International Development Enterprises (IDE)

Capacity Building for the
Dissemination of Water and Irrigation Technologies

Final Evaluation
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Acronyms

AMIT – Affordable Micro Irrigation Technologies
BDS – Business Development Services
BHR – Bureau for Humanitarian Response
CDM – Capacity Building, Development, and Marketing of the Low Cost Hand Pump
COO – Chief Operation Officer
COPE/MRE – Corporate Performance and Evaluation/ Monitoring, Reporting, & Evaluation
DfID – (British) Department for International Development
DIP – Detailed Implementation Plan
EWW – Enterprise Works Worldwide
FAO – Food and Agriculture Organization (UN)
GOB – Government of Bangladesh
GOI – Government of India
IDE – International Development Enterprises
IDE-B – IDE Bangladesh
ITC – Intermediate Technology Consulting
LCHP – Low Cost Hand Pump
MEDA – Mennonite Economic Development Agency
MG – Matching Grant
M&E – Monitoring and Evaluation
MIS – Management Information Systems
NGO – Non-Governmental Organization
OD – Organizational Development (Committee)
PLA – Participatory Learning and Action
PVC – Private and Voluntary Cooperation (Office)
PVO – Private Voluntary Organization
R&D – Research and Development
SEEP Network – Small Enterprise Education and Promotion Network
SDC – Swiss Agency for Development and Cooperation
SOW – Scope of Work
TS&D – Technology Selection and Development (Department in Bangladesh)
USAID – U.S. Agency for International Development

Executive Summary

1. The Context and Constraints Leading Up to the Matching Grant (MG) Program

IDE was launched in 1981 by a handful of religiously motivated businessmen, believing that through a business-like approach they could affect poverty around the world. From its inception, IDE used a market-driven approach, in which poor people were viewed as customers able to improve their productivity and incomes through improved access to affordable and appropriately scaled technologies.

Fifteen years ago in Bangladesh, IDE launched a project to commercialize the treadle pump, a low-cost irrigation technology, using a private sector supply chain and mass-marketing strategies. More than one million treadle pumps were sold in Bangladesh to small and marginal farmers, who generated $120 million in net income between 1986 and 1999. These impacts established IDE's reputation in the development community, as very few technology transfer programs have ever achieved such outreach or impact.

Over the years, IDE's concern for impact in the field has been an all-encompassing focus, to the extent that relatively little attention was paid to the "institutionalization" of IDE. Management information systems (MIS) were not highly developed even as the NGO's budget grew from US $0.5 to $5 million between 1990 and 1999. Moreover, headquarter staff ranged between five and nine even as country programs grew in number (there are eight today) and the field presence mounted to nearly 500 employees. This disproportionate ratio between headquarter and field staff clearly stretched the management capacity of Denver.

At the same time, IDE has been highly dependent on funding from the Swiss Agency for Development and Cooperation (SDC) since the early 1990s. While SDC has continued to be a loyal supporter, the donor is now pressuring IDE to diversify its funding base, nationalize its country programs, and find other resources to cover Denver headquarter costs.

Against this backdrop, IDE Management and the Board realized the need for IDE to build its institutional capacity and, with this in mind, applied to USAID's BHR/PVC Office for a Matching Grant.

2. The Objectives of IDE's MG Program

The objectives of the MG Program as detailed in the Detailed Implementation Plan (DIP) include:

1) Better management systems throughout the organization to facilitate planning, communication, monitoring, evaluation, information and lessons sharing;
2) Increased effectiveness of public education and outreach;
3) Improved monitoring and evaluation systems that are essential for program management and documentation of successes;
4) Development of regional committees to facilitate communication within IDE, with the aim of fostering greater cooperation between country programs;

5) Enhancement of IDE's capacity to assist its collaborators in building their capacity, and of IDE's ability to transfer mature products to other country programs and share program experience with other organizations.

The rationale for these objectives is aptly described in IDE's *Year 2 Annual Report to USAID*. "IDE aims to **increase the management capacity** of the international headquarters so that it can manage its growth; better communicate its model and methodology; and become a more widely-known and influential organization in the development community." The report also intimates the need to "become an active player in the development community" so as to "**open new sources and types of funding**, reducing our dependency on European donors."

3. The Accomplishments of IDE's MG Program

Denver Headquarters

The MG Program has allowed IDE Denver to strengthen its management capacity by hiring new staff and developing improved management systems, which were previously either weak or non-existent. The new professional (technical) staff – the Monitoring & Evaluation (M&E) Officer and the Accountant – bring to IDE Denver much-needed technical capacity. Moreover, these new positions appear to have been institutionalized. However, in order to be effective, they need sufficient travel monies to provide regular assistance to country programs.

A key accomplishment of IDE's MG Program has been the development of monitoring and evaluation and management information systems (M&E/MIS). The M&E Guidelines represent a significant body of quality work that has contributed to improved reporting, planning and institutional decision making. While more needs to be done to institutionalize the systems already completed, they appear to have had a marked impact on the organization and decision making at headquarters, the Board level, and in the field.

The formalization of systems at IDE, however, came at a price, i.e., significant turnover in staff. IDE had always considered itself a "cowboy" organization where independence, creativity, and impacts were rewarded. The institutionalization of systems created stresses, at a time when the rapid growth of the organization was stretching the technical and managerial capacities of staff. This situation culminated in five staff persons leaving the Denver office in 1999/2000.

In early 2000, IDE hired a new Chief Operating Officer (COO), who brings strong managerial skills to the leadership of IDE. This new position in addition to a new M&E Officer and two new and well-qualified country directors in IDE India and Bangladesh provide a strong managerial base for IDE's future.

Under the MG Program, IDE Denver produced an impressive body of quality educational materials, and made concerted efforts to reach out to audiences in Denver, beyond Denver in the U.S., and in the international community. IDE hired a Director of Development/Public Education, a professional fund raiser (on a consultancy basis), a Program Assistant focused partially on public education and outreach, and most recently a staff person to update and further develop IDE's mailing list.

IDE has made some important strides toward greater integration into the development community as a result of collaborations related to the Global Initiative, and partnerships forged in applying for an RFP and developing a the Haiti Country Program. Nonetheless, IDE remains relatively isolated from other PVOs focused on similar goals with similar strategies.

IDE India

IDE India applied for and used the USAID MG funds to expand into a new product line, "affordable micro-irrigation technologies" (AMIT). These technologies developed in Israel and transferred to India 15 years ago allow farmers to increase yields by 30% while reducing the amount of water used by 50% as compared to conventional irrigation.[1] Drip or micro irrigation holds enormous promise for the millions of farmers living in semi-arid regions. AMITs represent the adaptation of these technologies for small and marginal farmers.

IDE India and IDE Denver have made a convincing case for the potential impact of AMITs. Both field and market tests have demonstrated the considerable water, labor and input savings as well as the increased earnings that can be realized by small farmers using AMIT. AMIT appears to be the kind "killer product"[2] that the treadle pump was in Bangladesh. The World Bank, FAO, and Winrock International are so impressed with the potential that they have partnered with IDE in a Global Initiative for micro irrigation.

The AMIT Program's efforts at developing a high-quality team, a process for learning and planning, and products tailored to the needs and resources of small and marginal farmers have been exceptional. AMIT's sales records are indicative of the project's success. In 1997-8, when project activities were largely focused on product development and testing, sales totaled 331 units. In 1998-9, when the program was testing marketing the products, sales mounted to 3,538, and then from 1999-up to July 2000, annual sales reached 5,990. Cumulative sales of 9,859 far exceeded the overall target under the MG Program.

Despite many strengths, the AMIT Program has experienced weaknesses in an area where IDE is usually strong. AMIT did not appear to have a clear idea of sustainability from the beginning of the project. AMIT's early strategy involved IDE staff selling directly to farmers and through NGOs. While this strategy might be defendable in the short-term when marketing a new product for which there is no demand, it is not sustainable and thus needs to be very time bound. AMIT now appears to be back on track in that the program is working toward developing a private sector supply chain. Nonetheless, the project needs to be clear regarding a sustainable role for NGOs and to ensure that NGO and AMIT staff are not involved in selling.

[1] Based on IDE's fact sheet on "bucket kits."

[2] According to IDE's definition, "killer products" must be cheap enough to be affordable, small enough for plots between .5 and 2.49 acres, produce at least 100% net annual income on their purchase price, and have a global market of at least one million."

IDE Bangladesh (IDE-B)

The objectives of IDE-B's Capacity Building, Development, and Marketing of a Low Cost Hand Pump (CDM) Project – prior to the reorientation to arsenic mitigation – included:

- developing a new affordable and appropriate product,
- developing (through training) a supply chain (manufacturers, dealers, and installers) for delivering the product,
- creating demand for the product through mass marketing efforts
- developing linkages with NGOs for credit provision
- developing awareness among customers about safe drinking water

While the arsenic problem hindered CDM's ability to achieve all of the project's original targets set (see below), the Evaluation Scope of Work asks whether CDM was able to establish the systems for achieving the goals and revised targets. And in fact, CDM's achievements include the establishment of an impressive array of systems within a short period of time. These systems include:

- testing service and equipment made available
- improvements in testing equipment
- supply chain of dealers and testers established
- involvement of dealers and installers in testing and promotion
- coordination with NGOs
- promotional materials developed
- mass marketing of arsenic issue through school programs, open air video shows, NGO video shows, dealer video shows, tester meetings, leaflets and posters, miking, and rickshaw processions.

Thus, CDM has been successful at developing and establish a supply chain for the new JANANI pump, launching a promotional campaign, linking to NGOs for credit provision, and developing an awareness about arsenic contamination. The targets achieved, as of July 2000, appear to be in line with the "new targets proposed," given that the project still has several more months before completion and that these months are a high sales period.

ORIGINAL TARGETS	PROPOSED NEW TARGETS	JULY 2000 ACHIEVEMENTS
40 manufacturers in place	4 Manufacturers	1 manufacturer in place
600 dealers selling the pump	300-317 dealers	254 dealers selling pumps
3000 installers trained	2000 installers trained	1,376 installers trained
15,000 pumps installed	5,000 pumps installed	3,442 pumps installed
50 NGOs working with the project	20 NGOs working with the project	57 NGOs working with the project

Success in achieving these objectives and targets was meant to produce a new "killer product" for IDE-B to commercialize on a mass scale, as the TP was reaching the end of its product cycle. Nonetheless, the JANANI pump is most likely not a killer product. There are at least 15 other similar products on the market.[3] While some of these are of poor quality, others have an excellent reputation among consumers (based on interviews with dealers).

[3] According to IDE-B's "Baseline Survey"

The real strength, however, and success of the CDM Project accrues from the unexpected, i.e., the arsenic problem. IDE-B's experience in marketing hard technologies using a supply chain approach has proven to be effective in developing a local capacity for arsenic testing. CDM's network of private-sector testers provide more dependable services over a larger area than many other better funded efforts (according to an interview with BRAC).

The success of CDM's model is also suggested by a paper written for the UNDP-World Bank Water and Sanitation Program and entitled, "Arsenic Mitigation amidst Uncertainty: Supply Chains for Arsenic Removal Units and Field Test Kits in West Bengal and Bangladesh." This proposed project design borrows from IDE's "supply chain" approach and shows its applicability across the arsenic-contaminated region of Bangladesh and West Bengal.

In seeking a new "killer product," IDE-B failed in the first attempt (the JANANI) but found in the arsenic problem an approach that may truly represent a "killer service."

4. Strengths, Weakness, and Recommendations for the Future

IDE's Vision and Identity

IDE is an organization with a powerful vision for development. Fifteen years ago, long before many other organizations, IDE developed a private sector approach to technology transfer. Using this approach, IDE demonstrated the ability to reach over one million small and marginal farmers in Bangladesh, increasing their annual income, on average, by US $100.

Nonetheless, this vision has produced confusion regarding IDE's identity, and whether the organization is a business or a development organization. A symptom of this confusion, exhibited all the way from the Board to field staff, is an over emphasis on sales of a single product (for instance the treadle pump). While sales are an important indicator of demand and supply, as a development organization, IDE needs to ensure that these sales result in broader developmental impacts. In keeping with best practices established by the Donor Committee, IDE's success should be measured in terms of its contributions to a vibrant and competitive market (for small-plot irrigation equipment) that offers small and marginal farmers, IDE's target group, a growing number of options at a wide price range.

IDE's identity confusion has affected program implementation. Because the M&E system, reports to the Board, and employee incentives have been focused on "number of TPs sold," for instance, field staff have sometimes forsaken sustainability and broader developmental impacts in the name of greater sales.

Recommendation:
IDE needs to expand its vision beyond a focus on selling a particular product and toward a greater emphasis on impacts at the market and customer levels.

IDE's identity has also been characterized as "cowboy" in nature, different from others, independent, and path-breaking. While these characteristics may have worked in IDE's favor in the past, they may no longer. Fifteen years ago, IDE saw itself – realistically – as singular in its private sector approach to technology transfer. Today, however, the rest of the development community embraces IDE's business-like approach.

To remain a leader in the field, IDE needs to engage in dialogue with the development community in order to learn and teach. IDE has a wealth of experience that the rest of the development community has not heard about. On the other hand, IDE has a considerable amount to learn from others, e.g., on best practice and methods for assessing markets, conducting feasibility studies, developing and facilitating markets, and monitoring and evaluation.

IDE did join InterAction as part of the MG Program. Nonetheless, participation in the development community is still limited because of scarce travel monies and staff time. IDE is constrained by its Denver location. Greater engagement, however, is a good investment and can contribute substantially to fund mobilization.

Recommendation:
IDE needs to join and participate in InterAction and the SEEP Network. This will require setting monies aside for travel and time aside for engaging in the technical debates within these networks.

IDE prides itself on its creativity. And indeed, IDE has adopted bold strategies for achieving impact on the poor. The most recent new program is the Global Initiative, which aims to disseminate micro irrigation technologies on a global scale. To realize this bold idea, IDE has galvanized support from some impressive institutions – including the World Bank, Winrock International, and FAO - and individuals, including author Sandra Postel and drip irrigation specialist, Jack Keller.

Over time, however, IDE has generated and adopted too many bold ideas, not all which have paid off. IDE is too small of an organization with too few staff and resources at headquarters to implement so many ideas, e.g., an appropriate technology institute, a consulting arm, a trading company, a private fund raising campaign and a global initiative.

Recommendation:
IDE needs to focus its efforts, balancing creative opportunities with its limited resources.

IDE's Management Capacity

Over the last ten years, IDE grew 10-fold, from a $0.5 million organization to a $5 million organization. And yet despite this growth, the Denver headquarters has remained very small. Prior to the MG Program, the Denver office was made of five staff

persons. With support from PVC, the Denver Office grew to nine staff persons in 1998; today there are seven. This handful of staff stands in contrast to the 493 employees in the field.

The stresses created by growth on the Denver office culminated in 1999, when five Denver employees left the organization. At the same time, two country directors left, after the end of the contract, though not without fallout. In organizational development terms, the upheaval appears to have evolved from two sources. As IDE grew, it required staff with increasingly specialized skills. As a small organization, a single staff person could fill multiple functions; with growth, greater specialized management and technical skills were needed. In other words, some staff outgrew their ability to manage the greater complexity (according to Board and staff interviews).

Additionally, this "cowboy" organization was being forced to adopt more systems and to formalize in ways that were painful to some of the more independent staff and Board members. While recent interviews with Board members now confirm their commitment to and appreciation for the need of systems, the process of adopting them was nonetheless painful.

The changeover in Country Directors may also have been related to the insufficient management capacity of Denver. Although these directors' contracts had come to an end, their departures were welcomed. Both directors were young and relatively inexperienced for managing large, complicated programs. Both left behind substantial problems to be resolved by their successors.

Finally, IDE Denver staff work on a number of projects that do not directly support the country programs. For example, IDE's consulting arm, private fund mobilization efforts (for Denver), some of the public education and outreach activities, the Appropriate Technology Institute, a proposed trading company, and the Global Initiative have either limited, indirect or long-term implications for country programs. While some of these activities are producing funds and useful mechanisms for field programs, they also take Denver staff's focus off of providing the kind of day-to-day technical assistance and oversight needed to manage a network of eight country programs.

Recommendation:
Although IDE has recently hired a Chief Operating Officer, who is providing important and quality management oversight**, Denver needs to increase the number of staff, and especially Desk Officers, in order to manage its eight field programs.**

As noted by IDE's new Chief Operating Officer, IDE has suffered from lack of cohesiveness, a low degree of quality control and accountability across programs, and disjointed fund raising efforts.[4] These problems stem – at least in part – from the relationship between programs and headquarters, in particular, the disproportionate

[4] IDE Strategic Action Plan," June 2000.

number of staff in Denver as compared to the field (7:493). With such a small staff in Denver, it has been difficult for headquarters to create cohesiveness.

The MG Program has allowed IDE to initiate an effort to harmonize management information systems, and thereby achieve greater cohesiveness. Nonetheless, the limited technical assistance and oversight provided by Denver, and the limited role played to date by Denver in generating funds for the field contribute to a sense of independence on the part of programs.

Recommendation:
IDE needs to develop a plan for assistance to the country programs that takes into consideration the proper role and responsibilities of Denver. On the one hand, the country programs want flexibility in developing a program suited to a country context and are resistant to dictates from headquarters. On the other hand, they are eager for assistance with fund raising, proposal writing, monitoring and evaluation, financial management, and coordinated learning. By providing these services, IDE Denver can develop greater cohesiveness, quality control, and accountability with the cooperation of the country programs.

Monitoring & Evaluation/MIS Systems

The M&E/MIS systems developed under the MG Program have made an important contribution to building the capacity of the institution. The new M&E system has generated regular (monthly) reporting, provided a common format for reports, and allowed headquarters to report comparable data to the Board on program performance. Nonetheless, the M&E/MIS system has not been sufficiently institutionalized within the IDE network. Country Directors complain that the reporting is only for Denver and does not suit their needs. Moreover, directors in India and Bangladesh are not clear about the utility of M&E and MIS.

Recommendation:
IDE needs to further develop and refine the M&E/MIS systems in collaboration with the field to ensure buy-in (that it serves everyone's needs), harmonization (of systems) and their contribution to improved management at the country program, Denver, and Board levels.

Recommendation:
Country Directors need training in how to use M&E/MIS data for better program management.

The MG Program has led to greater standardization and regularization of reporting, but the reporting remains too focused on the accomplishment of activities (as a business might), with too little attention paid to process, development impacts, and analysis. The M&E system developed under the MG Program needs to be further focused on indicators that donors are interested in and that will help country directors better understand the underlying causes of program performance.

Recommendations:
IDE needs to incorporate into its M&E system indicators that measure impact on the market (defined more broadly than TPs, for instance), sustainability of the supply chain, and impacts (e.g., net income, improved business practices, business linkages, etc.) on both farmers and supply chain members.

Recommendation:
USAID's Office of Microenterprise Development in collaboration with the Donor Committee for Small Enterprise Development has launched an on-going effort focused on performance measurement in BDS. IDE needs to refer to this when refining their own system

While the M&E systems of India and Bangladesh are sophisticated, M&E Departments do need technical assistance from Denver in designing impact assessments, incorporating an expanded number of indicators (beyond sales) into their system, and analyzing data collected.

Recommendation:
The M&E Officer needs the resources to focus on the M&E needs of country programs and to provide on-site technical assistance.

Institutional Sustainability: Funding Mobilization

Since its inception, IDE has been reliant on a handful of donors. SDC has been a key donor for both IDE India and Bangladesh. Over time, SDC has pressured IDE to diversify its funding base and has refused to pay more than 50% of IDE's already small overhead. Dependency on SDC has left IDE Denver in a situation in which it is under-funded; scrambling to identify new sources of funds (SDC has promised to cut the budget by an increasing percentage every year); and dependent on a narrow base of donors.

Recommendation:
To ensure its sustainability, IDE needs to diversify its funding base and identify donors that will pay for Denver overhead costs.[5]

IDE has devoted years to developing fund raising strategies targeting private sources, foundations, corporations, and bi- and mulit-lateral donors. Under the MG Program, IDE hired a Public Education Officer that contributed to raising the public's awareness of IDE's programs. More recently, IDE has hired a staff person to further develop the mailing list for soliciting private funds. In addition, a fund raising expert has been hired (part-time) to develop a corporate strategy. Despite considerable efforts, IDE Denver has not had great success.

[5] IDE's new Chief Operating Officer has developed a plan for fund mobilization that includes a broad array of donors.

It appears that there have been too many plans and directions researched and not enough proposals written, submitted, and followed up on. For instance, IDE's Director for Development (part time Public Education) spent 15 months on a private-fund raising effort before she left the organization. This fund raising campaign is viewed as unsuccessful, and yet the data on donations suggest that this campaign – while just getting started – increased donations by somewhere between 20% and 50% between 1998 and 1999.

Recommendation:
IDE needs to follow through with its fund raising plans and efforts. Developing relationships and collaborations with donors requires time, consistency, and follow through. IDE is more successful that it gives itself credit, but needs to be consistent in its efforts.

IDE's sustainability and capacity to implement the recommendations in this report are largely based its ability to raise funds for institution building. While the MG Program may be able to support IDE, the organization needs a clear and well-organized plan for strengthening Denver resources. A number of strategies have been tried and/or discussed: a private fund raising, a consulting arm, a corporate campaign, and a more concerted focus on multi- and bi-lateral donors.

Recommendation:
Given its immediate needs for funding,, IDE-Denver needs to prioritize its efforts, and select opportunities which have potential for success in the short-term.[6]

The IDE Model (Learning & Harmonization Across Programs)

As noted earlier, IDE has a powerful vision and approach to development. Other organizations use a supply chain methodology for disseminating technologies to small farmers and microentrepreneurs. Nonetheless, IDE has probably been more successful than other PVOs in selecting "killer products" that are truly affordable, at using state-of-the-art marketing techniques for creating demand, and at strengthening nationwide business linkages among manufacturers, dealers, and installers (or village-level agents) for delivering products to the rural poor.

However, IDE's relative isolation from the development community and reliance on a small number of donors has meant few people know, understand, and appreciate IDE's model. The Donor Committee for Small Enterprise Development as well as a network of BDS practitioners has launched a learning process in recent years in order to advance knowledge and practice in BDS. IDE has much to contribute to the dialogue and much to learn from it.

[6] Longer-term plans have been developed by the Chief Operating Officer.

Recommendation:
IDE needs to participate in BDS conferences (including SEEP's BDS Working Group), meetings, and research efforts in order to contribute to and benefit from the development community's learning on BDS best practices.

A key area where IDE can improve its model relates to the organization's strategy for and investment in market facilitation (or development). IDE's programs in Bangladesh and India have invested considerable resources in developing the market for TPs, for instance. Both programs have large numbers of staff persons (in the hundreds), and have 15 and 8 years respectively developing the TP market.

The Donor Committee – that includes many of IDE's donors – are now pushing for much more time limited interventions, and much less involvement in the market. As a result, few donors will likely be willing to fund a program for a time period 15 or even 10 years. In fact, the Donor Committee is suggesting 3 years.

Recommendation:
IDE has learned much about market facilitation over the last 15 years. Interviews with staff demonstrate their sophisticated knowledge of BDS, market development, and sustainability. IDE needs to consolidate this learning, and experiment with strategies for market facilitation that entail a much lighter involvement in the market over a shorter time period.

IDE sees marketing as an important role for the organization, and one that is largely subsidized. While supply chain participants pay a small part of the cost of promotional activities, by far the largest share is paid for by IDE. In Bangladesh, IDE is increasingly shifting these costs to supply chain members, especially in areas where IDE is or planning to phase out.

Interviews with manufacturers and dealers reveal the value that these entrepreneurs place on IDE's promotional efforts. Not only do promotional activities bring dealers and manufacturers greater prestige in the region, they also increase their sales of other products. This suggests that IDE may be over subsidizing promotion. For instance, after less than a year of implementing its promotional campaign, the CDM Project appears to have developed an appreciation for the benefits of promotion and business linkages among supply chain entrepreneur. Promotion and business linkages are services that entrepreneurs may be willing to pay for, once their value is demonstrated.

Recommendation:
IDE needs to explore exiting from promotional activities much earlier in the project life cycle, and to assess whether these services can be provided by the private sector.

Additionally, there is little sharing among country programs regarding problems and solutions faced in creating demand, facilitating the supply chain, and reaching sustainability. Competition among country programs and lack of coordination from

Denver leave many IDE employees talking among themselves and learning from one another, but not sharing or codifying this knowledge.

As a result, some country programs have adopted strategies that are not in keeping with IDE's model and/or BDS best practices. In other instances, country programs reinvent the wheel because they lack information on how other programs have solved a particular problem.

To summarize, while IDE has a tremendous amount of knowledge in-house, there is no mechanism by which employees can collectively codify and consolidate this knowledge in order to improve the quality of programs and advance best practice. For instance, both IDE India and Bangladesh are experimenting with approaches to sustainability (exiting), and yet one does not know what the other is doing.

Additionally, without a clear model and/or concerted and collaborative effort at developing one, IDE Denver is not in a position to exert quality control over programs.

Recommendation:
IDE needs to launch an organization-wide action research effort in order to codify, consolidate, and advance its model.

Recommendations:
IDE needs a collaborative project approval, management and/or M&E system that establishes quality control in line with its model.

IDE's Approach to Sustainability

Although IDE uses a business-like approach to development, the organization is still struggling with the issue of sustainability. IDE's Operations Manual, as well as other publications, states that once demand reaches a certain threshold, suppliers will spontaneously emerge to meet that demand. In keeping with this sustainability strategy, IDE country programs were supposed to engage in promotional activities until demand reached a "critical mass," and at this point exit. No program, however, has done this. Only in the last year has IDE-B phased out of areas where sales are the greatest.

Moreover, because of the lack of clarity regarding sustainability, IDE lacks guidance for new start-up programs. IDE's regional marketing expert argues that when first introducing a new product, it is often necessary to engage in direct service provision, i.e., in selling directly to consumers, since entrepreneurs are not willing to risk on a product they know nothing about.[7] This direct intervention in the supply chain needs to be time limited. The Donor Committee recommends that a vision of sustainability be established at the beginning of the intervention. In the case of IDE, there needs to be a

[7] However, in the case of the AMIT Program, the manufacturer (who was not small or informal) was willing to take a risk on AMITs because the opportunity looked attractive. As a result, the manufacturer invested his own money in modifying components for use by small farmers.

clear idea of a sustainable supply chain and a plan for exiting from the start. All program activities should be designed in preparation for exiting.

Recommendation:
IDE needs to establish – in collaboration with country programs - clear guidelines (especially for start up programs) for reaching sustainability, and the M&E system should track progress toward and achievement of sustainability.

Recommendations:
IDE needs to require that all project design documents include a description of a sustainable supply chain, and a plan for exiting.

I. Introduction

A. Introduction to International Development Enterprises (IDE)

IDE was launched in 1981 by a handful of religiously motivated businessmen, believing that through a business-like approach they could affect poverty around the world. Paul Polak, the founder of IDE – while not a Mennonite himself – gathered with a group of Mennonite theologians to create and finance the inception of IDE.

IDE's first program in Somalia in 1981 was designed to market donkey carts to the poor. In 1984, IDE entered Bangladesh, where the PVO launched what is now considered its flagship project. In 1992, IDE started its India program, now employing more than 200 people. By 2000, IDE had additional – though relatively small – programs in Nepal, Vietnam, Sri Lanka, Cambodia, Zambia, Haiti, and China. All programs entail a water and/or sanitation focus: irrigation, drinking water, and more recently arsenic and/or trachoma mitigation.

But while IDE has focused on water through irrigation, drinking water, or sanitation, the hallmark of this NGO has been its business-like approach to program design and implementation. IDE's Board, made up of Denver- and Canadian-based entrepreneurs, as well as the business experience of Paul Polak, the founder and now President, surely inspired the business orientation of IDE at a time when many NGOs were much more charity and welfare oriented.

In describing its approach to development, IDE points to it focus on the needs of poor farmers cultivating less than 5 acres of land (based on "IDE Approach," by Paul Polak, September 1999). IDE's aim is to increase productivity for these farmers by promoting access to affordable small-plot irrigation. "We sell poor people products to increase their income and improve their quality of life. To do this, we find or design 'killer products,' and make them available to poor people through mass marketing to activate the private sector." Killer products must be cheap enough to be affordable, small enough for plots between .5 and 2.49 acres, produce at least 100% net annual income on their purchase price, and have a global market of at least one million."

IDE uses a market-driven approach, in which poor people are viewed as customers who can improve their productivity and incomes through access to affordable and appropriately scaled technologies. Fifteen years ago in Bangladesh, IDE used a private sector supply chain and mass-marketing strategies to commercialize the treadle pump, a low-cost irrigation technology costing $24 installed. Through this innovative program, IDE-B sold 1.3 million pumps to small and marginal farmers, who generated $650 million in net income between 1986 and 1999. These substantial impacts established IDE's reputation in the development community, as very few technology transfer programs had ever had such outreach or achieved such impact.

