Integrating small holders into high value markets through development of smallholder irrigation systems value chains

Field Visit Report: Jalna

November 2003

Background

This field visit report is focused on the work done by IDEI on its IPMAS programme. IPMAS rationale is to alleviate hunger and poverty through addressing the smallholders' water constraints and opportunities,

IDEI has worked this programme for the last years with the strong conviction that enabling small holders access to affordable micro irrigation technologies is one of the most effective tools to address the most relevant needs of the rural poor.

In line with the above, CII, IDEI and IDF have organized this training workshop with the view of:

- Understanding the clients of this technologies and grasping relevant insights concerning their livelihoods and reality
- Understanding the value chain structure, dynamics and key players in which the small holders operate
- Identifying the facilitation process and orchestration of the different value chain actors
- Analyzing the output dimension of value chains
- Identifying market opportunities

Methodology and approach to the field

Visit

The team that performed the field visit was composed by 12 participants. The team visited during 4 days different actors of the value chain as well as facilitator partners. Diversity in the team enriched discussions. Participants were from a variety of nationalities and backgrounds. The field visit was done in the rural area of Jalna about 60Kms from Aurangabad.

Interaction with the value chain actors and facilitation partners was done through:

- FG Discussions
- Roundtable discussions
- One to one interviews

CLIENTS – FARMERS AND THEIR PRODUCTION SYSTEMS

PREVIOUS SITUATION

- Less land under cultivation
- Lack of access to adequate extension support
- Low crop yields
- Heavy reliance on rain fed
- Lack of access to AMIT
- Relied on bucket irrigation
- Most land was under fallow
- Low water use efficiency(Furrow irrigation)
- Grew staples mostly
- Low crop diversification
- Low asset holding capacity
- Less land under cultivation
- Land degradation due to lack of water management

CURRENT SITUATION

- Increased cropping intensity
- Increased access to emit
- Improved crop diversification
- Improved market access
- Improved water management skills
- Improved crop quality
- Increased crop yield
- Increased land under cultivation
- Reduced migration
- Reduction in labor use

Success story

Affordable technology has a real impact on its clients lives

- 34 years old Ms. Nila Taya Ranamagar resident of Sindikhali village has 5 members in her family.
- She cultivates 2 acres of land which allowed to her family to earn around Rs 2 thousand / $ 50 a year growing cereals.
- She heard from her neighbor about KB drip and decided to become an owner of a micro-irrigation technology system.
- After adopting KB, she was able to obtain Rs. 10-12 Thousand per season growing different types of vegetables such as Tomato, Chili, Eggplant, Cauliflower and cabbages.

This income increase allowed her not only to diversify her income source from the cereal production but also to buy a sewing machine and also to invest on her children's education.
"I am happy with KB drip. It help me to improve my quality of life"

Testimonials: How farmers benefit from affordable drip irrigation
Relevant technology at a low cost
More efficient water consumption
Labor savings mostly on weeding and irrigation activities (app 75%)
Improved quality for their crops (enabling better output)
Women farmers are interested to get involved
Can be shifted to other crops
Easily replaced the damaged part

HOW DO THEY LEARN OR WHO TEACH DRIP IRRIGATION

- IDEI demonstration plot
- IDEI video shows
- IDEI staff / personnel
- Neighboring households
- Sugar mills
- KVK

Mr. Kinas Shank Rao Karap earned RS 90,000 this year from his 5 acre of grape farming with drip irrigation

CONSTRAINTS ADAPTING DRIP IRRIGATION (Claimed by Non –users)

- Accessibility (Where to get the Drip Irrigation system)
- Low confidence in carrying out the installation process successfully
- Lack of access to working capital (Limited access to micro-credit support)
- Accessibility to output markets (vegetable market)
- Vulnerability of the DI system against rats

(Users claimed to be satisfied with there irrigation system)

IMPACT - HOW THE LIFE HAS CHANGED (Testimony)

1st case:

Input		**Previous**		**Current**
All figures in Rp				
Labor		2 days (i.e. irrigating)		1 hour
Seeds		400		400
Fertilizer		1,400		1,400
Pesticide		1,500		1,500
Drip irrigation		20,000 (ISI)		5,200 (KB)
Total		**23,300**		**8,500**
Gross Output		48,000		50,000
Net profit		**23,000**		**41,500**

\

So what?

- Digging well
- Daughter wedding
- Feeding more nutritious food
- Buying nice clothes

2nd case:

Women Established Horticulture & Floriculture Nursery (with Drip & micro sprinkler)

Area: 5 Gunta (5000 sq meter)

Nursery
Fruits: mango, guave, papaya, custer apple, sitafal, aula, pemogrant, grapes and flowers.

