that have been sold to the poorest MSEs (mainly tribal), these have been provided on credit through their respective self help groups.

#### *Promotion and demand creation*

We find that it is not easy to convince small farmers to switch to horticulture cultivation. MSEs so far do not have access to drip irrigation due to lack of availability of divisible, affordable, small sized drip irrigation systems. Such MSEs either do not practice horticulture or even if they do, they flood irrigate when water is available. IDE has been communicating the benefits of using drip irrigation for improved water efficiency, improved productivity, optimal utilization of inputs and gradually they will increase their area under horticulture, or switch to horticulture. Also, many farmers find it difficult to accept that the little water available in their wells is actually enough to grow a crop using drip kits. This aspect needs to be clearly communicated to the farmers.

IDE has organised 48 training programs at the village level for NGOs, BDS providers and MSEs. Training has been imparted across a varied range of topics such as the BDS concept and IDE's role in facilitation, system design and installations, best practices in horticulture and vegetable crops, control of various pest and diseases, organic farming or zero budget farming and optimal use of water in their wells. While technical training is typically conducted by IDEI field staff along with the drip irrigation assembler, training on horticulture best practices and farming practices is done by local level experts such as retired government extension officers, university professors, progressive farmers, etc. In the process, assemblers are being trained in technical training and could be expected to deliver such training subsequently. In the case of training on agriculture, IDE in some cases bears the cost of the trainer while some conduct such training gratis. We are unsure at this stage to what extent farmers will be willing to pay for such services subsequently. IDE is of the opinion that if the perceived returns to farmers is substantial then they may be willing to pay for these services. IDE will track this aspect in the next 2 years.

IDE has also organized exposure visits for MSEs to successful areas and arranged interaction with progressive farmers. Such farmer to farmer contacts have been found to be an extremely useful tool for enhancing farmer interaction and learning.

IDE has also seen that one of the most effective promotion tools is short campaigns in the rural area. In this activity, IDE staff along with a local level BDS provider move from village to village in a jeep/rickshaw to promote the AMIT concept. In addition, IDE is developing a video film for viewing by MSEs. This will definitely generate interest among smallholders in the program area. Most of IDE's demand creation activities are undertaken along with BDS providers such that they take on these activities after IDE's exit from the program. The accompanying BDS provider shares the cost of the activity by contributing his/her time. They are willing to bear these costs from the margins they earn.

## **4.2 Strategies for integrating the poor into markets**

### *Involving self help groups*

IDE has observed that in several cases MSEs are not in a position to make a down payment for the drip irrigation systems. It has also been observed that these MSEs with the help of credit facility are willing to invest in these systems. IDE in the coming season would like to experiment with supplying systems through the NGO established self-help groups. These groups can extend credit to its members for purchase of drip systems thereby increasing outreach of the program. Several self help group members have started coming forward as awareness and interest in these systems is increasing and most sales of small systems to tribal MSEs has been through self help groups.

### *Type of systems*

As mentioned in Section I, there exists a dilemma between sale of bucket kits and customized horticulture systems. While the horticulture systems generate larger returns both for the assemblers (and other BDS providers) as well as the MSEs, the poorest cannot afford these systems. For them, IDE has what we call the bucket kit. This kit can be used on just 20 sq.meters of land. While it does not add substantially to income of MSEs, it has been extremely successful in addressing the issue of food security and nutrition. We would like 10% of our installations to be bucket kits. At present 7.2% of total sales are small system sales comprising bucket and drum kits that have primarily been purchased by tribal farmers. In some cases it has also been observed that these MSEs subsequently switch to larger systems by taking a loan. We would like to track as to what percentage of bucket kit users subsequently purchase larger systems in the coming year.

We have also developed and promoted low cost drip tape called **Easy Drip**, popularly known as pepsi drip tape used to package the soft drink beverage. IDE is standardizing this system for vegetable cultivation in areas ranging from 1000 sq meter to 4000 sq meters. These systems are priced about 60% lower than IDE's low cost customized systems. These systems have been well received by the poorer MSEs and already constitute 12% of total sales. Smallholders with under 2 acres of land are gradually adopting these very affordable Easy Drip systems on about ¼ of an acre to ½ acre of land primarily for growing vegetables. In the coming seasons we can expect them to adopt these systems even for fruit trees. IDE is of the opinion that this type of system is affordable by the very poor smallholders and can be an important contributor to reaching out to the poorest.

## **4.3 Developing the most appropriate indicators for BDS programs targeted to microenterprises**

Over three years, IDE will attempt to develop indicators that will help us to measure performance of BDS programs. We have developed an MIS tracking system to enable us to obtain information on turnover and profitability of BDS providers. While the MIS is good for information on sales and gross margins, arriving at net margins is tougher. It requires building confidence in the BDS providers that such information would not be used to their disadvantage. Also, IDE's follow up of 100 MSEs in year one by field staff has helped us obtain some initial information on profitability of MSEs participating in the program. The measures used need to be further refined and tested over the next 2 years. Profitability calculations especially in horticulture can get fairly complex due to long gestation periods, intercropping in the first few years, inability of the smallholder to often estimate the exact nature of input costs and these are further complicated when drip

irrigation is adopted in existing horticulture farms. IDE is trying to arrive at appropriate ways to deal with these complexities.

There also needs to be some feedback collected on social impact on MSEs. We are now in the process of developing crop and system wise profitability data for measuring impact on MSEs as well as assessing what social indicators to track in the coming year.