Today, IDE is among a dozen or more NGOs engaged in technology development and commercialization, using private-sector supply chains. Among these NGOs/PVOs, IDE has been a market leader. The impacts that IDE has achieved in Bangladesh have inspired others to adopt demand-led approaches, focus more pointedly on affordability, and utilize

marketing techniques. Because of its long history in private sector development for microentrepreneurs and small farmers, IDE has a wealth of lessons to share with other PVOs. And yet its location in Denver, Colorado has contributed to IDE's relative isolation from the development community.

IDE's western location has also shaped the organization, described by one long-term Bangladeshi staff person as a "cowboy" organization that prides itself on its small headquarter staff in relation to field staff, and unswerving social mission to help the poor. Yet the concern for impact in the field has constituted an all-encompassing focus, to the extent that relatively little attention had been paid to the "institutionalization" of IDE prior to the MG Program. As a result, IDE's management information systems (MIS) was not highly developed, even as the NGO's budget began to grow considerably – from US $0.5 in 1990 to $5 million in 1999. And in 1999, there were only nine headquarter staff responsible for overseeing nearly 500 employees in the field in 8 countries.

Moreover, IDE has been highly dependent on funding from the Swiss Agency for Development and Cooperation (SDC) since the early 1990s. SDC has been the primary donor of IDE's large programs in Bangladesh (since 1990) and India (since its inception in 1992). And while SDC has been a loyal supporter of IDE over the last decade, the Swiss are now pressuring IDE to diversify its funding base, nationalize its country programs, and find other resources to cover Denver headquarter costs.

Against this backdrop, IDE Management and the Board realized the need for IDE to build its institutional capacity and, with this in mind, applied to USAID's BHR/PVC Office for a Matching Grant.

B. Purpose of the IDE's MG Program

According to the Detailed Implementation Plan (DIP) and the Scope of Work for the evaluation, the purpose of IDE's Matching Grant included the following:

1. Better management systems throughout the organization to facilitate planning, communication, monitoring, evaluation, information and lessons sharing;
2. Increased effectiveness of public education and outreach;
3. Improved monitoring and evaluation systems that are essential for program management and documentation of successes;
4. Development of regional committees to facilitate communication within IDE, with the aim of fostering greater cooperation between country programs;
5. Enhancement of IDE's capacity to assist its collaborators in building their capacity, and of IDE's ability to transfer mature products to other country programs and share program experience with other organizations.

The rationale for these objectives, however, is aptly described in IDE's "Year 2 Annual Report to USAID." This report states that – under the Matching Grant – IDE aims to **increase the management capacity** of the international headquarters so that it can manage its growth; better communicate its model and methodology; and become a more widely-known and influential organization in the development community." The report also

intimates the need to "become an active player in the development community" so as to "**open new sources and types of funding**, reducing our dependency on European donors."

In other words, the Matching Grant was conceived in response to some of the institutional strengths and weaknesses of the organization. IDE's growth from a $0.5 to a $5 million organization during the 1990s was straining the financial, human resource, impact monitoring, and strategic planning systems in place. At the same time, the European donors that IDE had grown to rely on were increasingly circumscribing the Denver costs they were willing to pay for. Public outreach and education were viewed as a means for expanding IDE's constituency and opportunities for funding.

The imbalance between an under-funded headquarters staff and well-funded field staff produced "insufficient integration," as noted by the new Chief Operating Officer. To combat lack of cohesiveness as well as quality control, IDE headquarters aimed to improve communications with the field, support regional committees with members from across country programs, and to advance organization-wide MIS, policies, and procedures.

Prior to the implementation of the Matching Grant, IDE's M&E system was overly focused on sales and insufficient attention was given to broader impacts that interested donors as well as the broader development community. While the sale of 1.3 million treadle pumps in Bangladesh had clearly put organization on the map within the development community, IDE still had to prove that these sales reduced poverty. And given the 15-year time frame of IDE-B's project, IDE had to prove that the expenditure of money over all these years was cost-effective.

In the field, IDE was in need of a new "killer product." The treadle pump – so long IDE's trademark – was apparently (based on declining sales) reaching the end of its product cycle. Under the Matching Grant, IDE proposed to develop, introduce and market low-cost micro-irrigation in semi-arid India. Micro irrigation was a new technology for IDE that showed tremendous promise. Its affordability and global applicability suggested that it could have even greater impact than the treadle pump.

In Bangladesh, IDE-B was also in search of a new product. Initially, a low-cost potable water hand pump was seen as the answer. However the problem of arsenic contamination across much of the country forced the program to change strategies. In applying its supply-chain methodology to this health risk, IDE-B found a new focus that had greater potential for helping people, and representative an innovative approach to a public health issue.

C. History of MG Program

IDE's Matching Grant commenced in September 1997. Two years into the program, IDE experienced a substantial disruption. Five out of nine staff persons in IDE Denver as well as three country directors – including the directors of IDE's largest programs in Bangladesh and India – retired and/or resigned. The country directors of India and Bangladesh left at the end of their respective three-year contracts, and the third country

director from Cambodia left to continue his education. The departures from IDE Denver, however, were part of growing tensions within the organization.

These tensions and departures can be viewed within the context of organizational changes within IDE. By 1999, IDE Denver had clearly outgrown its former way of operating under a substantially expanded budget as well as expanded needs from both the field and Denver. Growth was pushing this "cowboy" organization toward a more formalized structure with more formalized systems. It was also demanding more specialized skills from staff than was needed when IDE was a smaller organization.

The end result of these organizational changes and tensions was a changeover in staff. By early 2000, IDE had a new Chief Operating Officer, a new M&E officer; and a new program assistant/desk officer. Presently, IDE Denver is staffed by seven full-time permanent employees, an intern, and a volunteer.

Nonetheless, the Matching Grant had set in place a number of systems and processes and a new direction toward greater formalization and institutionalization that the new employees have picked up and moved forward with. This is not to say that IDE has not suffered from such a significant staff turnover. It has. It has lost substantial historical knowledge that will take time to replace. The new staff persons, while well qualified, have needed time to familiarize themselves with the systems that were developed under the first two years of the USAID MG Program, learn about country programs and their needs for support, and master IDE's approach and methodology. On the other hand, the changeover has brought in some very good new staff to carry on the directions established by the Matching Grant.

A second disruption that occurred during the course of the Matching Grant was the change in focus of the IDE-B hand pump project due to the growing recognition of the severity of arsenic contamination in tubewells. While the arsenic problem in the region is tragic, it has provided IDE-B with the opportunity to apply its supply chain and mass marketing approach to what constitutes a different kind of product. The arsenic awareness and testing campaign launched by IDE-B has been innovative and effective. It has been effective in terms of the outreach IDE-B has been able to achieve with its network of dealers and well installers, and the private-sector network of arsenic testers is an approach that others are not emulating and which has proved to more effective than subsidized testing.

In India, overall funding shortages caused IDE India to withdraw from Maharasthra. SDC funding available only for Gujurat resulted in a shift of a Regional Office from Maharashtra to Gujurat. The overall reductions in funding, however, may have also had a positive effect on the project, by pressuring IDE India to adopt strategies that were both cost-effective and innovative. These strategies may not only prove to be a more effective leveraging of funds than used in the past but may also contribute to best practices for the development community at large.

D. Methodology

The evaluation of IDE's "Capacity Building for the Dissemination of Water and Irrigation Technologies" Project was based on a comparison of project goals - expressed in the form of measurable objectives and/or indicators – measured against specific outputs. In some instances, achievement of project objectives was quantifiable, while in other instances indicators required qualitative assessment.

Since IDE's program falls within the field of "business development services," project performance was also measured against indicators of market development, sustainability, and impact as suggested by "Guideline to Performance Measurement of Business Development Services," prepared for the Committee of Donor Agencies for Small Enterprise Development, 1999. While this framework for performance measurement is still under development, there is widespread agreement within the development community regarding the performance goals of market development, sustainability, and impact. This framework was particularly useful in assessing sustainability, a key goal of the IDE program.

The data used for evaluating project goals and objectives was collected from IDE documentation in Denver, India and Bangladesh, and from interviews with staff. Information collected from field trips in India and Bangladesh contributed to an understanding of the context in which the field programs were implemented and provided primary data on supply chain members and regional staff.

II. Findings – Denver

A. Project Goals/Indicators/Findings

The assessment of project goals and objectives is divided into findings, evidence and analysis in order to ensure that evidence for findings are clear and to keep references to evidence from interrupting the flow of the analysis.

Goal 1: Strengthen Operational and Technical Capacity to Facilitate Expansion and Leveraging of the IDE Model.

In light of its expanding budget, the growing number of country programs, and the increasing needs of the field for support, IDE Denver – through its Matching Grant – aimed to increase its management capacity through more staff and improved and standardized management information systems (MIS).

Additionally, IDE Denver proposed "vitalizing its consulting arm." The rationale for this objective was twofold. To be more effective, Denver needed more funding to pay for staff, travel, as well as management and M&E systems. Given pressure from the European donors to diversify their funding base, IDE Denver viewed consulting as an attractive source of unrestricted income. Vitalizing its consulting arm was also viewed as a strategy for leveraging impact by "working with and through others," as well as implementing country programs. In other words, IDE could disseminate its "killer products" on a larger scale not just by implementing country programs, as in the past, but by providing consulting services to others.

Hiring of Accountant, M&E Officer, and new Country Desk Officer

a. Findings:

Under the Matching Grant, IDE hired an accountant, M&E Officer, and a Program Assistant, who is partly responsible for backstopping country programs. Additionally, MG funds covered a portion of the salary of a Public Education Officer.

The new Accountant, formerly worked in a small firm, from which IDE Denver out-sourced accounting services prior to the MG Program. Already familiar with IDE's financial accounts, the Accountant was in an excellent position to upgrade IDE's financial management information systems. Through field trips to India, Bangladesh, Cambodia, Vietnam, and Zambia, IDE's new accountant has Ms been able to provide technical assistance across IDE's country programs and improve financial reports to the IDE Board. The Board Meeting Books of 1998, 1999, and 2000 demonstrate the development, use and upkeep of improved systems throughout the Matching Grant.

The M&E Officer originally hired under the Matching Grant left in September 1999 (according to IDE Denver's staff person in charge of human resources). Between April 1998, when the M&E Officer was hired, and September 1999, he produced a substantial body of work focused on systems for monitoring and evaluation, reporting and submission of deliverables, and strategic planning. The IDE Board Meeting Books demonstrate that

systems for reporting to the Board and strategic planning were used and integrated into IDE operations during the time that this M&E Officer was employed. Monthly Reports from IDE India and IDE-B demonstrate that reporting has been relatively consistent up until May or June 2000. More recent reports are fewer in number.

The original M&E Officer left IDE in September 1999, and IDE filled the position in January 2000. The position was filled by a highly qualified social scientist, who intends to advance the work of the former M&E Officer by providing additional support to the field to further institutionalize the M&E systems already developed and to strengthen the capabilities especially of the smaller country programs.

According to IDE's "Year 1 Annual Report" to USAID," the new Desk Officer position, referred to in the DIP, was decentralized to the Vice Presidents." When one of these Vice Presidents/Desk Officers left in early 2000, the Country Director for Nepal took over the Desk Officer position, with responsibilities for Bangladesh, Vietnam, and his own program of Nepal. The individual is a long-term, senior employee of IDE, who began his work as Country Director of Bangladesh in the mid-1980s, and thus has considerable experience and qualifications for the Desk Officer position. IDE-B expressed considerable satisfaction over their new Desk Officer assignment.

Other staff persons hired under the MG Program, included the "Program Assistant" and the Public Education Officer. The Program Assistant's job description includes responsibilities for communications, program support, and assistance to the IDE's consulting arm. After the initial Program assistant left in early 2000, he was replaced by a new junior professional, who has focused on public education and communications and some program backstopping. An interview with the new Program Assistant revealed that in the future, he expects his responsibilities to shift increasingly toward country program backstopping. He reports to the Desk Officer for India, Cambodia, Sri Lanka, Zambia (though this program has very recently been shifted to IDE Canada), and Haiti.[8]

As noted in IDE's "Year 1 Annual Report" to USAID, a Public Education Officer was also hired under the MG Program (25% of the position is covered by USAID). This individual also left in late 1999, and the new Program Assistant as well as a volunteer assumed her responsibilities. Most recently, IDE Denver has hired a junior person to develop a mailing list for public outreach activities.

b. Evidence:

Personnel records, including job descriptions and advertisements, and the resumes of those employed represent evidence that IDE Denver hired the three staff persons.

IDE Denver 1997-1999 organigrams, including the one incorporated into the DIP and the one submitted to USAID as the "Year 1 Annual Report" indicate where these new employees fit into the organization. A new organigram developed for the evaluation reflects the staff changes that occurred in late 1999 and early 2000.

[8] Beatrice Szadokierski was formerly the Desk Officer for Bangladesh, Nepal, and Vietnam. Since her departure in February 2000, the Country Director of Nepal, Bob Nanes, has assumed this position on a temporary basis.

Board Meeting Minutes: January 1998; June 1998; December 1998; June 1999; December 1999; and June 2000 provide evidence of the hiring of staff, the institutionalization of these roles within the organization (at least for the time period), and improved MIS, including financial reports.

Interviews with the Finance Departments of IDE India and IDE-B provided evidence of the technical assistance provided by IDE Denver's new Accountant. Finance Officers in the field indicated that the assistance from Accountant was very much welcomed and viewed as helpful and of good quality. Moreover, the Accountant's visit represented the first time that headquarters had provided the field with technical assistance of a financial expert, who was able to help identify problems and solutions to problems.

An interview with the Accountant provided evidence of her background, field visits, and the systems, which have been developed under her leadership.

The first M&E Officer's work is detailed in his "Hand Over Report," dated 30 September 1999. It lists under "Monitoring and Evaluation Systems and Sub-Systems," his contributions to improved MIS/M&E systems, including:

- Monthly Reports,
- Quarterly Reports,
- Tickler (database on IDE reporting responsibilities),
- Deliverable Schedule (detailing for Country Directors the schedule of grant deliverables),
- Format for strategic planning,
- Format for "Annual Self-Assessment" for country programs, and
- Monitoring systems of socio-economic impact assessments conducted in the field.

c. Analysis:

Prior to the Matching Grant, IDE's financial systems did not allow IDE Denver to adequately monitor and account for expenditures in the field. The new accountant has clearly upgraded IDE's financial information systems, and – through field trips – regularized reporting, improved communications, and institutionalized better financial systems within IDE and country programs.

Likewise, prior to the Matching Grant, IDE's M&E system was overly focused on sales. From the Board down to the field programs, sales were used as a proxy for project success, the basis for employee incentives, and the focus for impact monitoring and reporting. Over the course of the Matching Grant, there has been a change within the organization regarding the importance of M&E and impact measures that are broader than sales and that include client as well as market level impacts.

Nonetheless, the current M&E Officer needs to carry on the work of institutionalizing M&E, and providing assistance to the field. IDE India and IDE-B need and want help in designing effective systems that extend beyond sales and are in keeping with best practices in

the BDS community.[9] Pressure from SDC to improve impact monitoring is an added incentive for India and Bangladesh to focus on and improve their M&E systems.

The new staff persons at IDE Denver have clearly strengthened the operational and technical capacity of headquarters. The Accountant and M&E Officer have provided technical capacity that was not previously in place. Moreover, it appears from the documentation and interviews that these positions have been institutionalized within the organization. However, the Program Assistant, who is a relatively junior person, cannot provide the technical assistance that the more senior-level position of "Desk Officer" would have. And while the Nepal Country Director is well qualified for this position, his responsibilities in Nepal likely over-stretch his capacities. This replacement for of the Denver Desk Officer/Vice President was meant to be temporary. The evaluator understood that this situation is temporary until more funding can be secured for the Denver Office.

Standardization of Information Systems

a. Findings:

Under the MG Program, IDE Denver has developed a Personnel Manual, a Financial Manual, an Operations Manual, and formats for Monthly Reports from country programs, Quarterly Reports to the Board, a Strategic Planning process, and a database on all IDE grants that includes schedules for reports and deliverables.

IDE India, meanwhile, had its own Personnel and Financial Policy Manuals, as does IDE-B. Because the India and Bangladesh field programs are relatively large with budgets in the millions of dollars, the country programs have had more developed personnel and financial management information systems than Denver. And, in fact, the Denver Personnel Manual was based on India's.

The Operations Manual, according to the initial M&E Officer's "Hand Over Report," was meant to standardize procedures related to planning, monitoring, and reporting. This manual is in its first draft form and has not sufficiently been vetted by the country programs. Field staff and managers were not aware of the document.

But while there can be some standardization of financial and personnel policies, because of local laws, culture, and professional codes, by necessity MIS systems need to be adapted to the local situation. Where MIS systems have been standardized or harmonized is in areas of financial and country-program monthly reports from the field to IDE Denver. Regarding financial reporting, although India and Bangladesh have different software accounting packages than each other and as compared to Denver, Denver has provided a format for the field's financial reports that is consistent across the IDE network. The template for reports is provided in the "Financial Manual," and has since been updated.[10] Country programs translate their reports according to the template and into Excel as a common way of

[9] The Donor Committee, USAID's Office of Microenterprise Development, and the SEEP Network are working on performance measurement indicators. IDE needs to incorporate these into their own M&E systems in order to gain legitimacy within the expanding BDS field.
[10] The revised template was provided to the consultant.

communicating. The Finance Departments in India and Bangladesh expressed satisfaction with IDE Denver's reporting format.

To institute harmonization and common financial systems, IDE Denver's accountant developed an "Outline for Internal Audit," in preparation for field visits to all country programs (with the exception of Nepal) to gather and provide information on financial systems.

The Monthly Reports format developed under the MG Program, as noted by the "Corporate Performance and Evaluation (COPE) Monitoring, Reporting, and Evaluation (MRE) Guidelines," was meant to achieve a "more standardized and systematic reporting schedule and format." Previously, country program reports tended to vary from program to program both in format and what was reported. These earlier reports were consistent, however, in their focus and reports on sales against targets. The Corporate Performance and Evaluation/ Monitoring, Reporting, and Evaluation (COPE/MRE) Guidelines served to regularize reporting times, indicators, and format.

A review of IDE India's "Combined Monthly Reports"[11] reveals that for the most part the reports to Denver have been quite extensive and regular until recently. Only a few monthly reports were somewhat thin in content and length. For the most part, reports were submitted on time. However, **no reports were available after May 2000,** suggesting that the staff turnover in Denver has had an impact on M&E reporting**.** The AMIT program, funded under the MG, has its own internal reports developed by each Regional Office and based on Denver's MRE format. These reports appear to be submitted in a regularized fashion and up-to-date.

There was a changeover in IDE India's Country Director in June 1999, and the M&E Department was suspended soon afterwards for a year during the Matching Grant. The department has been reconstituted in the last several months. Currently, M&E staff is converting all data to a new software package. These changeovers appear to be coincident with gaps in reporting. The new M&E Department at IDE India is staffed by several highly qualified people, who are in the process of updating the database, and incorporating more development indicators into the monitoring system.

In Bangladesh, the changeover in Country Directors occurred between October 1999, when one director left, and January 2000, when the new director arrived. The new Director then assigned at new head of the M&E Department in April 2000. Since April, internal Monthly Reports were developed by the "Capacity Building, Development, and Marketing of Low-Cost Hand Pump"(CDM) Project, funded under the Matching Grant, but there are no records of COPE/MRE Monthly Reports to Denver. This hiatus in reporting has occurred with changeover in M&E staff in Denver and Bangladesh. Bangladesh is now reconstituting its M&E Department and putting some excellent systems in place.

[11] These reports are entitled "combined" since they represent reporting on IDE India's two programs: affordable micro irrigation technologies (AMIT) and the treadle pump (TP) program. The combined reporting was commenced in the third quarter of 1998, in recognition that AMIT was evolving into a full-fledged program.

b. Evidence:

- "IDE Finance Manual," September 1999.
- "IDE Outline for Internal Audit," prepared by Melanie Formanek, August 31, 1998.
- "IDE Field Accounting/Finance Questionnaire," prepared by Melanie Formanek, August 14, 1998.
- Financial Report, Board Meeting Minutes: January 1998; June 1998; December 1998; June 1999; December 1999; and June 2000
- "IDE Personnel Policies for Headquarter Staff and Country Directors."
- "IDE Operations Manual," September 1999.
- IDE India's COPE/MRE "Combined Monthly Reports:" Oct. 98; Dec. 98, May 99, June 99, Sept 99, Oct 99, Nov 99, Jan 00, Feb 00, April 00, and May 00.
- AMIT Monthly Regional Reports (from Shimla, Nagpur, and Ahmedabad): Sept 98 thru July 00.
- IDE Bangladesh's COPE/MRE: Monthly Reports: Oct. 99, Nov. 99, Jan 00, Feb 00, March 00, Apr 00.
- IDE Bangladesh, "List of Data Collection Formats and Tools," M&E Department.

c. Analysis:

While not all MIS systems lend themselves to standardization, given difference in laws, culture, and software support services, financial and M&E systems have been significantly standardized (between Denver and the field) under the MG Program. The more standardized financial and programmatic reports to the Board indicate a more formalized organization able to make decisions based on clear and well-organized data.

Staff turnover has had some impact in weakening the regularity of reporting, especially M&E reports. Moreover, new country directors in Bangladesh and India have not been clear about the utility of standardized M&E systems, as illustrated by the abolishment of IDE India's M&E Department for one year. During the evaluator's field visit with the new M&E Officer, country directors suggested a greater appreciation of how these systems can be used for management purposes. Nonetheless, country directors see monthly reports to Denver as onerous, and not always helpful for their own purposes.

More recently, there appears to be greater appreciation for M&E as witnessed by the re-constitution of IDE India's department and improvements made within IDE Bangladesh. Overall, M&E activities appear to be getting back on track, and the country programs are looking forward to better improved reporting in the future.

The Operations Manual is still in draft form and has not become operationalized within the IDE network of programs. Moreover, based on conversations with field staff, some of the content in this manual no longer widely accepted because of the learning that has occurred within the organization. This manual combines operational functions – like M&E, a detailing of the project cycle, and procedures for project start-up and program hand-over by country directors – with program design issues like feasibility study design, sustainability, and marketing. As a result of IDE's learning over time, the program design issues, for instance IDE's thinking on such complicated issues as sustainability, have evolved and may

continue to evolve. Thus these kinds of issues may not be appropriate for an Operations Manual.

The new M&E Officer has initiated some limited efforts to further develop and harmonize M&E systems. And while he is eager to focus on M&E, so far he has devoted considerable amounts of time to proposal writing and other funding activities.

Vitalizing IDE's Consulting Arm

a. Findings:

According to interviews with IDE's new Chief Operating Officer, hired in early 2000, the Desk Officer in charge of IDE's consulting arm, and the 1998 Strategic Plan, the motivation for IDE's initiation of consulting activities was twofold. It represented a strategy for disseminating IDE technologies and thereby leveraging IDE's impact globally. Additionally, consulting service income was seen as a source of unrestricted funds, greatly needed by IDE Denver due to limited success at securing overhead monies from European donors.

In 1996, as part of the development of IDE's Consulting Arm, IDE developed systems for a consultant roster, detailing skills of IDE and other consultants as well as guidelines for IDE international and national staff. In 1997, a "Consulting Strategy" was developed that included a list of educational materials that would need to be developed, procedures that would need to be in place, the need for a roster of consultants, and other steps toward building a consulting capacity. According to IDE's 1998 Strategic Plan, a roster of "two dozen staff" had been assembled, policies and procedures had been written, and extensive public education materials had been developed.

Efforts to build consulting capacity included the development of manuals (marketing manual, micro irrigation materials/manual), fact sheets on a range of technologies, promotional materials, a brochure on IDE competencies, and videos. The volume of materials developed by IDE Denver and country programs is so substantial that IDE has devoted an entire room to storing materials. Moreover, the quality is impressive.

According to the Strategic Plan included in the June 1998 Board Meeting Book, IDE aimed to raise $100,000 from consulting services. During 1997, consulting income exceeded $28,000. In 1998, it dropped slightly to $21,000, and in 1999, it dropped again to just over $10,000. During the first eight months of 2000, consulting income reached nearly $25,000. Financial reports on consulting income between 1997 and 2000 indicate eight consultancies, a total income of $84,199 during the three-year period, and clients that include the World Bank, Intermediate Technology in U.K., Chemonics, and PLAN International in Haiti.

IDE identified "staff time available for consulting without disrupting a regular country program work" as a constraint to developing the Consulting Arm (1998 Strategic Plan). Although country program staff have participated in consulting activities, feasibility studies, and in conferences in other countries, their time is relatively limited. This is a constraint that IDE will need to address if it is to be successful with consulting under the Global Initiative, for instance.

During a staff meeting with IDE Denver, the issue of IDE's ability to compete in the consultancy market was raised. The question asked was how could IDE expect to compete against well-established consulting firms in the Washington, D.C. IDE now admits that it may have been unrealistic in assessing its competition, however, it may be realistic to compete within the niche market of micro irrigation.

b. Evidence:

- "IDE Consulting Strategy," December 1997
- "IDE Consulting Income 1997-2000," prepared by the IDE Accountant, September 2000.
- IDE Board Meeting Book, December 1998.
- 1998 Strategic Plan
- September 12, 1996 memo to IDE Country Directors from Keith Frausto
- Interview with Keith Frausto, VP, and Fritz Kramer, COO

c. Analysis:

During 1997 and 1998, IDE developed plans, materials, and even staff expertise for consulting. However, the track record so far, as reflected by income earned, suggests the IDE is still at a nascent stage in developing its capacity for consulting services.

In June 2000, the new Chief Operating Officer (COO) noted that "in providing consulting and technical services, IDE will need to work within project frameworks designed by others ... (this) will require that IDE position itself as a world-class provider of these services. At the same time, IDE is aware that it is a relative newcomer to the field of service provider...." To the evaluator this quote from COO highlights the weakness in IDE's plans. There is substantial competition in the consulting service market, and IDE is a newcomer located in Denver, relatively isolated from many of the buyers of services.

IDE still hopes to revive its vision of a consulting arm – that has been relatively dormant during the staff transitions of 1999 – means of the Global Initiative, a collaboration with the World Bank, FAO, IDE, and Winrock International to disseminate micro irrigation on a global scale. Within the niche market of micro irrigation, IDE may be able to develop a market for consulting services, especially if it has the financial backing and outreach afforded by these partnerships.

Goal 2: Increase Public Education and Outreach to Enhance IDE's Visibility in the Denver, National, and International Development Communities

Membership in Interaction

a. Findings:

During the first year of the MG Program, IDE joined InterAction, and has continued to pay dues for membership in 2000. IDE's participation in InterAction, however, included a trip by Paul Polak, IDE's President, to an InterAction meeting in 1998 as part of the Corporate Partnership Task Force and attendance at the 1999 West Coast meeting. IDE's

current M&E Officer had plans to attend the 2000 West Coast meeting of InterAction event but was forced to cancel since the USAID evaluation was planned at the same time. Additionally, IDE has taken advantage of InterAction through linkages with their website, that has increased "hits" on IDE's own website, and through InterAction's newsletter, *Monday Developments.* In January 2000, IDE placed a full-page add in *Monday Developments*, advertising "services to NGOs" in the area of micro irrigation. Additionally, in March 2000, IDE was featured in the front-page story of *Monday Development*, in an article entitled, "Marketing Affordable Technologies to Solve World Hunger."

Interviews with NGOs and donors revealed that – for a small PVO located in Colorado – IDE is surprising well known within the development community of PVOs working in technology transfer and microenterprise development. According to interviews with several PVOs (Enterprise WorksWorldwide (EWW), Mennonite Economic Development Agency (MEDA), and Save the Children), IDE is known largely because of its program results in Bangladesh, selling over one million treadle pumps. IDE was asked to present these results at a SEEP[12] meeting in 1996; at the Donor Committee conference on business development services held in April 2000, where IDE presented a paper; and through the networking activities of IDE's President, Paul Polak.

Board Meeting Books from 1997 to 2000 reveal Mr. Polak's interactions with the World Bank's Water and Sanitation program, Winrock International, Swiss Agency for Development and Cooperation (SDC), and irrigation specialists within FAO Rome. Interviews with Mr. Urs Hierili of SDC revealed that he has long been involved with IDE since the 1980s, when he was the Head of SDC in Bangladesh. Through the Global Initiative, IDE has established contacts within the World Bank, with Randall Purcell and Fernando Gonzalez, and with Frank Tugwell, the President of Winrock International.

b. Evidence:

- Financial record of membership in InterAction dues paid
- January and March 2000 copies of *Monday Developments*
- Interviews with EEW, MEDA, SDC, Winrock International
- Interviews with IDE staff: Paul Polak, Fritz Kramer, Tim Gibb, John Magistro, and Melanie Formanek

c. Analysis:

In conclusion, IDE is relatively well-known among PVOs and a few donors that work within a relatively narrow market niche: irrigation, water and sanitation, technology transfer, and business development services/microenterprise development. However, much of this knowledge of IDE is due to the networking of its President and the impacts of its projects. A number of U.S. PVOs indicated that IDE staff do not attend many meetings of InterAction or SEEP, for instance. Among members of the Committee of Donor Agencies for Small Enterprise Development, IDE is not well known since it has not participated in many conferences, and has partnered with a relatively narrow range of donors.