Income per year

Gross	Rs 50 – 100 thousands
Net	Rs 40 – 80 thousands

She learned through KVK facilitated by IDEI: Easy Drip, Micro-sprinkler, budding, priming, supply chain and out put market development

Smallholders know significantly more about:

- Where to sell his product / what
- What to grow and how
- When to grow and what
- What can he sell for how much

These are the achievements made by IDEI so far, however, there is a lot to do to improve the quality of life of smallholders

IDEAS AND SUGGESTIONS

- Since the need of market development is so critical in the long run IDE should start encouraging players within the value chain to start providing self-sustaining marketing systems.

- When farmers cultivated more and more high value crops then the supply goes up, it means the output price of the crop inevitably will go down – so IDE should start working out differentiate the farmers produce.

WATERSHED MANAGEMENT AND KVK TRAINING CENTRE

- Low rainfall less than 600mm per year
- Rainfall usually in heavy storms creating run off
- Land degradation
- Migration of people to town
- Wells have got deep water level
- Watershed is 1800 hectares
- NGO MSSM has watershed management intervention

METHODES

- Methodologies used is bunds and continuous control trenching

RESULTS

- Increased water levels in wells
- Two hours pumping time before, now it is 5.5 hours
- Reduced migration
- Cultivation of high value crops e.g. vegetables and pomegranates
- IDE collaborates with KVK which is a farm science centre
- Its is a training institution of farmers, rural youths, women and extension workers
- It is also used for frontline demonstrations of cotton and pulses (pigeon peas, greengram and bengo peas.
- Own farm research

MANUFACTURERS

Previous situation

- Production of affordable irrigation technologies was not existing.
- Branding was not existing with pepsi. (Brand is associated with quality.)
- Less number of dealers
- Low production in winter
- Production was concentrated on pepsi

Low income

Current situation

- Links were created between manufactures and farmers
- Plastic extrusion diversified business
-
- KB drip is associated with research and development.
- Increased income as a result of diversification of product
- Synchronization of production schedule increased income by working all year round.

Increased number of dealers (15 – 20 dealers)

IDEAS / SUGGESTIONS

IDE should continue to actively market the drip until sustainability is achieved**.**

VALUE CHAINS – DEALERS

Previous

- Started business in 1982
- Dealing in expensive irrigation materials
- Few customers
- Less volume of business
- No mobile dealer
    - Required big capital
    - No customers

IDE> simple research, training for the dealers and made simple agreements

Current

- Increased volume of bussiness and income 200 – 250 farmers
- Stocking easy drip materials
- Assured of market-farmers linked
- Injection of more working capital
- 25,000 – 30,000 income (10 – 15%) commission from KB
- 70% directly to farmers (30% through dealers)
- Easy access to easy drip material for the farmer
- Emergence of mobile dealers
- Service at farmer's convenient distance
- Farmers pay 75% of total cost, 25% after installation
- Marketing services for the dealer and IDE through local newspapers, agriculture shows and demonstrations at markets
- Technical assistance to the farmers

Discussion question
>When water is very scarce, low sales for the dealer

INPUTS MARKETS: PESTICIDES, SEEDS AND LIQUID FERTILIZER

We visit two types of input dealers (suppliers)

1. Input Dealer in Jalna (pesticides, seeds and fertilizer)
2. Multinational Hybrid Seed Company (Seed)

CASE 1 Input Dealer in Jalna (pesticides, seeds and fertilizer)

- 30 year old family business run by 4 brothers.
- Leading suppliers in the area
- Integrated business with other farming categories being: 1) regular farming inputs and 2) farming tools categories

Input sales	:	Farming tools sales
85	:	15

Business of inputs

	Input Categories	Sales	Profits	# of Suppliers	Outlet channel	
1	Seeds	30	30	5	70% farmers	250 H.S 15 L.S
2	Pesticides	60	60	5	30% dealers	220
3	Liquid Fertilizer	10	10			
		100	**100**			

Input Manufacturers development services

- Product are given through concession scheme. Whatever is not sold in the season is returned to the manufactures / there is a recollection service
- Manufacturer provide market development services for these product categories such as 1) farmers demonstration, 2) Field trials and extension services (technical advice)

Input dealers development services

- Access to farmers through the retailing stores
- Injection of working capital to the whole value chain. All the 220 dealers and traders of input that deal with this store have an average of 6 months credit period. However amortization of the principle was done periodically throughout this period (farmers pay in cash and carry basis)

- Technical advise concerning input use to the farmers and the dealers. (30% of the purchase decisions were taken at the retailing store
- Cross category advise concerning use of farming tools.