[12] The Small Enterprise Education and Promotion (SEEP) Network is an association of more than 48 North American private and voluntary organizations which support micro and small enterprise programs in the developing world.

Exposure Through Heightened Public Education Campaigns

a. Findings:

Over the course of the Matching Grant, IDE has been developing a strategy for public education. IDE's 1998 Board Meeting Book includes a matrix entitled "Public Education Strategy," detailing public education and outreach strategies for the development community, general public (including Denver), donors, Government (Congressional), corporate or business, and media audiences. IDE's 1998 Strategic Plan included an objective to increase IDE's public profile and raise $200,000 from private sources and/or donations. These earlier plans appear further distilled and refined in a document entitled, "IDE Public Education Plan," dated March 16, 1999. This plan, which is a deliverable under the Matching Grant, includes the following goals:

- Increase IDE name-recognition among donors, the international development community, the general public and selected government officials.
- Increase collaborative opportunities with NGOs and government organizations
- Increase the database of IDE supporters
- Provide consistent and transparent portfolio of IDE expertise

To fulfill these goals, IDE has undertaken a wide array of activities and developed an impressive volume of materials – within a relatively short period of time – for public education. IDE commissioned MIDAS Consulting to help in the development of professional education, while the IDE Program Assistant developed an IDE website, and a volunteer created a video. The list of materials and activities undertaken in 1998/99 include:

- A brochure
- An IDE logo
- Introductory information packets on IDE that include a folder, an introduction to IDE, the brochure, the Annual Report (1997), IDE's newsletter
- Upgrading of IDE newsletter
- Technology fact sheets
- IDE video and video library
- An IDE website
- Increased Board participation in fundraising[13]
- Participation in conferences: Colorado Association of Nonprofit Associations, InterAction (in 1999)
- Sent mailings to 18 international NGOs soliciting partnership interest

In response to the Education Plan, Board members organized fund raising events in Winnipeg and Denver. The Winnipeg fundraiser hosted by Board member, Bill Fast, resulted in a $15,000 (Canadian) donation and a $25,000 grant from the Mennonite Central Committee (MCC) for an IDE program in China. The Denver event, hosted by Board member, Michael Edessus, raised $4,500 and provided several potential donors for future follow up.

[13] Board members organized fundraisers in Winnipeg and Denver in 1999.

According to a report entitled, "Campaign Summary Analysis," developed by the Public Education Officer (sometimes referred to as Director for Development), IDE's donations have changed follows since 1997:

Fiscal 97	$80,582
Fiscal 98	$66,642
Fiscal 99	$136,410
Grand Total	$283,634

However, IDE's income statement (October 1998 thru October 1999) reports donations amounting to $189,980; a "Campaign Summary Analysis" that includes IDE-Denver and IDE-Canada reports donations of $136,410 and $66,642 for 1999 and 1998 respectively; and IDE's website lists 1999 and 1998 donations as amounting to $87,586 and $68,796 respectively. In other words, it appears – although the documentation is not totally consistent – that donations to IDE increased substantially between 1998 and 1999, indicating success at raising IDE's visibility among constituents. While other documentation indicates that a fair percentage of these donations are restricted for use in specific programs, nonetheless, the increase in donated funds (1998-1999) is noteworthy.

IDE's visibility in Denver, however, is not supported by the relatively small results of the Denver fundraiser. While IDE staff have made efforts through speaking engagements with local civic groups, a public radio announcement, as well as the Denver fund raiser, according to an informant who is well connected in Denver, IDE still is not widely known locally.

Paul Polak, IDE's President, has contributed considerably to outreach to the international development community through attendance and participation at international conferences, writing papers, the Global Initiative, and meetings with donors. The Board Meeting Books (1997 – 2000) detail the list of contacts Dr. Polak makes during the course of every year. The "IDE Institutional Capability Statement" lists 25 "selected" papers written by Dr. Polak and other IDE staff between 1998 and 2000. Moreover, in the last year, Dr. Polak listed seven international conferences attended or presentations given, ranging from the Irrigation Institute Meetings to the World Bank's Water and Sanitation Division to a presentation to Taipei's Rotary Club.

IDE's role in the Global Initiative and collaborations with the World Bank, FAO, and Winrock International has given IDE considerable visibility within the international community. Moreover, author Sandra Postel has written a book entitled, *Pillar of Sand: Can the Irrigation Miracle Last?*, highlighting IDE's efforts in smallholder irrigation. IDE is also referenced in a *Harper's Magazine* article (July 2000), entitled, "Running Dry: What happens when the world no longer has enough fresh water?," authored by Jacques Leslie.

b. Evidence:

- IDE's 1998 Board Meeting Book includes a matrix entitled "Public Education Strategy,"
- "IDE Public Education Plan," March 16, 1999.
- "Campaign Summary Analysis,"
- The Board Meeting Books (1997 – 2000)

- 1998 Strategic Plan (December 1998 Board Meeting Book)
- "IDE Institutional Capability Statement"
- *Pillar of Sand: Can the Irrigation Miracle Last? by Sandra Postel, W.W. Norton & Company, 1999.*
- *Harper's Magazine* article (July 2000), entitled, "Running Dry: What happens when the world no longer has enough fresh water?," authored by Jacques Leslie.
- "Smallholder Irrigation Market Initiative: Business Plan Development," submitted to the World Bank Group by Winrock International and IDE, July 2000.

c. Analysis:

IDE's public outreach and education campaign has been surprisingly successful for such a small organization and over such a short period. The information materials – ranging from videos to website to papers to speaking engagements to fund raisers - developed under the MG Program are voluminous and of good quality. While IDE's visibility within Denver may be only marginally greater, IDE has made in-roads at other levels as demonstrated by its increasing donations and increased visibility in 2000 alone at international conferences and as a result of the Global Initiative.

Annual Strategy Plans, fund-raising reports, Board Meeting Books reveal an ambitious though organized campaign by IDE's President, Director of Development/Public Education, and initial M&E Officer. Since the departure of the latter two, documentation of the local and national campaigns has dwindled. Although the new COO has produced "A Strategic Action Plan," the strategic planning format developed by the initial M&E Officer – that included goals, objectives, and achievements against objectives – has not been updated since May 1999. In other words, much good work was initiated under the MG Program, and new staff have somewhat transformed these outputs or let them fall into disuse.

Upgraded Capacity to Distribute Material

a. Findings:

According to an interview with the new Program Assistant, who has major responsibility for public outreach and education, the primary means by which IDE distributes information is through:

- the IDE website
- published or presented papers, and
- mailings

IDE's website was developed in 1998 and has been updated throughout 2000. The website details IDE's programs, impacts, donors, board members, and new initiatives, such as the Global Initiative. Additionally, the website provides information for accessing IDE consulting services, a list of IDE technologies, and a selected number of papers.

As noted earlier, IDE has been relatively successful at getting others to publish articles on IDE activities, including *Harper Magazine* and the writer, Sandra Postel. In October 2000, a *Denver Post* reporter will follow Dr. Polak to China, in order to develop an article on IDE's work.

IDE's mailing list has also been an important means for distributing materials. Although IDE has had a database of about 650, most recently, a much larger list of names has been obtained from PACT to significantly upgrade IDE's mailing capacity.

b. Evidence:

- IDE website: **www.ideorg.org**
- *Harper Magazine (ibid), Pillars of Sand (ibid)*
- Interview with Paul Polak
- Interviews with Anke Herrmann and Tim Gibb
- Mailing list database

c. Analysis:

Under the MG Program, IDE has upgraded its capacity to distribute material by the development of a website and the upgrading of its mailing list.

Goal 3: Improve Monitoring and Evaluation (M&E) and Management Information Systems (MIS)

Hire M&E/MIS Officer

a. Findings:

As noted under Goal #1, IDE Denver's first M&E/MIS Officer was hired in April 1998 and resigned in September 1999. A new M&E Officer was hired in February/ March 2000. According to the job description, the responsibilities of the M&E Officer include the (1) "design and implementation of policies, procedures, and guidelines for monitoring and evaluating IDE program inputs, activities, and results;" (2) "conceptualizing, obtaining funding for, and implementing research studies on development issues relevant to IDE's mission;" and (3) based on an analysis of data collected and lessons learned, contributing to IDE's planning process.

In other words, the M&E Officer has a very large role to play within the organization both in headquarters and in relation to the country programs. While IDE Bangladesh and India have relatively sophisticated capacities in M&E, they still need and want conceptual guidance. However, Denver and some of the smaller country programs have substantial needs for systems development. Denver, as noted earlier has always had a lean organizational structure and has never before had an M&E staff person. As a result, there was a tremendous amount of work to be done by the new M&E Officer. Additionally, because of the need for funding, the M&E Officer had the added responsibility of fund raising.[14]

[14] Both Mr. Saussier and Dr. Magistro contributed to proposal writing, which tended to conflict with the development of M&E systems, because of the urgent and time-consuming need for funding. In the first eight months of his job, Dr. Magistro has spent more time writing proposals than focusing on M&E.

The initial M&E Officer added to his job, the responsibilities of strategic planning and organizational development (of IDE Denver) (noted in the Year 1 Annual Report to USAID). He developed a planning process for IDE Denver in the form of the "Strategic Plan," which included IDE goals, objectives, and achievements against goals. Once developed, the M&E Officer worked with staff and the Board to update this plan on an annual basis. It became a basis for reporting to the Board and senior management on progress made toward agreed upon goals, as well as a means to remain focused on achieving goals.

In order to improve and standardize reports to the Board, the initial M&E Officer developed a standardized reporting format, in which IDE Denver consolidated and analyzed the quantitative reports from country programs, in order to help Board members better understand the program results and make more informed decisions.

Interviews with staff and Board members as well as documentation indicates that the systems and organization put in place by the M&E Officer created an order, discipline, and cohesiveness to achieving goals and objectives, especially within Denver. Because of turnover in staff within IDE-B and the earlier dismantling and recent reconstitution of the M&E Department in IDE India, there was little institutional memory regarding the role of the initial M&E Officer.

Nonetheless, all significant country programs are following some of the systems that the initial M&E Officer established. Monthly Reports provided by IDE India and Bangladesh followed the COPE/MRE format. According to the "Year 2 Annual Report to USAID", five of eight programs (were) in compliance with the reporting formats." The two programs not using the M&E system were Haiti and Sri Lanka, both of which were still in start-up mode. The Annual Report also states that "all the established programs in compliance use the (reports) as part of their management systems.[15] Headquarters has used the monthly reports to track progress against plans, documents, and important events.[16]"

Since May/June 2000, compliance to COPE/MRE has weakened. Clearly the new M&E Officer needs to focus greater attention on M&E systems. He has an added burden of educating the new country directors in IDE India and IDE-B about the utility of M&E. Both directors have tended to see the Monthly Reports as something that needs to be done for headquarters.

b. Evidence:

- "Job Description: Director of Monitoring and Evaluation"
- "IDE Strategic Plan – 1998 Objectives and Achievements," December 1998 Board of Directors Meeting
- "IDE Strategic Plan: Status Report on Accomplishments, January – May 1999."
- "Year 1 Annual Report to USAID."
- "IDE Headquarters Role, Responsibilities, and Activities," November 1999.
- Interviews with the M&E Departments, IDE Bangladesh and India

[15] A review of IDE India's MIS system for the AMIT Program showed this to be true.
[16] The M&E Officer used the reports to develop and update the schedule for reports to donors, etc.

- Interviews with Mr. Saussier and Dr. Magistro.

c. Analysis:

The new M&E position has contributed to improved planning and institutional decision making, as well as the public fund raising campaign. However, the first M&E Officer's contributions weigh very heavily toward the development of MIS systems and a strategic planning process. While more needs to be done to institutionalize the systems already completed, they appear to have had a marked impact on organization and decision making at headquarters, the Board level, and in the field. The new M&E Officer, hired only in 2000, has contributed – according to his own account – more heavily to donor solicitation and proposal writing.

Create M&E/MIS Guidelines

a. Findings:

The M&E Guidelines, referred to as Corporate Performance and Evaluation/ Monitoring, Reporting, and Evaluation (COPE/MRE) Guidelines, include Monthly Report indicators and formats, Annual Self-Assessment indicators, and a Three-Year Impact Evaluation guidelines.

The monthly reported included (1) sales, the number of demonstrations and other promotional activities, the number actors in the supply chain, number of people trained. Annual reports included a comparison of target vs. actual sales, demonstrations, actors in supply chain, and numbers trained; (2) change in number of actors in supply chain and margins; (3) product performance indicators; (4) cost-effective indicators, including subsidy content; and (5) market penetration. The COPE/MRE Guidelines also included and recommended an annual customer satisfaction survey.

The COPE/MRE indicators are largely in keeping with M&E best practices drafted (and in draft form) by Committee of Donor Agencies for Small Enterprise Development. However, in keeping with best practices, IDE needs to incorporate more information on the wider market in which it is intervening. Too often, IDE focused on the treadle pump market, and overlooks the performance of and competition with other products in the market. Moreover, IDE needs to assess sustainability not only in terms of the subsidy content of its product and of the supply chain, but also the sustainability of demand.

The major weakness, however, in IDE M&E system is the sheer volume and complexity of the system. While the initial M&E Officer deserves tremendous credit for the thinking that has gone into these guidelines and the improvements they have made compared to previous systems,[17] the M&E system has not been completely followed and/or institutionalized. Until very recently, country programs have accepted and complied with Monthly Reports, which largely request information on discrete activities that can be counted. However, according to the initial M&E Officer, only two country programs, Vietnam and Cambodia, submitted annual reports. Moreover, while the Monthly Reports

[17] The previous M&E system focused primarily on sales.

called for qualitative assessments of training and promotional activities, this type of analysis was not submitted systematically.

A trip report written by the initial M&E Officer in October 1998 revealed resistance from the field regarding incorporating a number of indicators into IDE India's M&E system, e.g., market penetration and socio-economic data on clients. Additionally, the subsidy indicator fell into disuse.

Interviews with country directors in India and Bangladesh indicated some resentment regarding the workload of so much reporting to Denver, since country programs must also report to their donors. Some argued that monthly reports were excessive and rather argued for quarterly reports. One country director felt that the country programs should be able to select their own indicators. And finally, both country directors were not convinced of the utility of an M&E system.

b. Evidence:

- "IDE Corporate Performance and Evaluation (COPE) Monitoring, Reporting and Evaluation (MRE) Guidelines"
- "IDE MRE System: Three-Year Impact Evaluation"
- "Program Operations Manual," September 1999.
- Interviews with initial and new M&E Officers
- Interviews with IDE Country Directors, India and Bangladesh
- Interviews with M&E Department staff in India and Bangladesh

c. Analysis:

In conclusion, the M&E Guidelines represent a significant body of work of high quality. A recent conference, however, held by the Committee of Donor Agencies for Small Enterprise Development (which includes a Working Group made up of USAID, SDC, DFID, GTZ and other donors of IDE), is advancing best practice in M&E. IDE's guidelines could benefit from interacting with this effort. Nonetheless, the problem with the guidelines is not the quality but perhaps that they are impractical for country programs to fully apply.

The M&E system could help country programs report to their donors and to the IDE Board, rather than create more work for them. Moreover, the resistance to the new M&E system is understandable, when staff were used to a much simpler system in the past. To gain the support of country directors, the M&E Officer needs to raise the awareness of country program staff and provide training in how to use the data collected for program management. Country Directors need to understand the benefit of having standardized indicators across programs in order to further the learning within the IDE network as a whole.

Finally, there is some confusion in identity within IDE, such that programs see themselves as businesses (interested in sales) rather than development agencies (interested in impact). On the positive side, donors in India and Bangladesh (who attended the Donor Committee conference) are demanding a broader range of impact data and analysis of the data. The challenge of IDE's M&E Officer is to help country programs meet the demands of their donors, improve their reporting (without creating duplicate reporting), and learn how to

use the data to better manage their programs. M&E reporting needs to be transformed within IDE into a "win-win" for Denver and the field.

Goal 4: Enhance IDE's Regional Development

Improved Organization-wide Communication via Email and Monthly Reporting

a. Findings:

Interviews with IDE Denver staff persons revealed that in the last several months, IDE Denver has upgraded its communications system by installing voicemail and improved email. Previously, IDE Denver only had two computers with access to email. Presently IDE Denver staff are networked and have their own email account. Increased access to email has expanded the communications between the staff and the field significantly. Although IDE Denver no longer keeps files on communications with the field – as was the case when there were only two email lines – interviews with IDE staff in Denver, India and Bangladesh confirmed that communications occur multiple times in a day.

Additionally, email has allowed for improved communications among country programs. It has facilitated joint projects, for instance, between Nepal and India[18]; technology exchanges between Vietnam and Bangladesh,[19] as well as communications between India and Bangladesh[20].

While Monthly Reports and the synthesis of these reports have improved reporting to the Board and to Denver, there is little evidence that country programs read each others reports. They are, however, interested in – since there is some competition – performance figures, especially sales.

b. Evidence:

- Interviews with IDE Denver, Bangladesh, and India
- Monthly Reports of IDE-B and IDE India (see above for specific dates)

Better Cooperation Among IDE Headquarters and Country Programs through Shared Technologies and Standardized Evaluation Systems

a. Findings:

IDE has developed a number of processes for strategic and program planning and for sharing technologies and expertise across country programs. Headquarter field visits, senior technical staff who work for Denver but are based in the field, regional committees, Board Meetings and Country Director meetings.

Field visits by IDE Denver staff serve a role in cross-fertilization, bringing ideas, technologies, and lessons learned from one project to another. Denver staff have served this

[18] Nepal and India have worked collaboratively on micro irrigation and on the Market Mountainsheds Project.
[19] Bangladesh tested the hand pump developed in Vietnam for possible dissemination.
[20] Marketing staff from Bangladesh have provided technical assistance to India's program.

role of disseminating lessons learned as well as information on new technologies among country programs. Additionally, a number of senior staff persons based in Asia, including the Nepal Country Director and Desk Officer for Bangladesh, Vietnam, and Cambodia, provide technical assistance on a regional basis. With regional responsibilities, these experts shares technologies, processes, and effective strategies with other countries.

Country Directors also participate in Board Meetings on occasion, and use these meetings for strategic planning and to gain approvals for programs. Board Meetings are an occasion when the results of all programs are synthesized and discussed.

One of the most powerful tools IDE has instituted for fostering regional cooperation are the Country Director Meetings. These meetings, held on an annual basis, provide IDE with the opportunity to harmonize planning processes, information and evaluation systems, and approaches to processes like sustainability.

Nonetheless, efforts at harmonization have been difficult, according to staff in Denver, India, and Bangladesh, due to competition between programs, the small size of headquarters in relation to the field, and the independence of country programs and country directors. These factors present a challenge for IDE in creating harmonized systems.

IDE's Strategic Action Plan references the "loose coordination of country programs." It explains that IDE's philosophical emphasis "on field activities and preoccupation with impact" has tended to translate into minimal time spent on central backstopping, coordination, and fund raising assistance. As the number of country programs and their needs have grown, IDE Denver has clearly has increasing difficulty in creating cohesiveness.

b. Evidence:

- Interviews with IDE staff in Denver, India and Bangladesh
- John Magistro's Trip Report, September 2000
- "Minutes from 1998 Country Director's Conference, Koh Samui, Thailand, September 1998."
- "Conference Minutes from Country Director's Conference, Koh Samui, Thailand, September 1999."
- IDE Strategic Action Plan, 2000 (Board Meeting Book, June 2000)

c. Analysis:

IDE Denver, under the MG Program, has initiated a process toward the harmonization of systems –especially related to M&E, strategic planning, reporting to the Board, and agreement of how to reach sustainability. The efforts made to date should are considerable, especially given the challenges. Institutionalization of new ways of doing things – especially over great distances – takes time. However, to institutionalize and harmonize M&E systems, processes for learning, and approaches to sustainability (as one example), systems will need to further adapted to best practices and to the needs of country programs. Additionally, Denver needs to be strengthened so as to provide leadership to the network of country programs, and to demonstrate the value added that cohesiveness can bring.

Intensified Training of Private Enterprise Networks in Program Countries

a. Findings:

As noted in the DIP, "the training program is most pertinent to IDE country programs of India and Bangladesh. Headquarters has no training program."

b. Evidence:

- "Detailed Implementation Plan, IDE March 31, 1998."

Participation in Regional Committees

a. Findings:

IDE's Regional Committees include the R&D Committee, a Marketing Committee, and the Organizational Development (OD) Committee. According to an IDE staff person, the idea for establishing these committees came from senior management in Denver, and the committees have not had a clear purpose.

However, a review of the activities of the R&D Committee suggests that it has been relatively active (1998 and 1999 Minutes from Country Director Meetings), and that it does have a defined purpose: "information sharing, coordination, critical feedback, priority setting, facilitation of technology transfer, establishment of design and quality control standards, and source of blueprints, technology manuals, and other information and assistance needed for technology transfer." The R&D Committee has informally appointed "experts" for specific technologies and works collaboratively – across country programs – to further development of pipeline technologies. Moreover, at the 1999 Country Directors Meeting, the Committee reviewed actions taken to further the development of five different technologies. Given that both India and Bangladesh have R&D Centers, with the capacity to carry out tests on new products, combining efforts across country programs in developing new products makes ultimate sense.

The Marketing Committee stated its mission as follows: "to drive rural marketing excellence through training, and information and technical backstopping." The Committee developed a "Marketing Manual," discussed a workshop on best practices (1998 Country Directors Meeting), the development of booklets on channel management, rural promotion, and IDE's marketing model (1999 Country Directors Meeting), and a syllabus for training courses (1999 Country Directors Meeting). One goal of the Committee was to earn income through consultancies to pay for the Manager International Marketing (MIM) position. The position was filled by Mrinal Sircar – the Marketing Committee's head – who at the time was paid for by Denver. The Marketing Committee has followed through with its manual and completed a first draft, but other outputs were not found. According to a Denver staff person, this Committee has not been very active over the last year.

The OD Committee, according to interviews, was headed by the initial M&E Officer. In 1998, the Committee stated its mission "to develop policies and strategic procedures that promote and inculcate IDE values and principles for organizational growth and development." Since the departure of the initial M&E Officer, this Committee, has

purportedly fallen inactive (no report was given at the 1999 Country Directors Meeting). Nonetheless, when it was active it oversaw the production of the Personnel Operations, and Finance manuals. Its initial foci include: "pension for expatriates, gender policy, security policies and procedures, non-emergency medical travel, consulting policies and procedures, and overheads." One problem with the Committee is that it appeared to lack members from the country programs (members were Denver-based).

b. Evidence:

- Interviews with IDE Denver staff
- "Minutes from 1998 Country Director's Conference, Koh Samui, Thailand, September 1998."
- "Conference Minutes from Country Director's Conference, Koh Samui, Thailand, September 1999."
- "IDE Marketing Appropriate Technology: Marketing Manual," prepared by Mrinal Sircar (First Draft).

c. Analysis:

The R&D Committee appears to be the most dynamic of the three, and to have the clearest purpose and benefit regionally. While the other committees certainly could play a role in "regional development," there was not as much evidence of this occurring. The Marketing Manual can or could benefit country programs, but it appears to have been written more for IDE consulting activities than for "regional development." Another problem with the effectiveness of the committees may relate to the fact that their creation came from the "top" (senior management in Denver) rather than as an expressed need of the "bottom" (field staff). To make these committees play the roles which was envisioned for them, they need to structured so as meet the real needs of the field. In other words, they need to be demand driven.

Goal 5: Enhanced Technology Dissemination (See Goal 2)

Goal 6: Improved Documentation of Organization-Wide Policies and Procedures

Regular Presentation of Strategic and Business Plans to the Board

a. Findings:

The Board Meeting Books from January 1998 through June 2000 reveal the increasing systemization of reports to the Board during the course of the MG Program. The initial M&E Officer developed two systems for improving reporting to the Board: a format for reporting country program performance and a process and structure for reporting strategic planning efforts to the Board. Reports on program performance were previously unsystematic; each country program wrote a short description of their program activities in no particular format. The new format provides more analysis of the data and attempts to systematize information across programs.

At the same time, the financial reports, developed by IDE's Accountant, have also improved over time. In January 1998, the financial report to the Board consisted of a two-

page income and expense statement. By May 2000, the financial report to the Board included eight-pages accounting for income and expenses in the past and expectations for the future.

The 1998 and 1999 strategic plans presented to the Board followed a format that included seven goals and achievements against each goal. According to IDE Denver staff, these plans were very helpful in keeping IDE Denver focused. No strategic plan was developed for 2000. In its place, the new Chief Operating Officer (COO) presented a full document to the Board in June 2000, while not a business plan, is certainly the basis for one.

b. Evidence:

- Board Meeting Books, 1998 – 2000.
- 1998 and 1999 Strategic Plans
- Interviews with two Board members and IDE staff

c. Analysis

As noted in the "Year 2 Annual Report to USAID," the strategic planning process is too short-ranged and headquarters-oriented. It has been useful to headquarter staff, but not particularly meaningful for Board members (based on an interview) or to the field. The Strategic Action Plan written in 2000, while also Denver oriented, incorporates a vision for the future that includes the country programs and Denver's relationship to them. The strategic planning process might best be adapted to this broader vision for the future for use by Denver staff. Country programs in India and Bangladesh already have well-established planning processes that are more mature than Denver's.

Use of M&E/MIS Guidelines, Update and Use of Personnel Manual, Development and Use of Operations Manual

(This has been discussed under Goal 1 Objective 2, and under Goal 3. Therefore the discussion of the Guidelines and Manuals have been combined here.)

a. Findings:

As noted in the "Year 2 Annual Report to USAID," IDE has M&E/MIS Guidelines, updated its Personnel Manual, and developed an Operations Manual under the MG Program. Under Goals 1 and 3, the use of the M&E system has been documented. The Personnel Manual is written for Denver and expatriate field staff only. Each country program has their own personnel manual for their local staff that is adapted to the laws and culture of the particular country. While not yet approved, the Personnel Manual proved to be very useful during the transition period of IDE, when eight staff persons left. Clarity regarding transitions in the field and in Denver facilitated the process, and led to further improvements in the manual.

The Operations Manual is still in draft form. As stated earlier, field staff were not aware of its existence. However, the manual is probably valuable to start up projects. The relative lack of information about this manual in the field may suggests that it was an output driven by Denver more than a need from the field, and/or staff in India and Bangladesh, established in 1984 and 1992 respectively, did not see this document as relevant.

b. Evidence:

- COPE/MRE Guidelines
- Personnel Manual
- Operations Manual
- Interviews with IDE staff in Denver, India, and Bangladesh
- IDE India Monthly Reports
- IDE-B Monthly Reports

c. Analysis:

In order to ensure the wider use of the M&E, MIS, and Operations Manual developed under the MG Program, the M&E Officer must work with the field to institutionalize these systems and adjust them where needed to the field's needs. The institutionalization process is difficult, when Denver is so small and undeveloped (in terms of systems) as compared to the very large programs in Bangladesh and India. Institutionalization will require more than the development of systems in Denver. It will require real efforts at making the systems useful, meaningful, and cost effective. It will require more time spent in the field, interacting with M&E Departments and mutually developing workable systems. Most recently, the new M&E Officer has sent a survey to the field, to try to better understand their needs. This is an excellent approach.

B. Project Success Assessment

The measurable objectives for Goal 7 – M&E Guidelines/MIS in Place, Monthly Reporting from Country Directors, Semi-Annual Presentation of Accomplishments to the Board of Directors, and Project Objectives Measured on On-Going Basis – have been discussed above. Documentation exists to verify each of these outputs, but do these outputs constitute "project success?" Under Goal 7, the liberty has been taken to redefine "project success," in terms of the accomplishment of the goals rather than the objectives of the MG Program for IDE Denver. No evidence is provided in this section, as it is based on the evidence and assessment presented above.

Additionally, assessing the success of MG Program and progress in achieving goals is best accomplished by reiterating the institutional constraints that the MG Program was designed to address. These constraints are matched against the overall MG Program goals (in bold) and objectives (not bolded) below:

Constraints	**MG Program Goals** & Objectives
Rapid growth of IDE – including the growing number and size of country programs – was becoming increasingly difficult for a very small headquarters to manage.	**Strengthened operational and technical capacity** **Improved M&E/MIS** (1) improved management systems (2) new technical staff
The growing imbalance between the (small) size of IDE's headquarters and field presence (large) was reducing institutional cohesiveness, quality control, and accountability.	**Strengthened operational and technical capacity** **Regional development** **Organization-wide policies and procedures** (1) improved communications (2) improved coordination (greater participation in regional committees) (3) harmonization of systems (4) organization-wide policies and procedures
Reliance on European donors, who were increasingly unwilling to pay for Denver costs, was affecting headquarter's ability to develop the technical and management capacity needed to manage a growing organization..	**Public Outreach and Education** **Strengthened operational and technical capacity** **Improved M&E/M** (1) a public education and outreach campaign (2) membership in InterAction (3) a "vitalized" consulting arm (4) improved M&E system (to be able to document impacts)
IDE's relative isolation due to its location in Denver and its identity as a "cowboy" organization was beginning to create more disadvantages than advantages.[21]	**Public Outreach and Education** **Strengthened operational and technical capacity** (1) a public education and outreach campaign (2) membership in InterAction (3) IDE's consulting arm was also seen as a means of leveraging IDE's model and impacts

This following assessment of project success synthesizes and summarizes IDE's achievements of the MG project goals, and progress toward addressing the constraints that inspired the design of the MG Program.

Strengthened Operational and Technical Capacity

The MG Program has allowed IDE Denver to strengthen its operational and technical capacity by hiring new staff and developing management systems, which were previously either weak or undeveloped. The new professional (technical) staff – the M&E Officer and the Accountant – bring to IDE Denver much-needed technical capacity. Moreover, these new positions appear to have been institutionalized. In order to be effective, however, these new staff persons need sufficient monies to travel to the field on a regular basis. Additionally, the M&E Officer, who also has fund raising responsibilities, needs sufficient time to focus on further developing and institutionalizing the M&E systems.

Although the turnover in staff in Denver created a hiatus in efforts to further develop and institutionalize systems, the new Chief Operating Officer (COO), hired in 2000, brings very strong managerial skills to the leadership of IDE. This COO was formerly Deputy

[21] IDE realized that to increase its funding base and to leverage its model for greater impacts, it could no longer isolate itself from the development community. To achieve its long-range goals of greater leverage, in fact, IDE would have to become much more a part of the international development community.

Director General, Finance, and Administration at the International Center for Tropical Agriculture (annual budget: $50 million) in Colombia. This new position in addition to the new M&E Officer and Accountant as well as two well-qualified country directors in IDE India and Bangladesh provide a strong managerial base for IDE's future.

To realize its potential, however, IDE needs to further strengthen its Denver base, which now only has seven full-time staff persons to manage a $5.5 million dollar program (based on expected 2000 budget). Moreover, there is still considerable work to be done in institutionalizing and harmonizing improved M&E systems, developing a coherent and consistent strategy for fund raising, and a strategic planning process that enhances cohesiveness. Finally, IDE is an organization that has developed many creative ideas and directions over the years (as evidenced by the Board Meeting Books). The number of these new directions have tended to too many for such a small organization to manage. To be effective, IDE needs to focus its resources and its planning efforts on achieving a small number of realistic goals.

Public Education and Outreach

IDE Denver has produced an impressive body of quality educational materials. It has made concerted efforts to reach out to audiences in Denver, beyond Denver in the U.S., and the international community. IDE has hired a Director of Development/Public Education, a professional fund raiser (on a consultancy basis), a Program Assistant focused partially on public education and outreach, a volunteer focused on outreach, and most recently a staff person to update and further development IDE's mailing list. IDE has held "fund raisers" in Denver and Winnipeg. Nonetheless, IDE seems to lack a cohesive and consistent plan with realistic outcomes and sufficient follow through to reach those outcomes.

IDE has made some important strides toward greater integration into the development community as a result of collaborations related to the Global Initiative, a partnership on an RFP, and on the Haiti Country Program. Yet IDE remains relatively isolated from other PVOs focused on similar goals with similar strategies. IDE would benefit from greater participation in consortiums like InterAction and SEEP, and from the dialogue within the larger community on best practices in business development services (BDS), M&E, and even financial management, on the one hand, and to disseminate its own best practices and capabilities to its peers.

Membership in the SEEP Network as well as InterAction are useful, but staff need the funds and time to take advantage of these services offered by these consortiums.

Improve M&E/MIS

As noted above, the systems developed to date are of very good quality and impressive in terms of volume, but they need to be adapted to the demands of the field, adjusted to reflect best practices in BDS performance measurement (based on Donor Committee Guidelines located on **www.ilo.org)**, and institutionalized both in Denver and the field. Field staff – especially country directors – need training in how to use MIS to manage their programs effectively.

Regional Development

Improved cooperation within the IDE network of country programs and Denver remains a challenge. Staff turnover in 1999 and 2000 has slowed the process of "regional development." Although improved communications, improved financial systems, regular reporting, annual Country Directors Meetings, and – to a smaller extent – IDE regional committees have contributed to improved cohesiveness, IDE Denver still needs stronger systems for ensuring quality control and cohesiveness.

Organization-Wide Policies and Procedures

More systematic reporting to the Board as well as the Personnel Manual and M&E Guidelines have been important steps toward the formalization of IDE. The Operations Manual appears to be less successful, not because it is not well conceived or written, but because there is too little knowledge of its existence. Additionally, the Operations Manual addresses complex issues like sustainability – as if there is concurrence – on how to achieve it, when in actuality, IDE needs a process for reaching some concurrence and recording best practices both for the IDE network and for sharing with the development community at-large.

III. Findings – India

A. Project History/Description

IDE India applied for and used the USAID MG funds to expand into a new product line, "affordable micro-irrigation technologies" (AMIT). Previously the India program focused on the commercialization of treadle pumps (TPs) in the western part of the country. IDE viewed AMIT as having the potential to address the needs of farmers in semi-arid regions, a territory that spans 3/4s of the country and is far larger than the TP market area.

Fifty years ago, the Government of India (GOI) made huge investments in these semi-arid areas to harness the country's irrigation potential after independence. Approximately 3.5 million wells were dug at the time, and today there are more than three times this many. However, as a result of the rapid increase in wells, groundwater has been overexploited in many areas. Depleting groundwater together with erratic rains have constrained farmers access to irrigation. In 1947, as much as 6000 cubic meters of water was available per person, the figure was only 2300 cubic meters in 1997.[22]

In light of the increasing water shortages for agriculture, especially in semi-arid regions, the GOI began investing in micro irrigation, touted as the most efficient method for providing water to plants. Micro irrigation, which includes drip and sprinkler systems, is particularly appropriate to semi-arid areas where water is valuable and conservation essential. Introduced in India in the 1970s to Agricultural Universities and other research institutes, micro irrigation represents an important solution to water conservation. The documented[23] advantages of micro irrigation include:

- Water savings of up to 50-75%
- Yield increases of up to 50%
- Savings in fertilizer of up to 25-30%
- Improved produce quality
- Reduced weed growth
- Labor savings of 50-60%

In order to disseminate micro irrigation in India, the government launched a subsidy program that has helped to spawn an industry of more than 60 manufacturers to supply micro irrigation components. Despite the subsidy scheme, only about 75.000 ha are estimated to be under drip irrigation. Areas using drip include those producing commercial horticultural crops in Maharasthra, Andhra Pradesh, Karnataka, Tamil Nadu, and Gujarat. Moreover, users of micro irrigation tend to the larger farmers. As is the case with many such schemes, subsidies are rationed and influential farmers have been more successful than poor farmers at accessing them. Moreover, the systems that have been manufactured have tended to copy those produced in developed countries, and are not suited to small farmers. Due to delays and the complexities of obtaining subsidies, manufacturers have increased the price of systems to cover their costs. Consequently, only a very small number of poor farmers –

[22] Source: India 1998, Ministry of Information and Broadcasting, February 1998.
[23] Micro irrigation was developed 30 years ago in Israel, where these advantages have been "documented."

according to an IDE market survey[24] - use MI systems because either they are unaware of MI or they view it as too expensive.

The aim of IDE India's AMIT program has been to develop micro irrigation products for small and marginal farmers – affected by the increasing depletion of water resources. Over the three years of the USAID MG Program, IDE India has focused on developing, field testing, and market testing micro irrigation products tailored to the needs of IDE's target group.

In August 2000, as the evaluation began, AMIT had completed market testing the products, and was in the process of preparing for mass dissemination. In preparation for this next phase, the AMIT program has developed a National Marketing Plan, which will be further discussed, developed, and finalized at the next Annual Meeting in September 2000.

> *Over the next three to five years, IDE is planning to launch a marketing campaign to scale up sales of AMIT. IDE plans to in seven semi-arid states. An estimate by IDE shows that the total potential market size for this new technology in these seven states is 5 million micro plot drip kits. IDE is currently developing a strategy to tap at least 10% of this market over the next five years.*[25]

The evaluation of the Matching Grant in India needs to be viewed within the context of the stage of development of AMIT, i.e., that it has just completed the product development, field and market testing phases. Thus questions regarding sustainability are largely pre-mature. Nonetheless, the evaluation can and will assess the systems in place for ensuring future sustainability.

B. Project Goals/Indicators/Findings

The following six project goals for IDE India were presented in the DIP, and reflect the various phases of the project. Goal 1, strengthening the MI team, reflects project start up that included the hiring and training of staff and the establishment of regional offices and personnel policies and procedures. Goal 2, the demonstration of "affordable micro irrigation systems (AMIS)" to farmers and NGOs, represents the product field testing stage of the program and the development of a network of NGOs for introducing the technology at the grassroots level. Goal 3 reflects the market testing of AMIT, and Goal 4 represents the documentation of the field and market testing and conclusions regarding the market potential of AMIT, based on technical and what IDE India refers to as "baseline information" and socio-economic impact studies. Goal 5 focuses on the development of a private sector supply chain, and Goal 6 on effective project management.

[24] Dr. K.A.S. Mani, "Identification of Potential Areas for Introducing IDE's Low Cost Drip Irrigation System in India." Final Report, March 1996.

[25] "Low Cost Drip Irrigation for Micro Plots in India," by Guru Naik, Associate Director (MG Program), IDE India paper presented at International Conference on Micro and Sprinkler Irrigation, 8-10 February 2000, Maharashtra, INDIA.

Goal 1: Strengthen the Micro-Irrigation Team

Hiring of Staff

a. Findings:

As part of the MG-funded AMIT Program, IDE hired 17 new staff in 1997, the first year of the program. Three staff were hired for the Central Coordinating Office (CCO) in Delhi; and a total of 14 for the Regional and Field Offices in Himachal Pradesh (HP) and Maharasthra. Each Regional Office included seven staff persons: a Regional Director (RD) and three Area Marketing Managers (AMM) (considered technical staff); an accountant, an office assistant, and a driver (considered support staff). The AMMs managed three Field Offices per region or state.

With additional (matching) funding, the AMIT Program added additional staff, such that in October of 1999, there were a total of 35 employees. By June 2000, the staff total for the AMIT program was 32, of which 17 were funded by USAID.

b. Evidence:

- IDE India organizational chart
- AMIT staff resumes
- HR Department employee list
- Interviews with AMIT staff

c. Analysis:

The MG Program technical staff are highly qualified. The Associate Director worked for three years managing the KB-East treadle pump (TP) program in West Bengal. As a result of this experience as well as ten previous years of project management, the Associate Director, as AMIT's project manager is called, made the decision to hire technical staff from the micro irrigation industry rather than from the development community. These technical staff persons, who generally have Master's degrees in engineering, have provided AMIT with the technical expertise needed to launch into a new product area.

Interviews with AMIT's technical staff as well as their resumes indicate their qualifications. Moreover, a field trip that included a visit with a manufacturer made clear that staff's experience has been instrumental in identifying quality manufacturers and in selecting and testing products. Given their previous employment in the industry, regional managers have the knowledge to effectively negotiate with manufacturers regarding the design, production, and pricing of AMIT components.

Nonetheless, these technical field staff – hired from the private sector - lacked development experience. To address this knowledge gap, IDE India hired a senior staff person, based in the Delhi Central Coordinating Office (CCO), with over 20 years of experience in rural development and working with NGOs. This Senior Manager's credibility and vast contacts have facilitated linkages and relationships with NGOs.

Setting Up of Field Offices

a. Findings:

As part of the Matching Grant, IDE India initially established two new regional offices to oversee what is referred to as the KB-West program and to introduce and test market AMITs. In September 1997, Regional Offices were established in Shimla in the State of Himachal Pradesh (HP) and in Nagpur in the State of Marahasthra. Each Regional Office, in turn, established three Field Offices, manned by Area Marketing Managers (AMMs). Field Offices in HP were set up in Solan, Kulu, and Palampur. And Field Offices in Maharasthra were established in Aurangabad, Amravati, and Indore.

In 1999, IDE India received new (matching) funding - from the Swiss Agency for Development and Cooperation (SDC) - with which the AMIT program opened up a new Regional Offices in Bangalore (State of Karnataka) and Ahmedabad (State of Gujarat), and new Field Offices in HP and Gujarat/ Rajasthan..

In 2000, IDE India experienced funding cutbacks. As a result, the Maharasthra Regional Office was closed, and many of the staff moved to a new office in Gujarat. The shift from Maharasthra to Gujurat was a condition placed on SDC funding. IDE left behind NGOs and an assembler in Maharashtra who continued to disseminate AMIT, but the project office was moved to an area where SDC operated. Thus by 2000, AMIT had Regional Offices in HP, Gujarat, and Karnataka (Bangalore). Each of these offices had three Field Offices, with the exception of HP, which had four. The productivity of these Offices is evidenced by the data on sales. As of July 2000, over 3,000 AMIS had been sold in Maharasthra, over 5,000 in Himachal Pradesh, and over 1,300 in Gujarat.

b. Evidence:

- AMIT Program Organizational Charts 1997, 1999, 2000
- Interviews with Associate Director

Training of Staff

a. Findings:

When the USAID MG proposal was developed, IDE India intended to hire – as in the past – personnel with a development-oriented background, and then train them in the technical aspects of the program. Instead, however, based on the previous experience of the Associate Director in KB-East (treadle pump program), a decision was made to hire technical staff and train them in rural development issues. Moreover, IDE India lacked technical knowledge of MI, and thus hiring experts from the industry would both provide the AMIT program with the needed expertise in what is a very technical field, and staff with a private-sector orientation.

To fill the expertise gap in rural development, IDE hired a Senior Program Coordinator with over 20 years experience with NGOs, small farmers, and rural development in India. The Program Coordinator worked with the technical staff to orient them toward issues related to small farmers and NGOs. Moreover, a great deal of staff training was

conducted through Regional Coordinating and Annual Meetings. Minutes from these meetings reveal the extensive discussion that takes place regarding lessons learned, strategy development, and planning. Additionally, IDE India organized a Gender Workshop to ensure that staff were sensitive to gender issues, particularly since women are major clients of the AMIT program.

Staff training needs are also addressed in performance evaluations, which highlight areas of weakness of a particular staff person and suggest future training. Attendance at industry workshops and IDE India regional and annual meetings are also opportunities for staff to improve their skills. Finally, a number of staff, including Regional Directors, have had opportunities to travel overseas as part of IDE programs, and this exposure has increased their technical skills.

Accounts Officers working in Regional Offices receive initial training from the Finance Department and from monthly meetings held with all finance and accounting staff. These meetings provide a venue for regular discussion and resolution of problems and updates on systems.

b. Evidence:

- See IDE's Five Year Plan – the emphasis on learning
- Monthly and Quarterly Reports – refer to staff training
- Position of Program Coordinator – NGO expert
- Minutes of Annual Accounts Meeting – training of Accounts Officers from ROs
- Minutes of Regional Coordination Meetings (twice per year)
- Proceedings from Government-sponsored National Workshops on micro irrigation (IDE featured)
- "Micro Irrigation Prospects and Potential in India," June 18, 1999. Hyderabad, A.P. IDE paper presented, "Tapping a Huge Micro Irrigation Potential for Small and Marginal Farmers in India: The IDE Experience" Shri A.M. DE
- International Conference on Micro and Sprinkler Irrigation, 8-10 February 2000, Maharashtra, INDIA. IDE paper presented, "Low Cost Drip Irrigation for Micro Plots in India," by Guru Naik, Associate Director (MG Program)
- Workshop: Micro Irrigation & Sprinkler Irrigation Systems, 28-30 April 1998, Delhi, IDE paper presented, "Small and Marginal Farmers: A Huge Market for Micro Irrigation in India – IDE's Experience."
- Travel/Workshops/Assessments:
    - Sudharshan – China (an assessment); Egypt (assessment of micro irrigation potential); FAO (part of field team); Washington, D.C. World Bank; and Mexico
    - Joshi – Vietnam (IDE); Cambodia (IDE); and Zambia (IDE)
    - Guru – SDC conference in Switzerland; assessment and training in Bangladesh; U.K. to meet with DFID for fund raising purposes.
    - Performance Appraisals of Staff – weak areas are identified and plan developed for training and staff development to address weaknesses. See staff performance appraisal format.

Completion of Operations Manual

a. Findings:

IDE Denver completed a draft of the Operations Manual, in collaboration with Country Programs, including IDE India. However, IDE India also produced its own personnel and finance manuals some time before the Operations Manual was produced. For instance, IDE India has a "Personnel Policies and Procedures Manual" dated 11/15/98 Version 7 as well as a Finance and Administration Manual (FAM). The content of these manuals, however, is purely administrative and does not contain guidance regarding the stages of project implementation or IDE's approach for developing and marketing affordable technologies. Nonetheless, IDE India has not made use of the Operations Manual, viewing it as a tool for new as opposed to well-established country programs.

b. Evidence:

- "Personnel Policies and Procedures Manual" dated 11/15/98 Version 7
- "Finance and Administration Manual (FAM)"
- "IDE Operations Manual"
- Interviews with the IDE India Country Director and Deputy Director, AMIT Associate Director, Finance Department Head

c. Analysis:

IDE India's perspective on the manual makes clear that IDE Denver needs to do training or educational outreach activities to institutionalize the use of the manual within country programs. Especially the larger and older programs tend to see themselves as not needing an operations manual developed by Denver. It is an attitude that has developed – it is surmised – because of the circumscribed oversight that Denver has provided in the past.

Goal 2: Demonstrate to Farmers and NGOs the Utility of AMIS

Building of Contacts with NGOs

a. Findings:

Because drip irrigation was a new concept for most small farmers, IDE needed to invest efforts into developing farmer awareness of AMIS. In previous projects, IDE assumed the role of promoter. Once IDE stepped into this role and priced products without a margin to cover the costs of promotion, it was difficult to hand over promotional activities to the private sector. Thus IDE India developed a new model for promotion and demand creation under the AMIT program, which involved demand creation through a network of NGOs and self help groups (SHGs).

In developing the AMIT program, IDE India discovered that there were hundreds if not thousands of NGOs throughout India engaged in watershed management and other related activities. During the field testing of the AMIT products, these NGOs showed keen interest in the AMIT systems.

During the field testing phase, IDE India demonstrated the AMIT kits to 20 NGOs. This interaction with NGOs spurred communications from an expanded number, indicating strong interest in bringing the new irrigation technology to their respective constituencies. As of August 2000, IDE India had been contacted by over 200 NGOs (see "NGOS Involved in Promoting Micro Irrigation"). While the interest and capacity of these NGOs varied, the number clearly indicated the interest and potential for involving NGOs as the program expanded.

By using the Dainet NGO Directory, the AMIT Program was able to identify NGOs whose interest and experience overlapped with those of AMIT. NGOs working in watershed management, NGOs that worked with women, and NGOs that worked in agriculture were also possible partners.

b. Evidence:

- "NGOS Involved in Promoting Micro Irrigation"
- "NGOs (that have) Shown Interest in Micro Irrigation in HP"
- "NGOs (that have) Shown Interest in Micro Irrigation in Maharasthra"
- "NGOs (that have) Shown Interest in Micro Irrigation in Rajasthan"
- "NGOs (that have) Shown Interest in Micro Irrigation in Madhya Pradesh"
- "NGOs (that have) Shown Interest in Micro Irrigation in Gujarat"
- "Dainet NGO Directory: A Directory of NGOs in India"

Training of NGO Personnel

a. Findings:

In order to engage NGOs in AMIT promotion, IDE India had to train their staff in the operation and maintenance of micro irrigation systems and in how to conduct demonstrations. In a report entitled, "Final Report on Feasibility of Affordable Micro-Irrigation (Extension Phase)," the AMIT Program details the training needs of NGOs and Self-Help Groups (SHGs). In this report, IDE states that SHGs were found to be the best grassroots agency for identifying potential customers, conducting field demonstrations and farmer meetings, and training farmers. The report notes that to accomplish these tasks, SHGs need kits for demonstration, promotional materials, and training in installation and agronomy.

The Monthly Reports from the Regional Offices provide ample evidence of the training of NGO personnel. Typically after an initial training by the Area Marketing Managers, NGOs conduct demonstrations alongside IDE staff – as a form of "on the job" training. Annual Reports (developed by Regional Offices) also provide specifics on training and make reference to its effectiveness. However, there does not appear to be a formal assessment of the effectiveness of the training.

b. Evidence:

- "Combined Monthly Reports of Treadle Pump and Micro Irrigation Programmes," Oct 98, Dec 98, Feb 99, May 99, June 99, Sept 99, Oct 99, Jan 00, Feb 00, April 00, May 00

- "Monthly Regional Progress Report," from Regional Offices
- "Final Report on Feasibility of Affordable Micro-Irrigation (Extension Phase)"

c. Analysis:

While NGOs have often been involved in product commercialization efforts, the results have typically not been positive since NGOs are not business oriented and their attentions typically shift with the interests of the donors. However, IDE has identified a role for NGOs, which takes into account both their strengths and weaknesses. IDE has leveraged NGOs strengths – their excellent contacts as well as credibility at the grassroots level – as promoters to increase scale of outreach, while avoiding NGOs weaknesses in project implementation.

NGOs working in watershed management and agriculture in semi-arid regions of India have significant outreach, which IDE needed in order to disseminate AMIT on a mass scale. Thus as part of the AMIT program, IDE explored the feasibility of leveraging promotional efforts through a network of NGOs, who have their own staff and own resources. While some NGOs asked IDE for funding, it was refused. Thus all NGOs involved in AMIT are using their own funds. The overwhelming interest in the technology (200 NGOs have contacted IDE) is testimony to the willingness of NGOs to participate in the program with their own funding.

Goal 3: Test-Market AMIS

Identifying Market Segments and Develop Customer Profiles

a. Findings:

A key part of the test-marketing phase of IDE projects involves segmenting the market, as a means of tailoring product design, training, and promotional activities to the needs of customers. The market segments identified in the National Marketing Plan include[26]:

- Marginal farmers owning an inadequate water source and regularly growing vegetables
- Marginal farmers not owning a water source but with access to water

As a result of NGO and government interventions, a substantial number of poor farmers in semi-arid areas own open wells, which for the most part dry up during the summer months. According to government statistics, in the AMIT project areas (expanded area[27]), there are approximately 440,000 wells, half of which could represent customers for affordable micro irrigation. Thus the estimated market size for AMIT is about 220,000 farmers.

[26] National Marketing Plan for Affordable Micro Irrigation Kits, IDE India, July 2000.
[27] Including Himachal Pradesh, Rajasthan, Gujarat, Madhya Pradesh, Maharasthra, Andhra Pradesh, and Karnataka.

Farmers who do not own wells but have access to water tend to rely on community wells and/or water harvesting structures. Some of these farmers grow vegetables during the winter but not during the summer due to a lack of water. IDE estimates that this market segment includes more than 2 million farmers.

To appropriately design project activities for these farmers, IDE India developed initial customer profiles using baseline information ("Baseline Information: Micro Irrigation Program" and "Baseline Study on Micro Irrigation in Rajasthan") culled from the census. These profiles were refined during the test-marketing phase. Based on these customer profiles, "80% of the small, non-mechanized kits were purchased by farmers with less than 2 acres of land." The AMIT Program decided to focus its program and product design on this market segment of small and marginal farmers

b. Evidence:

- "National Marketing Plan for Affordable Micro Irrigation Kits," July 2000.
- "Baseline Information: Micro Irrigation Program," IDE India 1998.
- "Baseline Study on Micro Irrigation in Rajasthan," by Sudrak, submitted to IDE
- "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," prepared by IDE for Intermediate Technology Consulting

Selling and Installing AMIS

a. Findings:

Prior to the test marketing, IDE conducted field tests to identify and select products The criteria for selecting products included:[28]

- The layout and operation should be simple and easy for farmers to understand
- Farmers should be able to install the systems themselves without depending outside engineers;
- The initial investment for purchasing the systems should be within the purchasing power of the small, marginal, and landless farmer; and
- The systems should be divisible so that farmers can install small units to begin with and expand these in the future by adding other units (strategy for affordability)

Five products were selected: bucket kits (for kitchen gardens); drum kits (for larger vegetable gardens); micro-sprinkler kit; overhead sprinkler kit; and customized system.

[28] IDE India Business Plan: April 2000 to March 2005. First draft, 31 May 1999.

Product	Price	Crop/Use	Coverage
Bucket Kit ***Kitchen Garden Kit***	Rs 225	Kitchen garden (consumption)	104 plants
Drum Kit ***Vegetable Garden Kit***	Rs 600 w/o drum Rs 1200 w drum	Vegetable garden (commercial)	520 vegetable plants
Drum Kit ***Horticulture Kit***			50 papaya plants
Micro Sprinkler Kit	Rs 800	Designed to be attached to tap water	250 sq meters
Overhead Sprinkler Kit	Rs 1000	Designed to be attached to electric pump	
Customized system	varies	Designed to specifically suit a farmer's land and crop	Adaptable

Source: National Marketing Plan for Affordable Micro Irrigation Kits, IDE India, July 2000.

Following the field tests and product selection, AMIT launched the test-marketing phase to answer some key questions from the perspective of the customer (the small farmers), the supply chain participants (manufacturers, dealers, and assemblers), and promotion.

From the perspective of the customer (small farmer), the test-marketing phase was designed to:

- gauge the extent to which the rural poor were willing to buy AMITs, especially within the context of the subsidy programs of the Government of India (GOI).
- understand who could afford to buy AMIT products and how (to develop customers profiles)
- understand the perceived benefits of the AMIT products by different market segments
- price the products
- gauge the costs of AMIT against benefits that could be reaped (income, water savings, labor savings, higher yields, etc)

From the perspective of the supply chain, market testing was designed to:

- learn about how much financing is needed to start up an assembling business
- gauge costs of components, labor, etc
- learn about the profitability and viability of an assembling business (to gauge margins)

From the perspective of promoters and promotion, market testing was designed to help:

- develop the communication strategy for promoting the benefits of AMIT
- learn about how best to create awareness of AMIT (how do farmers learn about the technology? Where does the information come from?)
- learn how best to convince farmers of the benefits of AMIT? (what methods were most convincing to farmers, e.g., demonstration, personal contact, farmer meetings, or dealer displays.)
- identify key motivating factors in farmers' decision to purchase AMIT (e.g., liked the kit; dealer insisted; NGO supported; wanted to experiment)

Although IDE was operating from three Regional Offices, market testing was conducted in five states because of the numerous contacts with NGOs, indicating interest in this expanded geographic area.

The results of the test marketing,[29] detailed in a report developed for Intermediate Technology Consulting and funded by DfID, produced four important findings:

(1) Even in an environment of heavy government subsidies,[30] farmers are willing to purchase AMIT products at a free-market price.
(2) IDE's strategy for demand creation has been to involve others (especially NGOs and SHGs) as much as possible. As a result, IDE's involvement in demand creation "has been less than 50%." To date, this has proven to be an effective strategy.
(3) The AMIT Program found that personalized demonstrations were the most effective means of promotion.
(4) AMIT Program tested a strategy in which farmers' did their own needs assessment. This also proved to be a successful strategy.

The success of market testing is demonstrated at least partly by subsequent sales. The AMIT program's MIS system indicates that sales of all AMIT products over the three-years of the USAID MG Program reached 9,859 (as of July 2000), thus far exceeding the 3,200 target stipulated in the DIP.

b. Evidence:

- National Marketing Plan for Affordable Micro Irrigation Kits, IDE India, July 2000.
- "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," prepared by IDE for Intermediate Technology Consulting
- "Combined Monthly Reports of Treadle Pump and Micro Irrigation Programmes"

Goal 4: Estimate the Market Potential of AMIS

Collecting Baseline Information

a. Findings:

IDE's process for gauging the market potential of a product (like AMIT) involved an iterative process that begins in the start-up phase with the collection of information, extends to the field testing phase, where users' reactions to the product are assessed, and then to the market-testing phase, where the market segments are defined and the market potential estimated. These phases of market assessment are described below:

[29] "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE, by Guru Naik and Dr. V.K. Dixit with contributions from Sobhan Sinha for ITC.
[30] The GOI has invested substantial subsidies in micro irrigation.