IDEAS AND SUGGESTIONS

- There is significant space to develop input category management and merchandizing activities (along with TA) to make the business of the input dealer more profitable.
- The rationale behind this being 1) return on assets is critical for the business. The dealer claim that he is just interested to manage within his categories the most profitable products (mix between margin and volume) in order to maximize the returns on his limited space at the store (he just handle liquid fertilizer not bulky fertilizer. 2) He claim that at least 30% of the purchase decision were taken at the point of sale.
- For example to make a never ending in store video with promotion and technical advise to the farmers that are waiting to be assisted / shop (the video might be provided by the input manufacturers).
- He also started extending his business to the field was feasible and eventually profitable, however, he believes by doing so will harm his business reputation as farmers might think that this action is as a result of a desperate intent to improve profitability.

IDE'S INTERVENTIONS

- IDEI's has strengthened linkages within the value chain in particular between farmers and dealers (supply and demand)
- The input dealer has participated in market development process providing technical assistance in the use of inputs and raising awareness on how the farmers can better access these products.

CASE 2 Multinational Hybrid Seed Company

Bejo (Joint venture with Dutch Seed Manufacturer for High Value Horticulture Hybrid Seed)

Seed Manufacturer Development Services

- Market development services 1) On - farm trials carried out by technicians and supervisors 2) Demonstrations concerning the use of hybrid seed (on farm and non farm demonstrations in four different regions across India: Calcutta, Punjab, Varanasi, Khajura and Maharastra.
- Working capital for the value chain

CONSTRAINTS

- Hybrid seeds require intensive water control as well as other inputs when compared to the use of regular seeds
- Hybrid seeds are often affordable for the poor farmer (require cash outlay power)
- Even if farmers manage to afford these seeds the growing process requires advanced technical knowledge in hybrid seed production to achieve the optimal results (farmers are not convinced that the investment in hybrid seeds pays out investment)

OPPORTUNITIES

- Some of the crop categories that use hybrid seeds are high intensive on labour, therefore the small farm eventually can benefit from a comparative advantage over other producers.
- Women have become the natural target of their market development activity, therefore this is a unique opportunity to empower women.

IDEAS AND SUGGESTIONS

<u>Short Term</u>

- Seek endorsement from Bejo in the promotion of use of KB drip. Hybrid seeds use "inspirational" and associated with skill and productive farming techniques, therefore 1) KB drip can be promoted on Bejo's demonstration plot amongst other marketing activities. 2) bejo has immediate access to 28,000 farmers who supplies seed for them. The use of KB drip can be promoted amongst the successful segment of farmers.

<u>Long Term</u>

- If IDE ventures to explore hybrid seeds use amongst poor smallholders, R&D should aim to conceive an affordable choice to this particular segment
- Selection of poor smallholder should be done carefully and the growing process with them closely monitored as growing value crops, the hybrid seed is more complex than the growing process of regular seed making technical knowledge critical factor for success

PROCESSING UNIT

The team visited a processing unit established in 1993 and processes mostly chili and tumeric.

- He employs 20 workers
- Supplies Maharastra and exports to Nepal
- Has 10 – 15 thousand farmers supplying him with Chilis

BEFORE

- Processed only low quantity of chili and tumeric
- Did not produce different quality
- Did not provide any service for post harvest technology
- Never worked with the farmers

AFTER

- Processed different types of chili and turmeric
- Produce different type of chili and tumeric powders as per the demand of the customers
- Teach value added technology to the farmers, e.g. trained the farmers in post harvest technology

Small farmers started to cultivate good quality chili and tumeric when they learnt about the post harvest technologies that could add value for their production.

Farmers – Dealers – Processing Unit – (then value added to farmers)
Before After

VALUE ADDED TECHNOLOGY

When the processing unit started to train the small holder farmers regarding post harvest technology, the farmers are now able to earn more from chili production.

Example:

Originally they earned RS 3 per Kg from green chili which was being sold at the market and Rs 18/ kg for dry chili. after they were trained on post harvest technologies, they are now able to earn Rs 25 per kg from dry chili

PROCESSING UNIT LINKAGE WITH IDEI

- IDEI facilitated to work together with the farmers and producers for value added technologies
- Due to IDEI, Processing unit developed the linkage with KVK, or for the farmers

CONCLUSION

There was no direct intervention to processing unit , however, they created such a forum where processor, dealers and farmers sit together and discuss about the importance of drip irrigation for value added technology