Type of study/document	Market Assessment Goal
Start up phase Baseline information	- Select areas for project focus - Collect key information about areas to help identify high, medium, and low potential areas Estimate market potential based on secondary data prior to program activity
Product Field testing phase (Technical) Feasibility studies Socio-impact study Annual Report (ROs) Annual Report (CCO)	- Select products based on technical performance - Product testing results with different market segments – assessment of their reactions to the technical performance of the product
Market testing phase (Marketing) Feasibility studies Socio-Impact study Annual Report (ROs) Annual Report (CCO)[31]	- To gauge farmer reactions - To develop customer profiles/define market segments -

Initial AMIT reports on baseline information focused on the state of drip irrigation in India and socio-economic characteristics of the states where micro irrigation is feasible. Based on the early baselines, IDE selected areas for focusing its AMIT program and for locating regional and field offices. For instance, in 1996, IDE commissioned a paper entitled: "Identification of Potential Areas for Introducing IDE's Low Cost Drip Irrigation System in India," by Dr. K.A.S. Mani. This paper is an analysis of secondary data from 11 states and focused on the feasibility and potential for drip irrigation for small farmers.[32]

Based on substantial data analysis, this report provided recommendations for where (what states and districts within states) and why (what benefits repeated) to focus AMIT activities based on criteria such as: rainfall, crops grown, landing holding, irrigation sources, groundwater availability, present status of drip irrigation (GOI schemes), and market potential for drip irrigation. It also estimated market potential based on the following factors:

(1) users would be mostly from drought-prone areas with rainfall under 1000 mm;
(2) users belong to SC or ST,[33] or economically backward communities;
(3) users would be small farmers with land holdings less than 2 hectares, a portion of which is under irrigation;
(4) the irrigation source is groundwater, developed through hand-dug wells in areas where exploitation is high and water volume is limited;
(5) the area has no surface water irrigation system; and

[31] "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," by Guru Naik, Dr. V.K. Dixit with contributions from Sobhan Sinha, for Intermediate Technology Consulting (ITC). 2000.

[32] The scope of work for this study included: (1) determining the number of landless, marginal, and small farmers in India by state that suffer from inadequate water but have access to some source of water; (2) assessing the importance of different water sources to the target population (identified previously) and the percent of water required supplied by these sources; and (3) summarizing the state of drip irrigation in India, average land holdings, type of crop, average cost per acre, number of systems by state, and the estimated potential for drip by state.

[33] SC is an abbreviation for "schedule caste, and ST for "schedule tribal." This terminology relates of Indian legislation.

(6) a cropping system that includes flowers, fruits, vegetables, sericulture, and a readily available market.

Another study – entitled "Report on Feasibility of IDE's Affordable Micro Irrigation Systems in SDC's Watershed Project Areas: Maharashtra, Rajasthan, Gujarat, Madhya Pradesh, Karnataka, and Andhra Pradesh and written in 1998 – documents the benefits of AMIT as compared to conventional flood irrigation. It analyzes tests measuring and comparing the uniformity of water discharge, water savings, and improvements in yields by crop. To illustrate, the average percent water saved by AMIT system against conventional flood irrigation proved to be between 33.45 and 35.75. Estimates of increased crop yields averaged 50% for 8 different crops. Although this study was part of the reviews and analyses conducted during the product development phase, the assessment of benefits to farmers helps demonstrate the economic and market potential of AMIT.

b. Evidence:

- "Identification of Potential Areas for Introducing IDE's Low Cost Drip Irrigation System in India," by Dr. K.A.S. Mani.
- "Baseline Study on Micro Irrigation in Rajasthan"
- "Final Report on Feasibility of Affordable Micro-Irrigation (Extension Phase)"
- "Report on Feasibility of IDE's Affordable Micro Irrigation Systems in SDC's Watershed Project Areas: Maharashtra, Rajasthan, Gujarat, Madhya Pradesh, Karnataka, and Andhra Pradesh," 1998.

Conducting Socio-economic Impact Studies on Users of AMIS

a. Findings:

The AMIT Program conducted two socio-economic impact studies on users of affordable micro irrigation. The first study, conducted in 1998 in connection with the field tests, was entitled "Socio-Economic Impact Study" and authored by R.S. Nijjar. The study included a survey of 40 farm families and 20 promoter-NGOs, and assessed both farmers' and NGOs' perceptions of the AMIT products. It showed women's preference for the drum kit due to its low cost, easy operation, time-savings, and income generated (the bucket kit had not yet been devised). Moreover, the drum kit, later called the Kitchen Garden Kit, could be easily used in the "kitchen garden," which women played a role in.

Additionally, the study showed the improved usage of water afforded by AMITs against conventional systems. "The cultivation of vegetables – though on a small scale – is seen as a major change in cropping pattern observed as a result of AMIS." There was also some evidence of a shift from local to hybrid varieties for better crop yield by AMIT users. Documented income increases ranged from Rs 1,500 to Rs 20,000. Those who experienced smaller increases in income tended to consume the vegetables, and thus save income as a result of vegetable production (the savings were not calculated). Increased consumption of vegetables was assumed to contribute to improved nutrition.

One purpose of the Nijjar report was to win the interest of a major NGO network, for which Mr. Nijjar worked. They study, itself, was not of high quality, but it did serve the purpose of developing an important partnership.

The AMIT Program commissioned another socio-economic impact study in 1999, as part of the test-marketing phase of the project. This study entitled, "Socio-Economic Study of the IDE Promoted Micro Irrigation Systems in Aurangabad and Bijapur," was conducted and written by Meena Bilgi, a Gender and Community Development Consultant. The objectives of this study was to document AMIT benefits, including net income, water savings, nutrition, labor savings, and specifically impact on women's labor and constraints faced by AMIT users.

The study pointed out some important findings. It quantified income gains from using AMIT, labor savings for women (due to fewer weeds), water savings (also added to women's labor savings), and decreased needs for fertilizer and pesticides. It also documented the needs of farmers that were not being met by the program. For instance, farmers – especially women – needed training in how to use and maintain AMIS. "There is a need for well-packaged training modules on AMITS usage and maintenance and on agronomy and other agricultural-related topics related to vegetable production."

A later study produced in mid-2000 entitled, "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," further documents the expressed need by farmers for training in hardware installation and proper agronomic practices. While the "Combined Monthly Report for February 1999" indicates that "each Regional Office will be provided with a Horticulturalist" partly responsible for conducting training programs aimed at NGOs, SHGs, dealers, and farmers, a survey of farmers in 2000 indicated farmers' need for agronomic training.

Monthly Progress Reports for January, February and May 2000 indicate AMIT training of NGOs and farmers in installation and maintenance. There is less evidence of agronomic training.

b. Evidence:

- "Socio-Economic Impact Study," by R.S. Nijjar. June 15, 1998.
- "Socio-Economic Study of the IDE Promoted Micro Irrigation Systems in Aurangabad and Bijapur." Report by Meena Bilgi, Gender and Community Development Consultant (research Jan – Mar 1999)
- "Report on Feasibility of IDE's Affordable Micro Irrigation Systems in SDC's Watershed Project Areas: Maharashtra, Rajasthan, Gujarat, Madhya Pradesh, Karnataka, and Andhra Pradesh," submitted by IDE to SDC. 1998
- "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," by Guru Naik, Dr. V.K. Dixit with contributions from Sobhan Sinha, for Intermediate Technology Consulting (ITC). 2000.
- "Combined Monthly Reports from IDE India on the Treadle Pump and Micro Irrigation Programmes."

c. Analysis:

The socio-economic studies conducted by the AMIT Program have underscored the considerable benefits offered by the technology. They have also highlighted, however, the

need for soft technologies (e.g., training) to enable users to translate use of the technology into those potential benefits. For some farmers, vegetable production is new, and for others vegetable production using AMIT is new. Farmers need information on how much water to provide plants, on spacing of seedlings, and requirements regarding fertilizer and other inputs.

As AMIT scales up operations, it will have to focus more pointedly on the soft technology side of micro irrigation.

Preparing National Marketing Plan

a. Findings:

IDE India developed its "National Marketing Plan for Affordable Micro Irrigation Kits" following and based upon the test-marketing phase of the AMIT Project. This plan is meant to provide the vision for scaling up AMIT over the next five years. It includes a synthesis of data on the project area (states that have potential for AMIT), a description of the products selected for further dissemination, an estimate of the market size, a review of the proposed supply chain, and a strategy for promoting AMIT and leveraging the resources of others (NGOs and government agencies) to achieve outreach.

The plan has not yet been approved. It has been developed for presentation and discussion at the AMIT Annual Meeting in September 2000. At this point, all regional staff will discuss a path forward for AMIT, and make recommendations regarding the National Marketing Plan.

b. Evidence:

- "National Marketing Plan for Affordable Micro Irrigation Kits," developed by and for IDE India, July 2000.
- Interview with AMIT Associate Director

Goal 5: Establish a Sustainable Supply Chain for AMIT

a. Findings:

In developing a supply chain for micro irrigation, AMIT made the decision to use manufacturers who were already fabricating components in the micro irrigation industry. Whereas, IDE had identified small, informal sector manufacturers to fabricate the treadle pump, these micro irrigation manufacturers were quite different to work with. However, AMIT's staff, themselves hired from the private sector, were already known to these manufacturers and well equipped to negotiate with them on an equal footing.

AMIT found that an advantage of working with relatively well capitalized manufacturers was that they were willing to invest their own funds in product development. Although AMIT uses some off-the-shelf components, dyes needed to developed for others. AMIT provided no funds to manufacturers for these dyes.

There are over 50 small-scale plastic manufacturers in India who fabricate components and supply micro irrigation components to the large drip irrigation companies. AMIT is working with seven of these manufacturers (see below).

Components	Component Manufacturers	Location/State
LLDPE pipes (16, 12, and 1 mm)	Sheetal Plast Himalayan Plastics Swati Storewel Ltd.	Maharasthra Himachal Pradesh Himachal Pradesh
PVC fittings	Bhinge Brothers Vidhi Enterprises	Maharasthra Delhi
Micro sprinklers	Jain Irrigation Concord Agro Sprayers	Maharasthra Punjab
Overhead sprinklers	Concord Agro Sprayers Jain Agencies	Punjab Madhya Pradesh

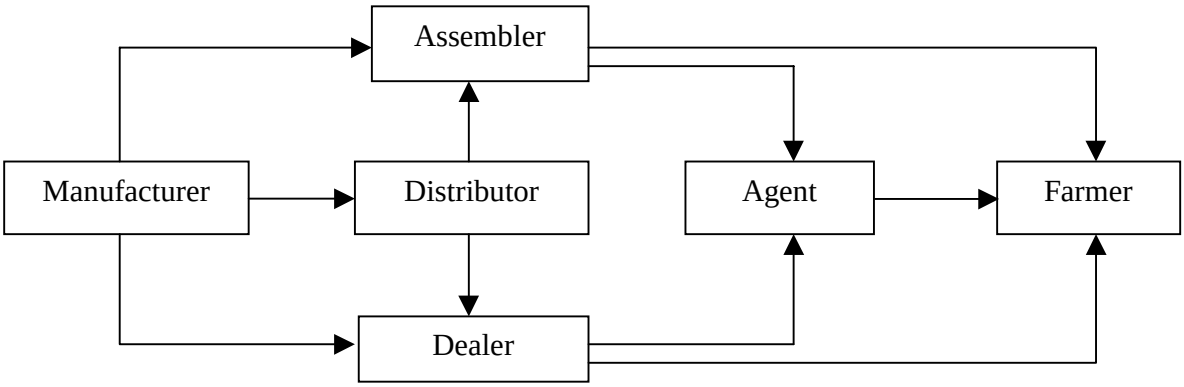
Source: National Marketing Plan

These manufacturers make components, which then need to be assembled. "Assembling" represented a new function that did not exist in the private sector, and thus had to be created by IDE. Initially, AMIT staff assembled parts and sold them either directly to customers or through NGOs. IDE played this role in order to fill the vacuum at a time when there was no demand for the product and thus little incentive for a small entrepreneur to risk such a business undertaking.

In February 2000, the Nagpur Regional Office (in Maharasthra) reported (in the Monthly Progress Report) that "this month was a step toward sustainability." Assemblers had been developed and showed a willingness to promote and market in their respective areas. They were starting to conduct demonstrations and hold farmers meetings to sell and promote AMITs. By March, the Nagpur Office reported that assemblers were buying kits from manufacturers and selling them directly to customers (without going through dealers or using agents).

The distribution and/or sale of AMIT to farmers was also initially done by IDE or NGO staff. The AMIT Program had involved itself early on with NGOs engaged in watershed management, since their objectives fit well with those of AMIT and NGOs were able to give AMIT entry to rural markets. Initially NGOs were viewed as excellent promoters, but they easily slipped into selling. According to an IDE Denver Trip Report, "it is fine to start with NGOs, but how does IDE involve the private sector and reduce the need for IDE involvement." In other words, selling AMIT kits through IDE and NGO staff – as was the case in early 2000 – may be a starting point, but it clearly not a long-term solution to distribution.

In HP, in April 2000, the Monthly Regional Progress Reports states that "direct sales by IDE staff will be stopped and AMIT kits will be sold only through dealers." And by July 2000, when the National Marketing Plan was developed the following schema was proposed for distributing AMITs.



The National Marketing Plan explains the roles of distributor, dealer, assembler and agent. Distributors of components are few in number and located in only several states. Agricultural Input Dealers, on the other hand, are located in most small markets throughout India and are well linked to farmers growing vegetables. According to the National Marketing Plan, these dealers are very enthusiastic about selling AMITs.

Agents are often village-level entrepreneurs or a lead farmer experienced in installing AMITs. Paid on a commission basis, agents may be linked to dealers or theoretically to assemblers. However, interviews revealed that some assemblers – at least at this stage – are doing their own selling at the village level in order to capture a larger profit margin.

b. Evidence:

- "Monthly Regional Progress Reports," 1998, 1999, 2000
- "Combined Monthly Report from IDE India on the Treadle Pump and Micro Irrigation Programs," 1998, 1999, 2000
- "National Marketing Plan for Affordable Micro Irrigation Kits," developed by and for IDE India, July 2000.
- "IDE Trip Report," dated May 1999.

c. Analysis:

The AMIT Program focused its initial efforts on developing and field and market testing products. By all estimations, these tasks were done quite competently. However, as IDE began to enter into the marketplace, it seemed to lose sight of its own private-sector supply chain model. In the initial stages of market development – when no one has heard of the product or tried the product – it is understandable that finding entrepreneurs interested and willing to sell the new product would be difficult. It is also understandable that NGO staff, who have already developed trusted relationships with farmers, would be excellent sales people. However, direct sales by NGOs or AMIT staff run counter to the project objective to develop a sustainable supply chain..

The question is whether AMIT could or should have started using a private sector supply chain earlier. Some IDE Denver staff believed this to be the case. Nonetheless, the debate raises an important issue for IDE as an institution. IDE needs a clear articulation of best practices, or a model for developing and commercializing new products. To ensure viability, a model of a sustainable supply chain needs to be developed at the start of a program, such that all project activities are designed toward achievement of sustainability.

By August 2000, the AMIT Associate Director was clear about the need to move toward a private sector supply chain and toward a role for NGOs that included only training and promotion. The model proposed by AMIT today is one which involved leveraging others in order to "do more with less." It involves:

- Leveraging NGOs to do the promotion, though it seems that assemblers are also beginning to get involved in this function, and
- Leveraging the private sector to fulfill the distribution and sales functions

In such a model, the role of IDE is to facilitate market development. Market facilitation, according to the Donor Committee for Small Enterprise Development, entails supporting others (preferably the private sector) to provide/sell services directly to consumers. Thus this "leveraging" model is in line with best practices.

IDE also needs to consider the pros and cons of NGO involvement in light of the sustainability issue. NGOs' priorities can change and thus their functions are not necessarily sustainable. In the short run, however, they may play valuable roles as information providers, promoters, and trainers.

Goal 6: Manage the Project Effectively

Monitoring the Impact of the Project at Regular Intervals (M&E System)

a. Findings:

The M&E Department at IDE India was vacant for a year, and has been refilled within the last several months. Although the MIS system was developed and refined over the last four years, it has not always been centralized in Delhi and has tended to be product specific. Presently IDE India is creating a centralized system that can be used for any product, and will include both the TP and AMIT programs.

The current system is focused largely on the TP program and on sales, product quality, and production for the purpose of providing an information link between manufacturers and distributors and dealers. There is only one two-page form for social impact assessment.

In the future, IDE India intends to transform its MIS so that only 10% focuses on sales of products, while 90% focuses on impact assessment (interview with Deputy Country Director). At present, this is reversed.

The MIS system for the AMIT program consists of MS Office Excel sheets on sales by product, place, and time (month and year). Because the AMIT program – over the last three years – has focused on product development and test marketing, it has not developed the MIS for this program beyond simple sales data. During this initial phase of the program, decisions were still being made regarding what product and in what place the program would focus on. It was decided to keep the MIS system simple until the next project phase.

b. Evidence:

- Interview with AMIT Associate Director and M&E Department
- AMIT spreadsheets (M&E system)
- "Combined Monthly Reports of Treadle Pump and Micro Irrigation Programmes," Oct 98, Dec 98, Feb 99, May 99, June 99, Sept 99, Oct 99, Jan 00, Feb 00, April 00, May 00
- "Monthly Regional Progress Report," from Regional Offices

Developing Reports and Documentation

a. Findings:

IDE India has produced a substantial body of reports and documentation on micro irrigation. Even Regional Offices prepare analytic reports for the Annual Review and Planning Exercises held in September every year. Based upon the regional reports, the Delhi Central Coordinating Office develops a synthesized report and/or business plan each year.

Additionally, IDE has been successful at getting donors to pay for reports. For instance, SDC funded a feasibility study entitled, "Report on Feasibility of IDE's Affordable Micro Irrigation Systems in SDC's Watershed Project Areas: Maharashtra, Rajasthan, Gujarat, Madhya Pradesh, Karnataka, and Andhra Pradesh," submitted by IDE to SDC in 1998. Similarly DfID funded IDE to produce a report, in collaboration with Intermediate Technology Consulting, entitled, "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," written by Guru Naik, Dr. V.K. Dixit with contributions from Sobhan Sinha.

The SDC feasibility study was the basis for the AMIT expanded project area, while the DfID-funded report addressed issues related to long-term marketing of AMITs. AMIT's National Marketing Plan is largely based on the DfID-funded research.

IDE India has also written reports presented at conferences. Typically these conferences have been aimed at the micro irrigation industry (which large-scale farmers benefit from). IDE India's role in these conferences has been to underscore the potential for reaching small-scale farmers.

IDE's President, Paul Polak, has also contributed to documenting the potential of micro irrigation. Dr. Polak has written numerous reports for an international audience as a means to further IDE's Global Initiative (for micro irrigation).[34]

[34] Articles written by Paul Polak include: "Increasing the Productivity of the World's

b. Evidence:

- "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," by Guru Naik, Dr. V.K. Dixit with contributions from Sobhan Sinha, for Intermediate Technology Consulting (ITC). 2000.
- "Report on Feasibility of IDE's Affordable Micro Irrigation Systems in SDC's Watershed Project Areas: Maharashtra, Rajasthan, Gujarat, Madhya Pradesh, Karnataka, and Andhra Pradesh," submitted by IDE to SDC. 1998
- "Low Cost Drip Irrigation for Micro Plots in India," by Guru Naik, Associate Director (MG Program). Prepared for International Conference on Micro and Sprinkler Irrigation, 8-10 February 2000, Maharashtra, INDIA.
- "Small and Marginal Farmers: A Huge Market for Micro Irrigation in India – IDE's Experience." Prepared for Workshop: Micro Irrigation & Sprinkler Irrigation Systems, 28-30 April 1998, Delhi, INDIA.
- "Tapping a Huge Micro Irrigation Potential for Small and Marginal Farmers in India: The IDE Experience" Shri A.M. DE. Prepared for conference on "Micro Irrigation Prospects and Potential in India," June 18, 1999. Hyderabad, A.P. INDIA
- "Increasing the Productivity of the World's Micro Farmers in Developing Countries," by Paul Polak and Jeff Saussier, in *Sustainable Agriculture Solutions,* Novello Press, U.K. 1999.
- "A Low Cost Drip Irrigation System for Small Farmers in Developing Countries," *Journal of the American Water Resources Association,* Vol. 33, No. 1, 1997, February 1997, pp. 119-124, Paper Number 96064.
- "The IDE Low Cost Drip Irrigation System," by Paul Polak, Bob Nanes, and Deepak Adhikai, in *Zeitschrift fuer Bewaesserungswirtschaft*, Vol. 32, No. 1, 1997, pp. 105-112.
- "The Potential Contribution of Low Cost Drip Irrigation Productivity in India," by Paul Polak and R.K. Sivinappan, in *Water Resources Management Sector Review, Report on the Irrigation Sector*, The World Bank in cooperation with the Ministry of Water Resources, Government of India, 1998, pp. 121-123 (box A4.1)

Developing the Long-Term Plan

a. Findings:

IDE has undertaken a number of long-term planning efforts. In April 1999, IDE India held a "Strategic Planning Workshop" aimed at contributing to the development of a Five-Year Plan. In May, a Business Plan for 2000 to 2005 was developed based on the strategic planning workshop, and then a further developed Five-Year Plan document was developed.

In 1998, IDE in partnership with SDC held a "Roundtable on Rural Marketing: Strategies for Success." In January 1999, IDE held a "Workshop on IDE's Scaling Up Strategy for the Affordable Micro Irrigation Technologies (AMIT) Program. While the 1998 workshop addressed general issues in rural marketing, the 1999 workshop was specifically focused on developing a marketing strategy for the AMIT program.

The National Marketing Plan, which could be strengthened with more analysis, provides a long-range plan for AMIT. It includes projected sales over the next five years and a vision for further developing the supply chain. This plan will be further developed at the Annual Meeting in September 2000.

b. Evidence:

- "Three Year Action Plan," prepared by IDE India. June 1999.
- "Workshop on IDE's Scaling-Up Strategy for Affordable Micro Irrigation Technology (AMIT) Program. January 18 –19, 1999.
- Business Plan for 2000 to 2005
- "Strategic Planning Workshop"
- Roundtable on Rural Marketing: Strategies for Success."

C. Project Success/Sustainability

IDE India and IDE Denver have made a convincing case for the potential impact of AMITs. Both field and market tests have demonstrated the considerable water, labor and input savings that can be realized using AMIT. Additionally, the potential for increasing incomes, especially in semi-arid regions appears to be significant (e.g., 141.65% according to Bilgi's socio-impact assessment).

The AMIT Program's efforts at developing a high-quality team, the learning focus of the team's approach to project implementation, and the success at developing products tailored to the needs and resources of small and marginal farmers have been exceptional. The reports and documentation have been numerous and of high quality.

AMIT's sales record indicates relative success. In 1997-8, when project activities were largely focused on product development and testing, sales totaled 331 units. In 1998-9, when the program was testing marketing the products, annual sales mounted to 3,538, and then in 1999-up to July 2000, annual sales were 5,990. Cumulative sales of 9,859 exceeded the overall target under the MG Program. But while sales have been good**,** IDE India's programmatic success has been affected by hiccups in funding. When the program was initially launched, it had strong support from SDC. However, as IDE's main SDC contact in India was transferred back to Switzerland, funding became an increasing problem. Although SDC is again a major financier of the program, this financing has come with conditions. Because SDC only works in certain states, of which Maharasthra was not one, IDE had to move its Regional Office from Maharashtra to Gujarat in 2000. Regional Monthly reports make mention of cut backs in operation due to lack of funding.

Despite many strengths, the AMIT Program has a key weakness in an area where IDE is usually strong. AMIT did not appear to have a clear idea of sustainability from the beginning. AMIT's early strategy involved IDE staff selling directly to farmers and through NGOs. While this strategy might be defendable when marketing a new market for which there is no demand, there must be a time limit on this strategy coupled with a clear up-front vision of future sustainability.

AMIT now appears to be back on track in that the program is working toward developing a private sector supply chain. Nonetheless, the project needs to be clear regarding a sustainable role for NGOs, and to ensure that NGOs can play a sustainable role in promotion. Moreover, AMIT should ensure that staff engage in facilitation and do not play a role that is more appropriate for the private sector.

IV. Findings – Bangladesh

A. Project History/Description

In applying for the USAID Matching Grant, IDE-Bangladesh (IDE-B) aimed to launch a new product line, using the same model and to a large extent the same supply chain developed under its renowned treadle pump project.

The "Capacity Building, Development, and Marketing of the Low-Cost Hand Pump" (CDM) project, was launched to address the lack of affordable drinking water pumps and inadequacies in the supply-driven systems for delivering many of these technologies. According to the "Detailed Implementation Plan (DIP)" for Bangladesh, existing hand pumps were expensive, and well beyond the purchasing capacity of the population they were meant to serve. They also lacked sufficient lifting and discharge capacity and were not easy for owners to maintain and/or repair themselves. Additionally, many drinking water pumps were subsidized and developed under "a supply-driven approach." Because these pumps were either provided free of charge or sold at a subsidized price, they generally were not to meet the needs of customers.

The objectives of the CDM project were originally envisioned as the following:

1) strengthen the skills base of local staff,
2) establish collaborative partnerships and improve the capacity of NGO and other local organization partners,

Additionally and more specifically, IDE-B articulated four project goals/objectives related to the product development, field testing, market testing, and product marketing of a low-cost hand pump (LCHP). They are as follows:

3) design, fabricate, and field test the LCHPs on a pilot scale,
4) motivate quality partners from existing private-sector networks to produce (manufacturers), deliver (dealers), and install (mistries) the LCHPs
5) motivate users/buyers to purchase the LCHPs
6) scale up marketing of the LCHP when appropriate

The final project goal, which was originally envisioned as more limited and later became a major focus on project activities, was:

7) build awareness of users about safe drinking water and the "arsenic problem"

IDE's staff was to be trained to focus on the relationship between clean water and family health, water testing procedures, well installation procedures, and in a range of human resource development skills. NGOs were to be trained in marketing and to become the trainer-of-trainers. Farmers were to be taught to recognize quality pumps and basic repair techniques. Well drillers, often called "mistries," were to be trained to install, repair, and promote pumps. Dealers, retailers, and distributors were to be trained to identify quality pumps and in marketing techniques.

Evaluation of this strategy was to be based on the number of hand pumps sold through NGOs, credit facilities extended to buyers of the technology, and retention of training topics. Upon completing the market testing of the low-cost hand pump (LCHP), brand named the JANANI pump, IDE-B field experience suggested that demand for the pump was substantial. As a result, the market-testing phase was merged with the product launching. At the same time, there was growing publicity about the arsenic problem in Bangladesh. As the gravity of the problem became clearer, IDE-B requested permission from USAID to re-orient the Matching Grant toward increasing arsenic awareness. Although marketing of pumps did not stop, efforts at marketing were curtailed. For example, IDE-B withdrew from two southern regions, where arsenic contamination was most extreme and focused on arsenic testing and awareness activities in three northern regions.

As a result of the re-orientation of the CDM program, targets were revised as follows:

ORIGINAL TARGETS	PROPOSED NEW TARGETS
40 manufacturers in place	4 Manufacturers
600 dealers selling the pump	300-317 dealers
3000 installers trained	2000 installers trained
15,000 pumps installed	5,000 pumps installed
50 NGOs working with the project	20 NGOs working with the project

B. Project Goals/Indicators/Findings

Because of the re-orientation of the program in Year 3, fifty percent of the evaluation – as stipulated by the SOW – is focused on the original objectives, targets, and accomplishments of CDM, with less emphasis on numerical targets and more on the establishment of systems. The second half of the evaluation assesses IDE-B's accomplishments under the revised project plan.

Goal 1: Strengthen the Skill Base of Local Staff.

a. Findings:

IDE-B hired 20 new staff for the CDM project. Many of these staff persons, however, were not hired at the start of the project. For instance, the Arsenic Program Coordinator was hired in February/March 2000 after the re-orientation of the program toward arsenic awareness raising and testing. Additionally, out of 10 Technical Officers now working under the program, 6 were hired in 1997/98 and 4 were hired between May and July 2000. The delay in hiring staff related to the time required to obtain permission from the Government of Bangladesh (NGO Bureau) to undertake the program, and the time taken up by product development. IDE-B has initially assumed that it would disseminate the hand pump developed by IDE Vietnam. However, this pump proved to be too costly to manufacture in Bangladesh and was not competitive with other pumps on the market.

To orient the staff to IDE's program strategy and strengthen their skill base, various training workshops were held. According to an interview with the CDM Program Manager and the "Annual Report: October 1998 – September 1999," staff training included the following

Training subject	Staff trained
IDE orientation, i.e., IDE's private sector approach to technology/product commercialization - the "customer-focused, supply chain approach"	1 Manager 3 Assistant Managers
Project orientation, i.e., the goals of the CDM project	10 Technical Officers (TOs) 2 Assistant Managers
Training on the technical aspects of the product (the LCHP) and on water, hydrology, and related knowledge of areas of operation	10 Technical Officers (TOs) 2 Assistant Managers
Training on marketing, e.g., demonstration techniques and promotional strategies	10 Technical Officers (TOs) 2 Assistant Managers
Training on accounts	10 Technical Officers (TOs) 2 Assistant Managers
Training on technical aspects of arsenic	10 Technical Officers (TOs)
Business English course	3 Assistant Managers
Computer course	1 Assistant Manager

The CDM Program Manager stated that her training and learning occurred through reading, proposal writing, and meetings with other donors and NGOs working on the arsenic issue; as well as through an international conference attended in San Diego, California on the issue of arsenic. The Arsenic Program Coordinator stated that he was educated as a chemist at the University of Dhaka and had previously worked with the Government in arsenic mitigation and other water-related issues.

In July 1999, immediately after the product was finalized based on field and market testing, IDE-B decided to "mainstream" CDM staff. In other words, rather than working as a separate unit from the rest of the IDE-B, the Technical Officers became staff of the Technology Selection and Development Department, Monitoring Officers were integrated into the M&E Department and so forth. Mainstreaming was meant to provide staff with the support offered by a specialized department. As such, it was designed to strengthen staff skills.

b. Evidence:

- "CDM Project's Staff Development Training, 1999 and 2000"
- "Report on CDM Project Orientation Training, 23 June 1999."
- "Training Calendar 1999"
- "Training Manual: Training on Field-Level Arsenic Testing."
- "Completion Report on Training of Trainers of IDE on Arsenic Issues," February 2000.
- "Human Resources Development Plan for the Year 1999," Internal Training.
- "Annual Staff Conference," August/September 1999.
- "IDE Progress Report," submitted by HR & Training Department, January-June 2000
- "IDE Monthly Regional Progress Report (October 1999 to September 2000)"

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IDE's Monthly Progress Reports provide data on the number of participants attending dealers', mistries', customers', and NGO staff training workshops. Moreover, workshop reports provide some evidence of the quality of the training, which were purportedly of good quality.

Goal 2: Design, Fabricate, and Field Test Low Cost Hand Pumps on a Pilot Scale

Designing and Producing a Low Cost Hand Pump

a. Findings:

IDE-B spent years 1 and 2 of the CDM project developing and field testing the LCHP for marketing. Originally, IDE-B had envisioned adapting a hand pump IDE was commercializing in Vietnam for the Bangladesh market. Nonetheless, the R&D team of IDE-B tested at least four different pumps, as evidenced by Monthly and Annual Reports during 1997-98. It became clear relatively early on that the Vietnamese pump would be too costly in Bangladesh as compared to other pumps on the market. Consequently the R&D team had to do a more extensive search and testing for a competitive product. This process took longer than envisioned in the project proposal. This affected the time remaining for marketing the finalized product.

The R&D team began their work on selecting a technology by researching other hand pumps in the market (see document on "Information of market available hand pump in BD regarding cost & specification"). Data was collected on fifteen different pumps, including the Vietnamese pump. Performance indicators included weight, price, ex-factory cost, overall dimensions, discharge, and quality. The definition of "quality" included strength (which related to longevity or durability), the quality of the seal (which relates to leakage), as well as the finish (or the overall look of the product). This data provided the R&D team with parameters for selecting and designing a competitive product that was affordable to IDE-B's target group.[35]

Based on these parameters, the R&D team designed a product, developed drawings and a mold for casting, and had 15-20 samples fabricated by a local manufacturer. These samples were tested in the IDE-B lab alongside a variety of other pumps and against the parameters developed earlier. Data on these lab tests were incorporated into the files of the TS&D Department, and the overall results of the tests were reported in the "Annual Report October 1997 – September 1998."

The pump selected for field-testing was a modified No. 6 pump. The original No. 6 was developed by UNICEF. According to the "Annual Report: October 1998 – September 1999," the modified No. 6 pump which IDE-B brand named the "JANANI" pump is meant for lifting water from shallow tubewells, that is from a maximum of 25 feet. It has a discharge rate of 25-30 liters per minute (average .5 liter per second), and a weight of between 15.5 and 14.5 kilograms. A sheet entitled, "Design Analysis and Specification of

[35] see "Base-line Survey: highlighting weight, market price and profit margins of existing Hand Pumps," May 1999.

JANANI Pump Compared to Other Pumps," compares the JANINI design against the "UNICEF Standard" and other pumps in the market and provides the following comparisons:

Parameter	**JANANI**	**Competitive Products**
Weight	15.5-15.75 kgs.[36]	17.5-18.0 kgs
Retail price	Tk. 400 Ex-factory: Tk 355	Tk 490[37]

According to the May 1999 "Base-line Survey," the average weight of the No. 6 hand pump (a competitive product) in 6 regions of Bangladesh ranged from 19.1 to 23.2 kilograms, and the average retail price ranged from Tk 555 to Tk 633. Interviews with the Program Manager indicated that while there are other products that sell at Tk 490, though they are purportedly low in quality and durability, (they last for about half as long as the JANANI). According to the TS&D Department's information sheet on prices across 15 other pumps, there were five pumps on the market price at Tk 450 or below. All of these were in classified in the "Low Class."

The difference in performance of the JANANI against its competitors is important. Unlike the treadle pump which entered the market in 1985 with essentially no competition, the JANANI does have to compete with a whole range of hand pumps. The new product must also compete against psychological factors, such as customers' long-time confidence in a particular brand. Dealers in Mymensingh noted customers' loyalty to the "RFL" brand despite its much higher price as compared to the JANANI (Tk 560 as compared to Tk. 400). They also noted that the RFL was their biggest selling hand pump.

b. Evidence:

- "CDM Annual Report, October 1997 – September 1998"
- Interviews with TS&D Department staff, IDE-B
- "Baseline Survey," (highlighting weight, market price, and profit margins of existing pumps), May 1999.
- "Production Drawings on JANANI Hand Pump,"

c. Analysis:

While the TS&D Department made considerable efforts to test and document the parameters of competitive products on the market against the performance of the JANANI pump, there was no documentation on how much better the JANANI needed to be in order to constitute a "killer product."[38] Before IDE invests in product commercialization, there should be a litmus test that ensures that a product is a "killer product," and thus worth the investment of commercialization.

[36] Interviews with TS&D Department indicated a weight range of 14.5-15.5 kgs.
[37] Interviews with dealers in Mymensingh indicated that the RFL hand pump was the best selling shallow well pump. Its cost was quoted at Tk 560.
[38] This term "killer product" is referred to by IDE Denver's description of IDE's methodology.

Field Testing

a. Findings:

The R&D team for the CDM project had considerable documentation on the process followed for developing a product, field testing it, and finalizing it. After all laboratory tests and market comparison were conducted to develop the JANANI pump, the "first lot of demonstration pumps were manufactured in December 1998."[39] Field-testing began in January 1999 and continued up until May 1999.[40]

Data was collected on 120 pumps and on pump operation at different depths (of the water table), on user satisfaction, durability of base plates, and "inspector's comments." Each pump was monitored and data collected on a monthly basis. The data was sheets were sent from the regional to the Dhaka Office. While the TS&D Department began computerizing the data, a virus destroyed the database. Consequently, it was decided to use the written data sheets given that there were only 120 cases to analyze. The M&E Department developed a report on the user satisfaction with the pump during field-testing.

Upon completion of the field testing in May 1999, a seven-member committee was organized to review all data and make decisions about the final design and selection of manufacturers. The committee was made up of two Senior Managers, two Assistant Managers, and three Technical Officers. On the basis of user feedback and technical test results, modifications were made to the design (see annex: "Production Drawing on JANANI Hand pump"). The test marketing was then commenced in June 1999.

b. Evidence:

- "CDM Workplan: May 1999 – September 2000"
- Field Tests – Data Collection Forms
- "JANANI Hand Tubewell Performance Report" (field testing analysis)
- "CDM Annual Report, October 1998 – September 1999"
- "Baseline Survey," (highlighting weight, market price, and profit margins of existing pumps), May 1999.

Goal 3: Strengthen the Capacity of Supply Chain Partners to Disseminate Low-Cost Hand Pumps (LCHP)

Training Network Partners in LCHP

a. Findings:

IDE-B's CDM Project began involving its partner network as early as the field testing stage in order to expose them to the new technology, demonstrate the qualities of the product, and generate motivation for future marketing activities.

[39] "Annual Report: October 1998 – September 1999."
[40] See IDE-B datasheet on "Chronology of Events."

The original project plan included as many as 40 manufacturers, 600 wholesalers and dealers, and 3,000 installers. During the market-testing phase, however, CDM limited the number of manufacturers as the product was not ready for mass marketing. Initially, a Dhaka-based manufacturer produced pumps, but after this manufacturer began making demands for more money and up-front payments, CDM shifted to another manufacturer in Bogra, a city more centrally situated to the regions where CDM is now focused. After realizing the severity of arsenic contamination and revising the project strategy, CDM decided not to expand production beyond this one manufacturer, who has reportedly established good relationships with dealers.

This single manufacturer received technical and marketing training from IDE-B. As part of the technical training the manufacturer received the pump pattern for the mold, production drawings, and training in quality production and control. The TS&D Department developed guidelines for quality control, including fact sheets entitled, "Quality Control Procedure," "Quality Installation Steps," and "Quality control Check Points." To ensure quality during the market-testing project stage, CDM Technical Officers monitored the quality of the manufacturers' pumps using a form entitled, "JANANI Hand Pump Production Monitoring Format" and guidelines including, the "List of tools to be used for quality check." Technical quality is monitored and assessed in the Monthly Report sent to Dhaka from each region.

CDM had initially envisioned a role for wholesalers in the supply chain. The benefit of wholesalers is that they buy in bulk and pay manufacturers up-front. Dealers, on the other hand, tend to buy many products from wholesalers who often extend credit to dealers with whom they have established long-term and trusting relationships. However, very soon in the marketing phase of CDM the dealers argued that they would rather have a direct relationship with the manufacturer so as to cut out the margin of the wholesaler. Dealers agreed to coordinate orders by region, buy in bulk, and share the transport costs. However, the manufacturer requires up-front payment from these dealers. Over time, IDE-B expects the manufacturer and dealers to develop a relationship that will allow for credit.

The dealers involved in the CDM project were already partners with IDE-B, already had a cadre of installers working with them, and had already been trained under the treadle pump program. In other words, a supply chain was in place for the CDM to build on.[41] Despite the familiarity of most dealers with IDE-B's program approach, CDM needed to train dealers in the operation of the JANANI pump, quality specifications, and marketing. IDE-B already had a manual for dealer training and added to this information specific to the JANANI.

As of July 2000, CDM had not met the target of 600 dealers as called for in the DIP. As shown by the fact sheet entitled, "IDE Network Partners JANANI Hand Pump During 1999 – 2000," CDM does have linkages with over 600 dealers. However, only 254 are considered quality partners, meaning that they provide the requisite technical assistance and share in the costs of promotional activities. Only quality dealers sell JANANI pumps and arsenic kits. Non-quality dealers cannot sell JANANI pumps but can order testing kits

[41] A new manufacturer had to be identified, since the JANANI is caste rather than constructed of sheet metal like the TP, and thus the JANANI requires a fabricator that can develop molds and caste.

through quality partners. Due to the limitation set on the project area by the arsenic problem (described in the next section), marketing and even market testing of the JANANI had been withheld from two regions. Moreover, because 364 dealers were still not considered "quality partners," CDM did not met its target of 600. However, according to the Program Manager, the number of quality dealers is increasing over time.

As of July 2000, the CDM-selected dealers were working with 1,376 mistries or installers. Installers are enlisted by dealers, and have in the past received training from IDE-B on quality installation and marketing. CDM began training installers in JANANI pump installation in August 1999. Mistries were subsequently trained in repair and maintenance of the JANANI and marketing.

b. Evidence:

- "CDM Work Plan: May 1999 – September 2000." (includes training schedule for all supply chain members)
- "Quality Control Procedure" (for the JANANI pump)
- "Quality Installation Steps"
- "Quality Control Check Points"
- "JANANI Hand Pump Production Monitoring Format"
- "IDE Network Partners JANANI Hand Pump During 1999 – 2000"
- "Report on Dealers Training, 1999"
- "Training Manual: Training on Field-Level Arsenic Testing."
- "Completion Report on Training of Trainers of IDE on Arsenic Issues," February 2000.

c. Analysis

IDE had already developed a network of partners – supply chain participants – through its activities under the treadle pump program. Based on relationships with this network, IDE was able to launch a new product, the JANANI, with relatively little effort. Supply chain participants did need training in the production, operation and/or maintenance of this new product, but they were largely already aware of IDE's methodology.

Goal 4: Test-Market and Product Launch of LCHP –Motivate Users/Customers to Purchase LCHP, Assess User Acceptability of LCHP, and Adapt Product Accordingly

After field testing the JANINI pump and while building the capacity of the supply chain, CDM staff test marketed the technology in order to gain information from users on the product design, performance, price, and potential demand. Because of the apparent demand estimated during the field testing phase and delays experienced during Year 1 of CDM, the launching of the product occurred simultaneously with the test marketing. Following the launching of the product, CDM began a promotional campaign in partnership with dealers, installers, and NGOs to create demand for the new product.

Test Market the LCHP

a. Findings:

As part of the test-marketing phase of CDM, six hundred JANANI pumps were distributed to five regions between June and August of 1999. User feedback on these 600 pumps was collected by using the "Product Monitoring Format: JANANI Hand Pump," developed by the M&E Department.[42] Product launching programs were organized in all five regions (Bogra, Comilla, Dinajpur, Jessore, and Mymesingh), and involved the participation of IDE staff along with dealers and NGOs. Participation by NGOs and dealers is shown below and based on data gleaned from the Annual Report:

Region	**Date**	**No. of Dealers**	**No. of NGO Representatives**
Bogra	29 June 1999	29	9
Comilla	1 July 1999	28	3
Dinajpur	28 June 1999	27	15
Jessore	24 August 1999	32	7
Mymensingh	21 June 1999	30	3

b. Evidence:

- "JANANI Drinking Water Pump Test Marketing Phase."
- "Product Monitoring Format: JANANI Hand Pump"
- "CDM Annual Report: October 1998 - September 1999."

c. Analysis:

The test marketing phase of CDM resulted in adaptations to the product based on user feedback surveys, and linkages among supply chain participants. Moreover, because the supply chain participants were involved in the testing marketing, this project phase represented an opportunity to introduce and link the manufacturer to the dealers, and dealers to potential customers and NGOs. The product launching was an opportunity – not only to stimulate demand – but for dealers to test for themselves the demand for this new product.

[42] This format calls for data on arsenic and water quality, socio-economic information as well as gender-disaggregated data on the purchaser of the pump, the use of the pump (including whether it was used for generating income), and the owners ability to repair and maintain the pump. The section on socio-economic data requests information on family income, sources of income, land ownership, assets, children attending school, and health of family members.

Creating Demand: The Promotional Campaign

a. Findings:

IDE's promotional and mass marketing strategy is one of the characteristics that sets this NGO apart from many other development organizations engaged in product commercialization. While promotion and marketing are done by other organizations, IDE-B's coverage, creative approaches, long-term investment, and emphasis on promotion are relatively unique.

To generate demand for the JANANI pump, following the product launching, IDE-B's engaged in a promotional campaign that included open air video shows, a school video show, mobile display shows, rickshaw van processions, "miking,"[43] demonstrations, and customer motivation meetings. The impact of these activities (which were most intense during Year 3) was evidenced by the apparent growth in arsenic testing over the short period in which CDM has engaged in promotion. In the last six months, during which CDM established a network of testers, nearly 4,000 tubewells were tested ("Arsenic Test Result Within CMD Program Areas"). One tester stated that in the last six months, he had tested 362 tubewells, two-thirds of which he had tested in the last month.

Although the majority of CDM promotional activities were carried out in Year 3, when the project shifted focus during Year 2, posters and leaflets illustrating important features of the pump were developed, and signboards advertising the JANANI pump were erected at key sites. At the end of the second year of CDM, planned promotional activities included rickshaw van processions, folksongs, mobile displays, banner displays, agro-fairs, and installer and NGO meetings. According to a fact sheet entitled, "Educational Outreach Material / Promotional Material Distributed up to July 2000," prior to the shift in strategy, CDM distributed 27,000 posters and 60,000 leaflets advertising the JANANI.

b. Evidence:

- "CDM Annual Report: October 1998 – September 1999."
- "CDM Work Plan: May 1999 – September 2000"
- "CDM Monthly Regional Progress Report (October 1999 to September 2000)"
- "Product Launching Ceremony: JANANI Hand Pump"
- Poster
- Leaflet
- Attendance at school program, open air video show, folk song, and "miking"
- Interviews with IDE-B staff

[43] "Miking" involves a loudspeaker attached to a vehicle for advertising purposes.

c. Analysis:

IDE-B has prided itself on its use of "mass marketing techniques" in selling over one million pumps in Bangladesh. Now that the M&E Department has moved beyond a narrow focus on sales, it is beginning to analyze the relationship between different promotional activities and sales, in order to identify which promotional tools are cost-effective. While the (regression) analyses are still at pilot stage, there are plans to conduct more thorough research with a larger sample size.

Goal 5: Establish Collaborative Relationships with NGOs

a. Findings

According to an IDE data sheet from the M&E Department file, during the 1999-2000 season (up to July 2000), IDE-B's CDM project was working with 57 NGOs in the three region project area (Mymensingh, Dinajpur, and Bogra).[44] These 57 NGOs have a total of 258 branches working throughout the three regions at district and thana levels. According to IDE's "Fact Sheet 1," IDE –B works with 19 NGOs in Mymensingh, 31 in Dinajpur, and 42 in Bogra.

The CDM Project "Workplan: May 1999 – September 2000" documents the process of identifying NGOs. Additionally, the "MAT-V Program Status during January – June 2000" document states the criteria used by IDE-B in selecting "quality NGO partners." They include:

- Credit facility
- Potential TP or JANANI buyers in group members
- Organizational interest to incorporate TP and/or JANANI program
- Favorable policy support of TP and/or JANANI dissemination
- Willingness to share information
- Willingness to only procure quality pumps (made and distributed by quality partners)

But while CDM initiated contacts with relevant NGOs, IDE-B had already developed relationships with over 100 NGOs as part of the treadle pump project. Thus the CDM project was able to select from these and others NGOs involved in microfinance in the project area. CDM staff arranged meetings with NGOs, providing information on the JANANI pump and on arsenic issues. In September 1999, a training session was held to train NGO staff on arsenic issues and on ways that they could contribute to and/or participate in the marketing of the JANANI pump and arsenic awareness activities.

The evaluator met with a branch of BRAC based in the Mymensingh region. BRAC noted that it promoted IDE's LCHP to its lending clients because of the technical assistance and arsenic testing provided through IDE's program. While BRAC too had a arsenic awareness program, it did not have a network of testers, the same level of promotional

[44] IDE-B has partnerships with a total of 185 NGOs, but only 57 of these are associated with the CDM Project, *IDE-B Fact Sheet 2.*

activities, and technical expertise in the Mymensingh region, and thus relied on collaborations with IDE to promote arsenic testing and awareness to its constituency.

Some NGOs offer clients of IDE's supply chain credit for purchasing the LCHP. BRAC is an example. Partner NGOs also play a role in promoting IDE's technology. BRAC, for instance, noted that it participated in arsenic awareness activities organized by IDE and/or its network partners. NGOs often organize their constituency for these promotional activities and share in the costs.

In partnering with NGOs, IDE signs a "Memorandum of Understanding (MOU)" (see annex for sample MOU). As part of the MOU, IDE ensures the NGO of the quality of the equipment and installation. Products and installation, however, are provided by the private sector network promoted by IDE. Nonetheless, the request for procurement of products is done between IDE and the NGO. According to BRAC, they provide their clients with information on the LCHP or IDE's treadle pump and the location of a nearby dealer and arsenic tester. In other words, BRAC merely providers information about private sector suppliers and does not subsidize and/or purchase products for clients.

According to the CDM "Project Proposal," IDE-B offers NGOs feasibility assessments and assurance regarding technology products, a local network of dealers and installers accessible to an NGO's constituency, and exposure meetings for NGO staff, NGO staff motivational meetings and training in promotional and technical issues. IDE-B does not have documentation regarding feedback on this training.[45] Sales activities, however, provide some indication of the strength and/or quality of the relationship between the NGO and IDE. Of the 3,442 JANANI pumps sold as of July 2000, 285 were sold by NGOs.

b. Evidence

- "Report on NGO Workshop"
- "CDM Monthly Regional Progress Report (October 1999 to September 2000)"
- "Memorandum of Understanding" (MOU with NGOs)
- NGO Training Assessment format
- "Name of Partner NGOs"

c. Analysis

The major advantages that IDE-B and/or CDM brings to arsenic awareness activities – as compared to other NGOs and donors – is the coverage offered by IDE's national, private-sector network of dealers, installers, and testers and the extent of IDE's promotional activities. Most NGOs work in only selected districts and/or thanas. Whereas IDE's private-sector network affords them national coverage. Additionally, while other NGOs engage in promotional activities; these promotional efforts are generally more limited to handbills, leaflets, etc and do not include the whole array of events organized by IDE that include hundreds of participants. As such these characteristics of IDE-B's program make it very effective in social marketing.

[45] IDE is currently undertaking an impact assessment – as part of the CDM project. This assessment will include an evaluation of NGO and other training activities.

The major advantage offered by collaborations with other NGOs are credit facilities and linkages to customer networks. Access to credit, however, is particularly important, since this is a service which IDE-B does not provide it clients. The importance of access to credit is evidenced by the impact of NGO collaboration on TP sales. In the last year, TP sales through NGOs has exceeded sales through the private sector. One can surmise – based on a single interview with BRAC as well as an SDC-funded impact assessment – that TP sales are moving downmarket, as access to credit allows poorer clientele to purchase the TP.

Goal 6: Build Awareness of Safe Drinking Water and Arsenic Problem

a. Findings

While CDM's focus on arsenic testing and awareness expanded greatly in Year 3, activities were initiated earlier during the test marketing project phase in Year 2. A guideline for arsenic testing was developed and plans were made for an arsenic testing facility. Information on the testing facility was shared at the product launching in mid-1999.

In October 1999, CDM conducted a Participatory Learning and Action (PLA) session with rural villagers on a pilot basis. The purpose of the PLA was to test the effectiveness of PLA in demand creation and awareness raising. The results of the PLA are documented in "Report on PLA Sessions in Chuadanda."[46] A stated objective of the PLA exercise was:

> *"to test the effectiveness of the pilot PLA sessions in increasing health, hygiene, and environmental awareness, especially on arsenic issues, among participants – which in turn will create demand for the JANANI pump as a better source of safe water."*

Six consecutive PLA sessions were held involving:

(1) physical resource mapping – to identify various resources, including water, in the village and potential demand for the JANANI pump.
(2) Socio-economic problem analysis – to bring to light the various socio-economic problems of rural villagers and their effects
(3) Hygenic behavior – to make participants aware of hygenic behaviors, the importance of safe water, and ways of identifying sources of safe water
(4) Awareness of arsenic – to educate participants about symptoms and prevention of arsenic-related disease and thus the importance of using safe water
(5) Product knowledge – to introduce the JANANI pump to participants and explain its advantages and added value in comparison to other similar products on the market
(6) Scope for IGA – to educate participants about multi-purpose uses of water pumps, e.g., for small-scale fisheries, gardens, etc.

b. Evidence:

- "Report on PLA Sessions in Chuadanda."

[46] "Report on PLA Sessions in Chuadanga," by Md. Harun-Or-Rashid, CARE Bangladesh, October 1999.

C. Goals Oriented Toward Arsenic Awareness Raising

As the severity of the arsenic contamination of tubewells became more widely understood, CMD requested permission from USAID to re-orient project activities toward arsenic awareness raising and testing in Year 3. CDM halted project activities and sale of drinking water pumps in the southern regions, where the arsenic contamination was the worst, and began focusing on three northern regions. Although sales of JANANI pumps continued in the newly defined project area, pumps were sold in combination with an arsenic testing service. Testing services were sold through a network of testers identified, trained, and linked to IDE's quality partner dealers, who sold the testing kits and pumps. Promotional activities aimed at schools, NGOs, and the public-at-large appeared to be quite effective in motivating increasing arsenic testing.

Arsenic Phase of CDM (Year 3) October 99 – September 00	
1. Revising Project Activities	September 1999
2. Promotional Materials Development for Arsenic Awareness Raising	October 99 – May 00
3. Arsenic Testing of Installed Pumps by IDE	October 99 – February 00
4. Information Sharing with Dealers and Installers on Arsenic	November – December 99
5. Selection of Arsenic Testers	January – March 00
6. Training of Trainers for IDE staff on Arsenic	March 2000
7. Training of Private Sector Testers	March – April 00
8. Revision of Monitoring Format	May 2000
9. Testing Service initiated by Private Sector Testers	From May 2000
10. Awareness and Promotional Activities started	From October 99 (pilot scale) From May 00 (mass scale)

Goal 2.1: Hire Staff Person with Arsenic Expertise to Supervise Arsenic Testing

a. Findings:

CDM hired the Arsenic Program Coordinator in March 2000. Although the project was revised in the fall of 1999, identifying an individual with the proper qualifications was not easy. Eventually Mr. Sad Ahmed, a former GOB researcher and chemist was selected. Mr. Ahmed had conducted research on drinking water issues for the Government, and thus was well aware of the arsenic problem. His chemistry background also provided him with the technical expertise to assess arsenic contamination.

The Arsenic Program Coordinator has played a key role in developing the testing capacity of CDM. He has overseen the training of arsenic testers as well as IDE Technical

Officers, hired under the CDM Project, and played a key role in cross checking wells tested by the CDM network. According to the "Arsenic Test Results within the CDM Program Area," 3,810 tubewells had been tested between October 1999 (when IDE staff conducted the tests) and between May and July 2000 (when the private sector testers conducted the tests),[47] and 4,991 tests have been conducted. (according to "Fact Sheet 1"). The difference between wells tested and tests conducted reflects the multiple tests that may be done on a single well, since the status of a well can change over time.

The development and research community in Bangladesh (USGS has also been involved) is still debating the most effective means of "ameliorating or mitigating" arsenic contamination. Nonetheless, IDE-B has begun a number of activities to provide safe drinking water. A ceramic water filter has been tested and is now being adapted and developed for production in Bangladesh by IDE-B. Additionally, IDE-B is developing a small-scale rainwater harvesting technology.

b. Evidence:

- Interview with Arsenic Program Coordinator
- Interview with CDM Regional staff
- IDE-B HR Department Staff List
- "Arsenic Test Results within the CDM Program Area"
- "Fact Sheet 1"
- Visit to IDE-B's R&D Center
- Interview with Nicaraguan potter, developing ceramic filter for Bangladesh production
- Visit to village of ceramicists

Goal 2.2: Launch Public Awareness Campaign

a. Findings:

In order to generate awareness of arsenic, CDM relied on IDE-B's well-established marketing strategies and expertise. In October 1999, CDM initiated promotional activities on a pilot scale, and then scaled up efforts starting in May 2000. Awareness raising activities included:

- an open air video, for which CDM produced a 76-minute drama on arsenic
- school program, in which CDM showed a 20-minute video, handed out leaflets, t-shirts, and other materials to students
- a TV video show, that dealers could use for showing to their customers
- folk song event, in which CDM hired professional folk singers to perform at central places in the village or market
- mobile display shows on arsenic
- installer motivation meetings, organized by CDM to educate and motivate installers about the importance of arsenic testing and awareness raising
- customer motivation meetings
- Arsenic testers meetings
- NGO and local government meetings

[47] The source of this data is listed as "3810 IDE field Test Emark Kit Analysis, July 2000."

- NGO group member meetings, in which NGO members – often women's groups – are informed of the arsenic problem and the availability of testing services
- Rickshaw van procession
- "Miking"
- Distribution of 13,500 posters,13,500 leaflets, and 250 banners[48]

Based on a field visit that included an open-air video show as well as school program, it appears that these events are well attended, designed, and organized. The real question, however, is what kind of impact do they have? The M&E Department is in the process of developing tools to better understand the relationship between different promotional activities and sales. To date, these kind of analyses have focused on the TP program. However, understanding how to effectively change behavior using educational and awareness raising activities is critical to social marketing efforts, and to CDM as it tackles the arsenic issue. But while assessments of the impact of arsenic campaign has not yet been done, sales of JANANI pumps (which have been associated with arsenic testing) and sales of testing services are good proxy measures.

Monthly sales of JANANI pumps are not necessarily revealing, because of seasonal fluctuations in sales.[49] More historical data is needed to correlate promotion with pump sales.

PUMPS SOLD/WELLS TESTED	**JULY 2000 Statistics**
Number of pumps sold (1)	3,727
Number of wells tested	3,810
Number of wells tested (beyond JANANI customers)	**83**
Number of tests conducted	4,991

(1) All JANANI pump tubewells have been tested

Of the nearly 5,000 tests conducted, by far most of have been done for JANANI customers (note that all JANANI pumps have been tested). The larger number of tests conducted as compared to wells tested likely relates to multiple tests on a single well to check change over time. Remember the status of a well can change and thus should be checked every six months or so. What is revealing about these statistics, however, is that they suggest that CDM has not reached very far beyond their JANANI customers.

Interviews with testers suggested that many more non-JANANI pumps were being tested. Moreover, the IDE-B regional team noted (in an interview) that 57% of all pumps tested are JANANI pumps. Thus there is either a problem with the data reported or more recent testing activities have focused more pointedly on non-JANANI pumps.

[48] Based on data provided in "Educational Outreach Material/Promotional Material Distributed up to July 2000."
[49] Sales of JANANI Pumps (October 99 – July 00)

Oct 99	Nov99	Dec99	Jan00	Feb00	Mar00	Apr00	May	Jun00	July00
192	201	371	724	433	293	318	482	378	228

b. Evidence:

- Attendance at a school program, where the 20-minute video was shown
- Attendance at an open air video show, where the 60-minute docu-drama was shown
- Copies of leaflets, posters and other promotional materials
- "Monthly Progress report (October 99 to September 00), July 2000
- "Fact Sheet 1"
- "Messages on the Leaflet and Poster" (English translation)

Goal 2.3: Develop and Train a Network of Testers and Technical Officers (TOs) to Ensure Effective Arsenic Testing

Identifying and Training a Network of Testers

a. Findings:

Testers were selected from a pool of unemployed holders of secondary school certificates. Because testing, especially in the beginning, does not constitute a full-time job, CDM had to identify a profile of a tester that was at once educated – since testers have to keep records on the tests – and would be motivated by a new and untried job opportunity. Unemployed secondary school graduates proved to be an effective choice. According to interviews with IDE-B regional staff and testers themselves, these young people enjoyed the prestige associated with helping the community, as well as the income opportunity, which in rural areas are difficult to find.

According to the "IDE Arsenic Testers List," 75 testers were trained (there is no date on this document), and yet a July 2000 Fact Sheet notes that 85 testers had been trained between March and July 2000. Training for these testers was conducted on a regional basis. Each CMD project region held a one two-day training workshop for testers, as well as a one-day follow-up training. Additionally, every month a half-day meeting was held with testers, Technical Officers, and the Arsenic Program Coordinator to discuss problems and issues. Testers also received further one-on-one instruction from the Arsenic Program Coordinator on an adhoc or "as needed" basis. Finally, the Coordinator checked the quality of testers' work by conducting cross-checks and randomly selecting testers to accompany during a day of testing. Cross-checks on 21 pumps (14 non-JANANI, 7 JANANI) indicated four reclassifications after cross checking, according to "Cross-Checking Status in July 2000." Changes in classification, however, can happen naturally over time. Nonetheless, the cross-checks can alert the Arsenic Program Coordinator to possible weaknesses among testers.

CDM trained its cadre of Technical Officers on arsenic issues through a "Training of Trainers" Workshop provided by the NGO Forum. The topics covered included: information on the arsenic problem in Bangladesh; arsenic testing procedures, health effects of arsenic poisoning, and possible mitigation efforts. Technical Officers also received "Technical Training" (a manual is available) focused on JANANI pump production, operation, maintenance, and repair; product quality standards; and quality installation standards. These Technical Officers, in turn, play an important role in training new testers, NGOs, and dealers

in arsenic issues; overseeing arsenic testing at the regional level; and playing an overall quality control role.

At present, there is no documentation on the impact of these trained staff persons on "educating farm families about arsenic risks and effecting behavior change." While the increase in sales of testing services is an indicator of effectiveness, understanding the impacts of trained staff will be a challenge of the CDM impact assessment, planned for the month of September.

b. Evidence:

- "CDM Project's Staff Development Training"
- "IDE Training Calendar 1999"
- "Cross-Checking Status in July 2000"
- "Arsenic Test Results Within CDM Program Area"

Goal 2.4: Test and Mark (Red or Green) Pumps in Target Area for Arsenic Contamination

a. Findings:

As of July 2000, CDM had tested 3,810 tubewells and – according to reports and a field visit – marked the pumpheads red or green to different contaminated wells from non-contaminated wells. According to "Arsenic Test Results within CDM Program Areas," 195 tubewells or 5% of those tested were found contaminated. An earlier sample testing of 204 JANANI pumps found 18 contaminated wells, or 6% percent of the sample. CDM has no documentation on the impact of the red and green markings on pump users behavior; this will be assessed by the upcoming impact assessment.

b. Evidence:

- "Arsenic Test Results Within CDM Program Area"
- Field trips to Mymensingh and Bogra
- "IDE Monitoring Report of JANANI Hand Tubewell based on a Sample of 204," Monitoring & Evaluation Department

Goal 2.5: Establish a M&E System Adapted to Arsenic Orientation of Project

a. Findings:

IDE-B's M&E Department designed forms for data collection under the field-testing phase of CDM, the market-testing phase, and the arsenic awareness and testing phase. Under the field testing phase, M&E efforts focused on collecting technical performance data on pumps in the field as well as "users' comments and inspectors' comments." This data is summarized in a document entitled, "JANANI Hand Tubewell Performance Report: Discharge Performance and Operations Condition."

During the test-marketing phase of CDM, the "Product Monitoring Format: JANANI Hand Pump" was used to collect data on product performance, installation costs, level of arsenic contamination, income earned from the pump (if any), as well as socio-economic data. The latter includes questions on landholdings and other assets, gender, marital status, family size, and health status. Additionally, M&E has a "Monthly Progress Report" format that calls for sales data by region, by private sector and NGO linkages, target versus actual, a census count of promotional activities and number of participants attending promotional activities.

Finally, the M&E Department has a "Field Testing Report on Arsenic," which collects data on arsenic tests, including: tubewell users' name, location, annual income, previous source of water, type of pump in user, level of arsenic contamination, and pump spout color.

b. Evidence:

- "IDE-B CDM Project, JANANI Pump Monthly Monitoring Sheet"
- "IDE, USAID Program, Pump Monitoring Format"
- "JANANI Hand Tubewell Performance Report: Discharge Performance and Operations Condition."
- "Product Monitoring Format: JANANI Hand Pump"
- "Monthly Progress Report"
- "Field Testing Report on Arsenic"
- "A Technical Proposal for Evaluation of the Capacity Building, Development and Marketing of Low Cost Hand Pump Project"

c. Analysis:

While it is important that IDE-B's M&E Department developed an M&E system adapted to the CDM Project, it is also important that this data is analyzed and used for management purposes. As noted previously, earlier M&E efforts across all programs focused heavily on sales. IDE-B's M&E Department has likely taken the most aggressive steps toward rectifying this situation. In the last year, the M&E Department has begun some sophisticated analyses of data including:

- Impact assessments of various promotional activities
- Correlation analyses between different promo activities and sales
- Trend analyses of sales by NGOs as compared to the private sector over time
- Assessments of training effectiveness

These assessments, however, have been done for the TP program, which is much more mature than CDM. Nonetheless, the M&E Department will undertake an impact assessment to examine the impact of training activities, initial promotional activities (that were not initiated on a mass scale until May 2000); benefits to women and other clients; the viability of the supply chain and the tester network, and the extent to which CDM activities have changed the behavior of the population affected by arsenic ("A Technical Proposal for Evaluation of the Capacity Building, Development and Marketing of Low Cost Hand Pump Project"). This assessment can provide the basis for designing a more sophisticated M&E system for the CDM activities as the program matures.

Goal 2.6 Procure an Arsenator and Ensure its Reliability

a. Findings:

In searching for a high quality arsenator, CDM discovered from the supplier that a new model was about to come on the market. This new model is expected to be significantly more effective than older machines. In waiting for a newer model, CDM still did not have an arsenator as of August 2000, but was told that it would arrive soon.

b. Evidence:
- Interview with CDM Program Manager
- Invoice for arsenator

D. Project Success/Sustainability

The objectives of the CDM project – prior to the reorientation to arsenic mitigation – included:

- developing a new affordable and appropriate product,
- developing (through training) a supply chain (manufacturers, dealers, and installers) for delivering the product,
- creating demand for the product through mass marketing efforts
- developing linkages with NGOs for credit provision
- developing awareness among customers about safe drinking water

While the arsenic problem hindered CDM's ability to achieve all of these objectives and targets set (see below), the Evaluation SOW asks whether CDM was able to establish the systems for achieving the goals and revised targets. And in fact, CDM's achievements, listed by the Project Manager, include the establishment of an impressive array of systems within a short period of time. These systems include:

1. promotional materials developed
2. testing service and equipment made available
3. supply chain of dealers and testers established
4. involvement of dealers and installers in testing and promotion
5. coordination with NGOs
6. mass marketing of arsenic issue through school programs, open air video shows, NGO video shows, dealer video shows, tester meetings, leaflets and posters, miking, and rickshaw processions.
7. improvements in testing equipment

Thus, CDM was successful at developing the new JANANI pump, establishing a supply chain, launching a promotional campaign, linking to NGOs for credit provision, and developing an awareness about arsenic contamination. The targets achieved, as of July 2000, appear to be in line with the "new targets proposed," given that the project still has several more months before completion and that these months are a high sales period.

ORIGINAL TARGETS	PROPOSED NEW TARGETS	JULY 2000 ACHIEVEMENTS
40 manufacturers in place	4 Manufacturers	1 manufacturer in place
600 dealers selling the pump	300-317 dealers	254 dealers selling pumps
3000 installers trained	2000 installers trained	1,376 installers trained
15,000 pumps installed	5,000 pumps installed	3,442 pumps installed
50 NGOs working with the project	20 NGOs working with the project	57 NGOs working with the project

Success in achieving these objectives and targets was meant to produce a new "killer product" for IDE-B to commercialize on a mass scale, as the TP was reaching the end of its product cycle. IDE-B already had a network of partners – a supply chain as well as links to NGOs – in place, able and willing to market new products, especially if IDE-B engaged in creating demand for the new product.

The weakness, however, in the CDM Project design is that the JANANI pump is most likely not a killer product. Although IDE-B's efforts at promotion can surely generate demand for the pump, there are at least 15 other similar products on the market (according to the TS&D own "Baseline Survey"). While some of these are of poor quality, others have an excellent reputation among consumers (based on interviews with dealers). In fact, one of the constraints to selling the JANANI is that it must compete with other products to which customers are loyal and that historically have had a good reputation.[50]

The real strength, however, and success of the CDM Project accrues from the arsenic problem. Although IDE-B's experience has been in developing and marketing hard technologies, the arsenic awareness campaign called for soft technologies, social marketing, and a focus that is normally thought of as a "public good." Using a supply chain approach with a "public good" was innovative. As it turned out, CDM's approach to arsenic testing and awareness raising has been one of the more imaginative and successful approaches attempted in Bangladesh.

CDM's network of private-sector testers provide more dependable services over a larger area than many other better funded efforts (according to an interview with BRAC). The success of CDM's model is also suggested by a paper written for the UNDP-World Bank Water and Sanitation Program and entitled, "Arsenic Mitigation amidst Uncertainty: Supply Chains for Arsenic Removal Units and Field Test Kits in West Bengal and Bangladesh." This proposed project design borrows from IDE's "supply chain" approach and shows its applicability across the arsenic-contaminated region of Bangladesh and West Bengal.

And it turns out, in seeking a new "killer product," IDE-B failed in the first attempt (the JANANI) but found in the arsenic problem an approach that may truly represent a "killer service."

Proof of the effectiveness of the CDM approach in addressing the arsenic problem will come from an impact assessment currently underway. Nonetheless, the number of arsenic tests (services) sold since the arsenic testers were in place (as of May 2000) is indicative of the effectiveness of the awareness raising campaign. In the three months between May and July, almost 5,000 tests were conducted for a fee of Tk 40. Moreover,

[50] Interviews with a relatively small number of dealers revealed that the "RFL" pump, for instance, that sells at a higher price than the JANANI (Tk 560 as compared to Tk 400), is their best selling pump.

interviews with a small sample of CDM testers revealed that demand for services remains significant and is growing.

Another indicator of sustainability is the viability of the supply chain. Of most importance to the arsenic issue is the network of testers, who provide the testing service, and the dealers who sell the test kits. Interviews with IDE-B regional staff indicated that testers, who remember are hired from a pool of unemployed secondary school graduates, earn Tk 25 per test and conduct about 100 tests per month. This amounts to an annual income of Tk 30,000. This is not sufficient income to maintain a family in the rural areas (according to IDE-B staff). However, some testers live with their family and others engage in additional income generating activities. Given the paucity of income opportunities for young educated men living in rural areas, testing may be an attractive job. It was also clear that the prestige offered by the job added to the attractiveness of providing the service.

During the course of the project, the cost of these kits increased from Tk 910 to Tk 2,600.[51] IDE-B is subsidizing the price of the new kits (by Tk 1.400) that sell at Tk 1,200. The purpose of the subsidy, according to the CDM Project Manager, is to promote greater testing. CDM feared that an increased price for testing in the middle of the promotional campaign would dampen motivations of testers and customers. The concern for the future, of course, is the un-sustainability of the subsidy.

[51] The new kits are considerably more sensitive and thus effective than the newer kits.

V. Sustainability

The objectives and indicators offered by the DIP for measuring sustainability combine institutional and programmatic performance. The indicators of institutional sustainability (see below) include building a strong team, generating interest among donors, and building an effective MIS system. These objectives as well as corollaries were discussed earlier under the section focused on Headquarters. As a result, the following assessment will focus on programmatic sustainability.

Sustainability Objectives and Indicators in the DIP

MEASURABLE OBJECTIVES	INDICATORS
To build a strong team	Team complete, committed and competent
To modify IDE's micro-irrigation products (if required) to suit the specific needs of small and marginal farmers in the proposed program areas.	Final product drawings are ready
To build a strong, sustainable supply chain for the above products	Some manufacturers ready to produce the systems
To generate interest among donors to provide resources for this cause	Major donors are convinced about the utility of micro-irrigation
To build an MIS system to provide timely, usable information	MIS package field-tested

Fifteen years ago, IDE developed a private sector approach in keeping with the beliefs of the Board, consisting largely of independent entrepreneurs. At the time, many other organizations relied on more social-welfare driven strategies. But over the years, the development community has increasingly adopted IDE's approach to technology commercialization. While IDE has a long and rich history in promoting private sector development, to remain a market leader (in the development community), IDE needs to consolidate its model and reach clarity regarding sustainability.

To assess IDE's approach and success at achieving sustainability, this section addresses issues related to product identification, demand creation, supply of products, and the overall market for water-related technologies (irrigation and/or drinking water). According to the Donor Committee's approach to market development (which is essentially the task of IDE), sustainability should be viewed in terms of the market, including the sustainability of demand and supply.

A. Product Selection

In a 1993 article entitled, "On Sustainability," Paul Polak and Don Schierling (IDE's former Vice President) note that "most important (to sustainability) is the selection of the product." Paul Polak asserts that "killer products" are at the core of IDE's work and success, and defines them as affordable and locally available products that meet

an important and/or fundamental need of large numbers of small and/or marginal farmers and return 100% on a farmer's investment within one year.

Affordability is key to success in demand creation. It is also an area where many if not most technology transfer projects have been weak. IDE, on the other hand, has been clear about selecting products truly within the financial reach of small and marginal farmers. For instance, the TP installed cost US $24, while the kitchen garden drip irrigation kit costs about US $8, and the low-cost JANANI Hand Pump costs about US $8 (not including installment costs).

A key factor missing from the definition of a killer product, however, is competition in the market. In order for the demand for a "killer product" to be substantial, there must be few if any options in the market. This factor was key to the success of the TP. When IDE began commercializing the TP, there were essentially no other options between traditional labor intensive methods (costing US $5) and motorized pumps prices somewhere between US $5,000 or $10,000. The TP was a killer product because it was affordable and efficient and had virtually no competition. Once importation restrictions were lifted, the Chinese exported a diesel pump to Bangladesh costing US $120. This new pump revolutionized the market, just as the TP had in previous years. Meanwhile the TP was supplanted by this new "killer product."

In the case of the JANANI pump, there was an initial assessment of other products on the market. A report on the JANANI's competition (there were 15 other pumps on the market) was a clear signal that this was not a "killer product." On the other hand, AMIT represents a new technology for small farmers, for which there is no competition. Although there is no documentation on the market or policy constraints related to AMIT, the product appears to be a "killer product."

Another key factor to making up a "killer product" is the policy environment. For instance, in Bangladesh, prior to the TP "revolution," the government had deregulated irrigation equipment, opening a market niche for the TP. In India, the TP has had greater barriers due to subsidies in the irrigation equipment market as well as advantages due to import duties preventing competition with the low-cost Chinese diesel engine.

IDE's analysis of the market and the role of the policy environment in defining "killer products" has not been explicit. Although IDE-B was aware of the lack of competition with TP at the start of the program, the organization then became focused on TP sales, without sufficient attention to market changes. As a result, IDE-B lacked clarity in the late 1990s, that TP sales were declining because of competition with a new product.

Also because IDE's M&E system – prior to the MG Program – was so geared toward sales, there was a tendency to see the success of a new (non IDE) product on the market as a failure for IDE. According to the principles set out by the Donor Committee, however, IDE's goal should be market development defined more broadly. As a development organization, IDE's role is to improve the market for small-plot irrigation

equipment such that small farmers have access to a greater range of options at a range of prices. If this line of thinking is assumed, then the decline of the TP is not a sign of failure. Over the course of the 15 years, farmers have been able to increase their land intensity, switch to higher-return crops, and substantially increase their incomes as a result of the TP.[52] These impacts provided the stage for yet a new innovation, the Chinese diesel pump, to enter the market. Consequently, IDE-B was successful in developing the market for small-plot irrigation equipment and contributing to dynamism in the market (as a result of income gains).

B. Sustainability of Demand

Marketing is a cornerstone of the IDE approach. Probably more than any other technology-transfer organization, IDE has developed sophisticated and creative approaches to demand creation. IDE's marketing campaigns have included a whole array of events from open air video shows to motivational meetings with NGOs, installers, dealers, and farmers to well-designed promotional materials like leaflets, posters, t-shirts and banners. IDE is in the process of developing a marketing manual that documents the organization's knowledge and experience in marketing products to the rural poor.

IDE invests substantial resources on marketing. Although figures were not available on program expenditures on promotion, IDE-B has a Marketing Department in Dhaka, a network of "Customer Service Officers" in the field, and a budget for promotional materials that – in the case of the CDM Project – accounted for three-quarters of the Year 3 budget.

While IDE does require the private sector to share in the costs of promotional activities, the "lion share" of the expenses are borne by IDE. The Donor Committee recommends that practitioners focus on facilitating market development, rather than engaging in direct service provision. This principle suggests that IDE should build the marketing capacity of the private sector supply chain rather than engaging directly in demand creation. After 15 years of TP marketing, IDE-B is devolving marketing and promotion functions to the supply chain. While subsidized demand creation product (for a limited time) is relatively widely accepted (by the Donor Committee) as a means for launching a new product, to be truly sustainable, the supply chain needs to have its own capacity for marketing.

C. Sustainability of the Supply Chain

IDE invests substantial resources in building the capacity of supply chain members to meet demand. Capacity building activities include production training,

[52] "Pedal Pump and the Poor: Social Impact of A Manual Irrigation Technology in South Asia," by T. Shah, M. Alam, M.D. Kumar, R.R. Nagar, and M. Singh. 1999.

training in quality control, business linkages, and training in improved business practices.[53]

IDE plays an important role in setting the initial price for new products, based on assessments of production costs, transport, installation, and reasonable margins for the supply chain members. Once set, manufacturers and/or dealers find it difficult to changes these prices except downward.

In Bangladesh, there have been substantial discussion about the low margins earned by manufacturers (10%), dealers, and installers. On a Tk 1200 installed pump, manufacturers make about Tk 25, dealers make Taka 100, and installers (anywhere between 2 and 4 installers per pump) average Taka 250 - 350 depending on the depth of the water table and the hardness of the soil. Interviews with IDE field staff, however, reveal that the low level of margins is commonplace for pumps. Moreover, manufacturers and dealers make their money not on the pump hardware, but on the PVC pipe (according to interview with IDE-B Marketing Department).

The manufacturer producing the JANANI Pump in Bangladesh complained that he only made Tk 8 on a Tk 355 ex-factory price. With cumulative sales at 3,727 (October 1999 – July 2000), the manufacturer would only make a profit of US $635. However, after more discussion, the manufacturer revealed that he requires payment up-front, although for other products he does offer (supplier) credit to dealers with whom he has a trusting relationship. Additionally, the manufacturer indicated that he reaps two important benefits from selling the JANANI. IDE has introduced the manufacturer to a much larger network of dealers (70% more dealers), and he has gained greater recognition as a result of IDE's promotional activities. Both dealers and manufacturers claimed that they sold more of all of their products as a result of IDE promotional activities.[54] In other words, the benefits reaped by IDE's supply chain are not fully captured by the financial analysis of margins. Additionally, the value placed on the promotional activities suggests that the supply chain might be willing to pay for this service.

IDE India's AMIT Program conducted a detailed analysis of the potential earnings by manufacturers, dealers, assemblers, agents (fitters), and farmers. In "A Market Development Approach Study of Affordable Micro Irrigation Technology (AMIT) Program of IDE," IDE details the margins to for the AMIT kits, and in the "National Marketing Plan), there is analysis of the viability of the assembler (see below). AMIT's financial analyses are thorough and suggest the potential viability of the supply chain.

AMIT analyses indicate that a distributor, earning a 6% margin on each component, can earn a total of Rs 165,000 on the sale of 750 drum kits per year. An Assembler can earn, based on a Rs 100 margin per kit, Rs 75,000 on the sale of 750 drum

[53] "The Development and Commercialization of the Treadle Pump in Bangladesh: A Case of Product Marketing on a Mass Scale," by Jeanne Downing and Paul Polak, April 2000.
[54] This information is based on an interview with the manufacturer.

kits per year. AMIT estimates that dealers can sell 200 kits per year and earn a total profit of Rs 30,000. Without a comparison to earnings from other products, it is difficult to gauge how attractive these earnings are.

However, interviews with a manufacturer and an assembler suggest enthusiasm for the business opportunity provided by AMIT. The assembler, who would not reveal her profits, did note that she had sold 360 kits in 6 months. Based on AMIT's estimated earnings (and taking into consideration that the kits sold at different prices), one could guess that this assembler has not yet broken even. According to the assembler, however, she had made a profit, with which she was pleased.

To conclude, while IDE's financial analyses do not always capture the qualitative and quantitative benefits captured by the supply chain, interviews and calculations together indicate that the enterprises are profiting from the sale of IDE-promoted products. However, both the AMIT and the CDM programs are still at too early in the project and product cycle to assess sustainability. Moreover, the weaknesses of the CDM program relates to the IDE's subsidization of the test kits and the selection of the JANANI pump; issues discussed earlier. The weakness of the AMIT Program relates to the sustainability of the initial supply chain.

Motivated to increase sales and generate demand, the AMIT Program started by assembling kits and selling them directly to NGOs and/or farmers, though this was clearly an unsustainable delivery system. Without a clear vision of what a sustainable supply chain would look like from the start, the AMIT Project spent perhaps too much time selling directly to farmers rather than building a sustainable supply chain. Similarly, the TP Program in India has involved Marketing Assistants in selling directly to farmers. While the program is now working to withdraw from the supply chain, this direct involvement has come at a price, such that achieving sustainability over the long run may take more time.

VIABILITY OF THE ASSEMBLER

Viability calculation has been done just by taking Vegetable Garden Kit and Horticulture Garden Kit into account.

Assumption: 50% Vegetable Garden Kit and 50% Horticulture Garden Kit

1 Price of kit to farmer (Rs):

Vegetable	825
Horticultur	775
Kitchen G	200

2 Price of kit to dealer (Rs):

Vegetable	652
Horticultur	606
Kitchen G	169

5	**Capital investment (Rs)**	13000
6	**Material cost of kit (Rs)**	
	Vegetable Garden Kit	436
	Horticulture Garden Kit	390
	Kitchen Garden Kit	115
7	**Annual recurring cost (Rs)**	87250

3 Component price to assembler from distributor

Compone	Unit	Amount (Rs)
16 mm	Meter	4.74
12 mm	Meter	2.70
Microtube	Meter	0.60
16X12 Te	Number	1.32
12X12 Te	Number	1.20
16 mm en	Number	0.60
12 mm en	Number	0.48
Filter (DK)	Number	48.00
Filter (BK)	Number	9.00
Peg	Number	0.30
Box (DK)	Number	48.00
Box (BK)	Number	12.00
Manual	Number	8.00
Joiner 16	Number	0.84
Joiner 12	Number	0.78
Joiner 16X	Number	1.32
Tap fixing	Number	3.00
Tap unit	Number	9.60

		At different levels of operation					Break eve
8	**Sale per year (No.)**	**500**	**750**	**1000**	**1250**	**1500**	**419**
9	**Turnover (Rs)**	**314667**	**472000**	**629333**	**786667**	**944000**	**263691**
	Less:						
	Cost of material	206500	309750	413000	516250	619500	173047
	Recurring cost	87250	87250	87250	87250	87250	87250
10	**Gross margin (Rs)**	**20917**	**75000**	**129083**	**183167**	**237250**	**3394**
	Less:						
	Interest on capital 12%	1560	1560	1560	1560	1560	1560
	Interest on Working capital 18	1659	1659	1659	1659	1659	1659
11	**Net margin (Rs)**	**17698**	**71781**	**125864**	**179948**	**234031**	**175**

4 Design specifications

	Vegetable Garden Kit	orticultur Garden Kit	Kitchen Garden Kit
No. of pla	400	50	80
Area - sq	80	130	20
MT spacin	60	1.6	60
MT length	75	1.1	75
Lateral len	9	8	4.8
No. of MT	30	10	16
eral			.8

D. Market Sustainability

Best practice regarding sustainability, according to the Donor Committee for Small Enterprise Development, calls for a focus on markets. The goal of programs like IDE's, according to the Donor Committee, should be develop markets, and to ensure the sustainability of the market. Markets, of course, entail demand and supply. While IDE has focused considerable efforts on developing sustainable supply chains, there has been less attention of developing sustainable promotional functions. Only recently is IDE-B working on this issue.

Moreover, while IDE supports the facilitation of markets, to develop the capacity of the private sector to produce and market "killer products," there has been confusion regarding market development in practice. Both IDE India and Bangladesh have found it necessary to engage in direct service selling activities in the early stages of commercialization. When there is little demand and thus little incentive for suppliers to be interested in a new product, direct service provision may be the only way to begin to generate interest in a new product. Nonetheless, in keeping with the Donor Committee's best practices, it is critical to have an up-front plan for exiting.

In order to ensure sustainability of interventions, IDE needs to clarify its definition of sustainability and the stages for reaching it. Sustainability is defined in the Operations Manual and by an M&E document entitled "Sustainability – Defining Some Parameters." These definitions are not in line with the Donor Committee's Donor Guidelines for BDS. Interviews with India staff reveal some convergence within the institution of a definition of sustainability that relates to the Donor Committee's definition of sustainability, i.e., sustainability of the market - of supply and demand.

In practice, IDE tends to view the market very narrowly – as demand and supply of a particular product. This partly relates to an identity-confusion. As IDE's Board is made up of entrepreneurs, they tend to view programs from the perspective of a business. However, IDE is a development organization not a business; and as such should be interested in improving the opportunities and options for producers. Small farmers benefit more from a vibrant competitive market with a range of options and prices. A singular focus on TPs may be in conflict with what is best for the farmer. For this reason, market development efforts need to assess impacts on the broader market. In the case of IDE, this translates into the market for small plot farmers. Such an emphasis means moving away from a focus on a particular technology or solely on sales, but rather on the impact of IDE's interventions on the supply and demand for small plot irrigation technologies – from which small farmers can increase their incomes.

IV. Strengths, Weaknesses, and Recommendations

A. IDE's Vision and Identity

IDE is an organization with a powerful vision for development. Fifteen years ago, long before many other organizations, IDE developed a private sector approach to technology transfer. Using this approach, IDE demonstrated the ability to reach over one million small and marginal farmers in Bangladesh, increasing their annual income, on average, by US $100.

Nonetheless, IDE's vision has produced a confusion regarding identity, as to whether the organization is a business or a development organization. A symptom of this confusion, exhibited all the way from the Board to field staff, is an over emphasis on sales of a single product (for instance the treadle pump). While sales are an important indicator of demand and supply, as a development organization, IDE needs to ensure that these sales result in broader developmental impacts. In keeping with best practices established by the Donor Committee, IDE's success should be measured in terms of its contributions to a vibrant and competitive market (for small-plot irrigation equipment) that offers small and marginal farmers, IDE's target group, a growing number of options at a wide price range.

IDE's identity confusion has affected program implementation. Because the M&E system, reports to the Board, and employee incentives have been focused on "number of TPs sold," for instance, field staff have sometimes forsaken sustainability and broader developmental impacts in the name of greater sales.

Recommendation:
IDE needs to expand its vision beyond a focus on selling a particular product and toward a greater emphasis on impacts at the market and customer levels.

IDE's identity has also been characterized as "cowboy" in nature, different from others, independent, and path-breaking. While these characteristics may have worked in IDE's favor in the past, they may no longer. Fifteen years ago, IDE saw itself – realistically – as singular in its private sector approach to technology transfer. Today, however, the rest of the development community embraces IDE's business-like approach.

To remain a leader in the field, IDE needs to engage in dialogue with the development community in order to learn and teach. IDE has a wealth of experience that the rest of the development community has not heard about. On the other hand, IDE has a considerable amount to learn from others, e.g., on best practice and methods for assessing markets, conducting feasibility studies, developing and facilitating markets, and monitoring and evaluation.

IDE did join InterAction as part of the MG Program. Nonetheless, participation in the development community is still limited because of scarce travel monies and staff

time. IDE is constrained by its Denver location. Greater engagement, however, is a good investment and can contribute substantially to fund mobilization.

Recommendation:
IDE needs to join and participate in InterAction and the SEEP Network. This will require setting monies aside for travel and time aside for engaging in the technical debates within these networks.

IDE prides itself on its creativity. And indeed, IDE has adopted bold strategies for achieving impact on the poor. The most recent new program is the Global Initiative, which aims to disseminate micro irrigation technologies on a global scale. To realize this bold idea, IDE has galvanized support from some impressive institutions – including the World Bank, Winrock International, and FAO - and individuals, including author Sandra Postel and drip irrigation specialist, Jack Keller.

Over time, however, IDE has generated and adopted too many bold ideas, not all of which have paid off. IDE is too small of an organization with too few staff and resources at headquarters to implement so many ideas, e.g., an appropriate technology institute, a consulting arm, a trading company, a private fund raising campaign and a global initiative.

Recommendation:
IDE needs to focus its efforts, balancing creative opportunities with its limited resources.

B. IDE's Management Capacity

Over the last ten years, IDE grew 10-fold, from a $0.5 million organization to a $5 million organization. And yet despite this growth, the Denver headquarters has remained very small. Prior to the MG Program, the Denver office was made of five staff persons. With support from PVC, the Denver Office grew to nine staff persons in 1998; today there are seven. This handful of staff stands in contrast to the 493 employees in the field.

The stresses created by growth on the Denver office culminated in 1999, when five Denver employees left the organization. At the same time, two country directors left, after the end of the contract, though not without fallout. In organizational development terms, the upheaval appears to have evolved from two sources. As IDE grew, it required staff with increasingly specialized skills. As a small organization, a single staff person could fill multiple functions; with growth, greater specialized management and technical skills were needed. In other words, some staff outgrew their ability to manage the greater complexity (according to Board and staff interviews).

Additionally, this "cowboy" organization was being forced to adopt more systems and to formalize in ways that were painful to some of the more independent staff and Board members. While recent interviews with Board members now confirm their

commitment to and appreciation for the need of systems, the process of adopting them was nonetheless painful.

The changeover in Country Directors may also have been related to the insufficient management capacity of Denver. Although these directors' contracts had come to an end, their departures were welcomed. Both directors were young and relatively inexperienced for managing large, complicated programs. Both left behind substantial problems to be resolved by their successors.

Finally, IDE Denver staff work on a number of projects that do not directly support the country programs. For example, IDE's consulting arm, private fund mobilization efforts (for Denver), some of the public education and outreach activities, the Appropriate Technology Institute, a proposed trading company, and the Global Initiative have either limited, indirect or long-term implications for country programs. While some of these activities are producing funds and useful mechanisms for field programs, they also take Denver staff's focus off of providing the kind of day-to-day technical assistance and oversight needed to manage a network of eight country programs.

Recommendation:
Although IDE has recently hired a Chief Operating Officer, who is providing important and quality management oversight**, Denver needs to increase the number of staff, and especially Desk Officers, in order to manage its eight field programs.**

As noted by IDE's new Chief Operating Officer, IDE has suffered from lack of cohesiveness, a low degree of quality control and accountability across programs, and disjointed fund raising efforts.[55] These problems stem – at least in part – from the relationship between programs and headquarters, in particular, the disproportionate number of staff in Denver as compared to the field (7:493). With such a small staff in Denver, it has been difficult for headquarters to create cohesiveness.

The MG Program has allowed IDE to initiate an effort to harmonize management information systems, and thereby achieve greater cohesiveness. Nonetheless, the limited technical assistance and oversight provided by Denver, and the limited role played to date by Denver in generating funds for the field contribute to a sense of independence on the part of programs.

Recommendation:
IDE needs to develop a plan for assistance to the country programs that takes into consideration the proper role and responsibilities of Denver. On the one hand, the country programs want flexibility in developing a program suited to a country context and are resistant to dictates from headquarters. On the other hand, they are eager for assistance with fund raising, proposal writing, monitoring and evaluation, financial management, and coordinated learning. By providing these

[55] IDE Strategic Action Plan," June 2000.

services, IDE Denver can develop greater cohesiveness, quality control, and accountability with the cooperation of the country programs.

C. Monitoring & Evaluation/MIS Systems

The M&E/MIS systems developed under the MG Program have made an important contribution to building the capacity of the institution. The new M&E system has generated regular (monthly) reporting, provided a common format for reports, and allowed headquarters to report comparable data to the Board on program performance. Nonetheless, the M&E/MIS (COPE/MRE) system has not been sufficiently institutionalized within the IDE network. Country Directors complain that the reporting is only for Denver and does not suit their needs. Moreover, directors in India and Bangladesh are not clear about the utility of M&E and MIS.

Recommendation:
IDE needs to further develop and refine the M&E/MIS systems in collaboration with the field to ensure buy-in (that it serves everyone's needs), harmonization (of systems), and their contribution to improved management at the country program, Denver, and Board levels.

Recommendation:
Country Directors need training in how to use M&E/MIS data for better program management.

The MG Program has led to greater standardization and regularization of reporting, but the reporting remains too focused on the accomplishment of activities (as a business might), with too little attention paid to process, development impacts, and analysis. The M&E system developed under the MG Program needs to be further focused on indicators that donors are interested in and that will help country directors better understand the underlying causes of program performance.

Recommendations:
IDE needs to incorporate into its M&E system indicators that measure impact on the market (defined more broadly than TPs, for instance), sustainability of the supply chain, and impacts (e.g., net income, improved business practices, business linkages, etc.) on both farmers and supply chain members.

Recommendation:
USAID's Office of Microenterprise Development in collaboration with the Donor Committee for Small Enterprise Development has launched an on-going effort focused on performance measurement in BDS. IDE needs to refer to this when refining their own system

While the M&E systems of India and Bangladesh are sophisticated, M&E Departments do need technical assistance from Denver in designing impact assessments,

incorporating an expanded number of indicators (beyond sales) into their system, and analyzing data collected.

Recommendation:
The M&E Officer needs the resources to focus on the M&E needs of country programs and to provide on-site technical assistance.

D. Institutional Sustainability: Funding Mobilization

Since its inception, IDE has been reliant on a handful of donors. SDC has been a key donor for both IDE India and Bangladesh. Over time, SDC has pressured IDE to diversify its funding base and has refused to pay more than 50% of IDE's already small overhead. Dependency on SDC has left IDE Denver in a situation in which it is under-funded; scrambling to identify new sources of funds (SDC has promised to cut the budget by an increasing percentage every year); and dependent on a narrow base of donors.

Recommendation:
To ensure its sustainability, IDE needs to diversify its funding base and identify donors that will pay for Denver overhead costs.[56]

IDE has devoted years to developing fund raising strategies targeting private sources, foundations, corporations, and bi- and mulit-lateral donors. Under the MG Program, IDE hired a Public Education Officer that contributed to raising the public's awareness of IDE's programs. More recently, IDE has hired a staff person to further develop the mailing list for soliciting private funds. In addition, a fund raising expert has been hired (part-time) to develop a corporate strategy. Despite considerable efforts, IDE Denver has not had great success in diversifying its funding base.

It appears that there have been too many plans and directions researched and not enough proposals written, submitted, and followed up on. For instance, IDE's Director for Development (part time Public Education) spent 15 months on a private-fund raising effort before she left the organization. This fund raising campaign is viewed as unsuccessful, and yet the data on donations suggest that this campaign – while just getting started – increased donations by somewhere between 20% and 50% between 1998 and 1999.

Recommendation:
IDE needs to follow through with its fund raising plans and efforts. Developing relationships and collaborations with donors requires time, consistency, and follow through. IDE is more successful than it gives itself credit, but needs to be consistent in its efforts.

[56] IDE's new Chief Operating Officer has developed a plan for fund mobilization that includes a broad array of donors.

IDE's sustainability and capacity to implement the recommendations in this report are largely based its ability to raise funds for institution building. While the MG Program may be able to support IDE, the organization needs a clear and well-organized plan for strengthening Denver resources. A number of strategies have been tried and/or discussed: a private fund raising, a consulting arm, a corporate campaign, and a more concerted focus on multi- and bi-lateral donors.

Recommendation:
Given its immediate needs for funding, IDE-Denver needs to prioritize its efforts, and select opportunities which have potential for success in the short-term.[57]

E. The IDE Model (Learning & Harmonization Across Programs)

As noted earlier, IDE has a powerful vision and approach to development. Other organizations use a supply chain methodology for disseminating technologies to small farmers and microentrepreneurs. Nonetheless, IDE has probably been more successful than other PVOs in selecting "killer products" that are truly affordable, at using state-of-the-art marketing techniques for creating demand, and at strengthening nationwide business linkages among manufacturers, dealers, and installers (or village-level agents) for delivering products to the rural poor.

However, IDE's relative isolation from the development community and reliance on a small number of donors has meant few people know, understand, and appreciate IDE's model. The Donor Committee for Small Enterprise Development as well as a network of BDS practitioners has launched a learning process in recent years in order to advance knowledge and practice in BDS. IDE has much to contribute to the dialogue and much to learn from it.

Recommendation:
IDE needs to participate in BDS conferences (including SEEP's BDS Working Group), meetings, and research efforts in order to contribute to and benefit from the development community's learning on BDS best practices.

A key area where IDE can improve its model relates to the organization's strategy for and investment in market facilitation (or development). IDE's programs in Bangladesh and India have invested considerable resources in developing the market for TPs, for instance. Both programs have large numbers of staff persons (in the hundreds), and have 15 and 8 years respectively developing the TP market.

The Donor Committee – that includes many of IDE's donors – are now pushing for much more time limited interventions, and much less involvement in the market. As a result, few donors will likely be willing to fund a program for a time period 15 or even 10 years. In fact, the Donor Committee is suggesting 3 years.

[57] Longer-term plans have been developed by the Chief Operating Officer.

Recommendation:
IDE has learned much about market facilitation over the last 15 years. Interviews with staff demonstrate their sophisticated knowledge of BDS, market development, and sustainability. IDE needs to consolidate this learning, and experiment with strategies for market facilitation that entail a much lighter involvement in the market over a shorter time period.

IDE sees marketing as an important role for the organization, and one that is largely subsidized. While supply chain participants pay a small part of the cost of promotional activities, by far the largest share is paid for by IDE. In Bangladesh, IDE is increasingly shifting these costs to supply chain members, especially in areas where IDE is or planning to phase out.

Interviews with manufacturers and dealers reveal the value that these entrepreneurs place on IDE's promotional efforts. Not only do promotional activities bring dealers and manufacturers greater prestige in the region, they also increase their sales of other products. This suggests that IDE may be over subsidizing promotion. For instance, after less than a year of implementing its promotional campaign, the CDM Project appears to have developed an appreciation for the benefits of promotion and business linkages among supply chain entrepreneur. Promotion and business linkages are services that entrepreneurs may be willing to pay for, once their value is demonstrated.

Recommendation:
IDE needs to explore exiting from promotional activities much earlier in the project life cycle, and to assess whether these services can be provided by the private sector.

Additionally, there is little sharing among country programs regarding problems and solutions faced in creating demand, facilitating the supply chain, and reaching sustainability. Competition among country programs and lack of coordination from Denver leave many IDE employees talking among themselves and learning from one another, but not sharing or codifying this knowledge.

As a result, some country programs have adopted strategies that are not in keeping with IDE's model and/or BDS best practices. In other instances, country programs reinvent the wheel because they lack information on how other programs have solved a particular problem.

To summarize, while IDE has a tremendous amount of knowledge in-house, there is no mechanism by which employees can collectively codify and consolidate this knowledge in order to improve the quality of programs and advance best practice. For instance, both IDE India and Bangladesh are experimenting with approaches to sustainability (exiting), and yet one does not know what the other is doing.

Additionally, without a clear model and/or concerted and collaborative effort at developing one, IDE Denver is not in a position to exert quality control over programs.

Recommendation:
IDE needs to launch an organization-wide action research effort in order to codify, consolidate, and advance its model.

Recommendations:
IDE needs a collaborative project approval, management and/or M&E system that establishes quality control in line with its model.

F. IDE's Approach to Sustainability

Although IDE uses a business-like approach to development, the organization is still struggling with the issue of sustainability. IDE's Operations Manual, as well as other publications, states that once demand reaches a certain threshold, suppliers will spontaneously emerge to meet that demand. In keeping with this sustainability strategy, IDE country programs were supposed to engage in promotional activities until demand reached a "critical mass," and at this point exit. No program, however, has done this. Only in the last year has IDE-B phased out of areas where sales are the greatest.

Moreover, because of the lack of clarity regarding sustainability, IDE lacks guidance for new start-up programs. IDE's regional marketing expert argues that when first introducing a new product, it is often necessary to engage in direct service provision, i.e., in selling directly to consumers, since entrepreneurs are not willing to risk on a product they know nothing about.[58] This direct intervention in the supply chain needs to be time limited. The Donor Committee recommends that a vision of sustainability be established at the beginning of the intervention. In the case of IDE, there needs to be a clear idea of a sustainable supply chain and a plan for exiting from the start. All program activities should be designed in preparation for exiting.

Recommendation:
IDE needs to establish – in collaboration with country programs - clear guidelines (especially for start up programs) for reaching sustainability, and the M&E system should track progress toward and achievement of sustainability.

Recommendations:
IDE needs to require that all project design documents include a description of a sustainable supply chain, and a plan for exiting.

[58] However, in the case of the AMIT Program, the manufacturer (who was not small or informal) was willing to take a risk on AMITs because the opportunity looked attractive. As a result, the manufacturer invested his own money in modifying components for use by small farmers.

ANNEXES

1. Scope of Work
2. Itinerary
3. References
4. Persons Interviewed

ANNEX 1: Evaluation Scope of Work

PVO: International Development Enterprises
Program Title: 'Capacity Building for the Dissemination of Water & Irrigation Technologies'
Cooperative Agreement#: FAO-A-00-97-00047-00
Date of Evaluation: July-September
Country Programs: India, Bangladesh

I. PROGRAM BACKGROUND

The purpose of IDE's Matching Grant program is to expand the mass-marketing of small-scale water and irrigation technologies in India and Bangladesh, and at the same time, to increase the effectiveness of IDE's field offices and headquarters. In Bangladesh, the program has trained and developed the private sector to disseminate low-cost handpumps to provide drinking water for farm families. This focus shifted, however, in response to growing understanding of the arsenic contamination problem in underground water in Bangladesh. In India, the program strengthened IDE's capacity to expand the marketing of manual irrigation pumps and to engage with NGOs to develop and install low-cost 'micro-irrigation' systems. Training and development of the private sector was also central to the program strategy for working with manufacturers, distributors, installers and NGOs.

This program also provided IDE with the opportunity to make improvements in its management and information systems, public education and outreach, monitoring and evaluation, and coordination of regional development efforts. Together these actions constituted a response to earlier evaluations that identified improved operational systems, staffing and documentation as organizational priorities.

II. PURPOSE OF THE EVALUATION

This performance evaluation fulfills the requirements of the USAID/BHR/PVC Matching Grant Program. PVC will use the information collected in this evaluation in its annual Results Report and in the review of any follow-on proposals from IDE.

This evaluation should assess the ways in which IDE's Capacity-Building Grant with USAID has had an impact on the ability of headquarters and field offices to operate more effectively and in closer coordination in the areas of 1) administration and management, 2) public education and outreach, 3) monitoring and evaluation, 4) regional development, 5) technology dissemination, 6) documentation of organization-wide policies and procedures, and 7) assessment of project success. Additionally, it should assess and describe how field programs in India and Bangladesh have implemented project goals as specified in the DIP.

III. EVALUATOR STATEMENT OF WORK

The evaluator will assess Matching Grant program elements at the IDE headquarters in Lakewood, Colorado, as well as the country-level programs in India and Bangladesh. The Goals and Measurable Indicators which form the framework for this evaluation have been drawn directly from the Detailed Implementation Plan (DIP). The evaluator will assess the program and institutional elements specified in the DIP and presented in the following sections. Each project goal and its indicators are followed by appropriate statements of work and evaluation questions. The evaluator's goal should be to provide readers of the final evaluation report with the evidence, citation of information sources, and criteria for judgements and analysis assembled during the evaluator's site visits. To the extent possible, the evaluator should describe the current situation using available evidence, and assess progress toward the project goals. In cases where the information required for assessment is unavailable, the evaluator should identify which data sources had been expected to contain the information. The criteria for the evaluator's judgements about relative program success should be made as explicit as possible.

The evaluator should provide analytical responses to all statements of work and questions, providing quantitative information where possible and appropriate. Succinct description of local project circumstances should be provided so that readers are provided a context for the evaluator's analyses. This contextualizing description should be as compact as possible, and should be considered secondary to the evaluator's assessments. Also, where possible, data should be presented in the form of tables and charts, if possible showing percentage changes that have occurred. Questions in parenthesis are intended as illustrative rather than comprehensive pointers toward the specific information that should be elicited.

The evaluator will also review documents such as the following, plus others as suggested or generated by IDE. The evaluation report will include a comprehensive bibliography of all documents reviewed.

- IDE's MG proposal, DIP, and annual reports to PVC. Specifically, review the sustainability plan found in the DIP and referenced in this SOW.
- India's National Marketing Plan (see India: 4.c "Preparation of National Marketing Plan") and any Bangladesh market-promotion activities prior to the shift to the arsenic poisoning focus.
- Bangladesh's arsenic mitigation plan.
- Strategic planning and business planning documents
- Financial, donor, and related documents and data compilations.
- Educational Outreach materials.
- Past and present organigrams, staffing charts, staff c.v.'s, and job descriptions, plus new job announcements during the MG.
- IDE training plans and staff exchange program descriptions.
- IDE M&E reports.

- Documentation on MIS in addition to information technology (IT) hardware & software documentation.
- InterAction membership and participation materials.

Further, the evaluator will conduct individual or group interviews with persons and entities agreed to in collaboration with IDE.

- IDE managerial, technical, and professional staff, as well as board members based in the US and each of the field locations.
- Local government representatives and beneficiaries in districts and communities in the field programs.
- Other individuals or groups agreed up in collaboration with IDE and PVC.

Throughout, the evaluator will carefully document the sources of all data and also provide PVC with electronic or hard copies of analyses performed as part of the evaluation report. The evaluator should maintain primary data in the event PVC needs the information at a later time. Note that the evaluator is not responsible for compilation of primary and/or raw data beyond those already embodied in existing documents or other items prepared by IDE, and those collected in evaluator interviews. The evaluator does bear the final responsibility for evaluation design, report content, final-report preparation in an acceptable manuscript form, and the successful accomplishment of the evaluation in general.

IDE India (30% effort)

The following six project goals for IDE India were presented in the DIP. The end-of-project status of the indicators listed below each goal should serve as the basis for assessing success in achieving the goals.

1) Project Goal #1: To Strengthen Micro-Irrigation Team

a) Hiring of Staff: Review and evaluate the hiring and deployment of 17 full time staff using employee data available at country headquarters. (Have all staff been hired, and have they contributed as planned to strengthening the micro-irrigation team?)

b) Setting up of field units: Describe and assess IDE's success in setting up of 2 Regional Offices and six Field Offices. (Are these offices staffed, operational, and productive?)

c) Training of staff: Review and assess the training of IDE India staff through Regional Coordination Meetings, participation in workshops, Management Development Programs and In-House Training Programs. (Were these training events sources of appropriate skills for staff in areas such as Accounting and Financial Management, Planning, Budgeting,

Monitoring and Computer use, Personnel Management, Fund Raising and proposal writing, and gender awareness?)

d) Completion of the Operations Manual: Discuss the status and current use of the Operations Manual within IDE. (Has a finalized version of the operations manual been approved by the Country Director and Board? Is there evidence that the manual has been incorporated into the operations of the organization?)

2) Project Goal #2: To Demonstrate to farmers & NGOs the utility of Affordable Micro-Irrigation Systems

a) Building contacts with NGOs: Describe and assess the relationship between IDE and the 30 NGO partners with whom relationships have been built to distribute and market irrigation systems. (Have women's groups been identified in the NGO file and included in the cohort of NGO partners? Have women farmers been identified and addressed through those NGOs?)

b) Training of NGO personnel: Describe and assess the training of NGO partner personnel in terms of requisite skills for the irrigation systems marketing program. (Have demonstrations and training for 30 NGOs been conduced on the installation of irrigation systems and follow-up? Are assessments of the effectiveness of the training available? How was feedback from NGOs on irrigation system functioning incorporated in product design and marketing?)

3) Project Goal #3: To test-market affordable micro-irrigation systems.

a) System selling and installation: Describe and assess the test marketing and installation procedures used with the irrigation systems. (Are the client records contained in the MIS reports and field visit report available, complete and useful? Do they reflect ongoing program-wide monitoring of the performance of irrigation systems? How did actual sales volumes compare to the DIP estimate of 2000 units annually by July 2000, and of 3200 over 3 years?)

4) To estimate the market potential of affordable micro-irrigation systems in semi-arid India

a) Collection of baseline information: Examine and assess the appropriateness and completeness of survey studies on micro-irrigation undertaken by IDE. (Is the baseline survey statistical information on agriculture in the semi-arid states incorporated in the MIS system? Are market demand-assessment studies of drip & sprinkler systems available? Is background information on government irrigation policy and market

interventions available? Is this information incorporated into the MIS system so as to help document the basis for decision making around the planning of project interventions?)

b) Conducting socio-economic impact studies on users of affordable micro-irrigation: Describe and assess the socio-economic studies on the users of micro-irrigation conducted by IDE. (Were socio-economic impact studies designed and carried out in order to assess the impact of irrigation systems on user farmers? Were the results of those studies compiled in a report that was subsequently used to assess the market potential of micro-irrigation? Was that survey report used as part of the MIS to better direct program activities?)

c) Preparation of National Marketing Plan: Describe the development and program uses of the National Marketing Plan developed by IDE. (Has a national marketing plan been developed and implemented? What role does this play in guiding program activities?

5) To establish a sustainable supply chain for affordable micro-irrigation systems

a) Finalizing manufacturers for required components: Describe and assess the creation and current status of the pool of manufacturers for required components. (Has a sustainable supply chain with a minimum of 6 suppliers for various irrigation kit components been established? Are there memoranda of understanding with the suppliers? What evidence is there that this chain is or will become 'sustainable'?)

b) Building reliable distributor/assembler network: Describe and assess the creation and current status of the distributor/assembler network. (Has a distributor for each field unit been established? Are there a minimum of 6 distributors with whom IDE has signed momoranda of understanding? Is there evidence that this distributors' network is or will become 'sustainable'?)

c) Establishing partner dealers: Describe and assess the creation and current status of the dealership network. (Are there at least 50 hardware dealers linked to the distributors? Is there a distributor's list of the micro-irrigation dealers?)

d) Capacity building of installers/fitters: Describe and assess the program for training installers/fitters. (Have trainings been conducted for at least one installer/fitter for each cluster of villages? Have at least 100 fitters been trained? Are they available for installation and maintenance of systems in the project area? Has an assessment of the efficacy of training been conducted? Are the records of training, location and fitter activity available on the MIS?)

6) To manage the project effectively

a) Monitor the impact of the project at regular intervals: Describe and assess the system for monitoring project impact. Discuss the relationship between impact monitoring and project management at IDE. (Were regular (quarterly) field visits conducted by the monitoring and evaluation team? Were reports of those visits entered into the MIS system? Is the MIS system fully developed and operational? Has this system become a source of functional, operational support for IDE decision-makers?)

b) Reporting and documentation: Describe and assess the production of reports and documentation of micro-irrigation program successes by IDE. Discuss the use of this documentation by IDE for program-management decision making. Discuss the uses of this documentation for use with IDE's donors and others in the development community. (Were communication materials on success stories and project information prepared? Is there any impact assessment available for the communications materials?)

c) Develop the long term plan: Describe and analyze the ways IDE has developed a long-term plan. (Were workshops conducted for project review and perspective planning? Are workshop reports available documenting the preparation of a long-term plan and budget? What is the relationship between IDE's long-term role and the sustainability of program impacts?)

IDE Bangladesh (30% effort)

The original Goal of the MG project in Bangladesh specified by the DIP was: "Development and Marketing of Low-Cost Drinking Water Technologies and Organizational Capacity Building". The original strategy of the program had been to 1) strengthen the skills base of local staff, 2) improve the capacity of NGO and local organization partners, 3) establish self-sufficient micro-enterprises producing quality products. IDE's staff was to be trained to focus on the relationship between clean water and family health, water testing procedures, well installation procedures, and in a range of human resource development skills. NGOs were to be trained in marketing and to become the trainer-of-trainers. Farmers were to be taught to recognize quality pumps and basic repair techniques. Well drillers were to be trained to install, repair, and promote pumps. Dealers, retailers, and distributors are trained to identify quality pumps and in marketing techniques. Evaluation of this strategy was to be based on the number of hand pumps disseminated through NGOs, credit facilities extended to buyers of the technology, and retention of training topics.

The original Objectives, Activities and Outputs of the project are represented below in tabular form.

BANGLADESH PROJECT GOALS AND ACTIVITIES

Project Objectives by intervention	Measurement Method: How/When	Major Planned Inputs and Activities	Outputs	Measurement Methods & Data Sources
Design, fabricate, and field test low cost hand pumps on a pilot scale in different areas in Bangladesh	Field test & demonstration through technical data	Designing, fabrication, Field testing and collecting field data.	Finalization of design and development of water pump	Methods, How and When: Same as column 2. Data Sources: Field test & demonstration, customer feedback
Strengthen the capacity of existing operations and train the network partners to disseminate handpumps to marginal people.	Pre- and post-evaluation of all events, particularly training to evaluate capacity development of network partners. How: survey quest. When: Before and after.	Training program, research and development of pump, promotional activities, collaboration with NGOs.	Capacity Building and development and marketing of handpumps	Methods: Same as column 2. Data Sources: Customers, Dealers, Producers, NGO Staff and Group Members
Motivate Users/buyers to purchase the LCHPs and coordinate demonstration site activities of several LCHP prototypes combined with pilot-scale promotion activities to assess user acceptability within natural operating setting and to make final product development refinements from those findings.	Demand created and pumps sold through our network partners. Feedback from users and potential buyers.	Demonstration of pump in natural setting. Promotional camaign through printed media. i.e. poster, leaflet, etc. Selection & motivation of quality producer, dealers, Ministries.	Establishment of marketing network and pump sales.	Method, How & When: Same as column 2. Data sources: Users, Potential buyers, Dealers, producers.
Establish collaborative partnership with various NGOs.	Sales through NGOs and provision of credit through NGOs. How: Monthly monitoring of sales & provision of credit.	Incorporate LCHP into their existing program. Secure credit facilities and provide training to NGO staff and members.	Increased pump sales and credit through NGOs.	Method, How & When: Same as column 2.
Awareness building about safe drinking water and arsenic problem.	PRA/Sample survey, depending on nature of promotional tools.	Mass awareness promotional campaign through demonstration, printed materials	Increased public awareness and motivation of using LCPH.	Method, How & When: same as column 2.

Over the period of IDE's Matching Grants program in Bangladesh, awareness has grown considerably about the geographic extent and high concentrations of arsenic in groundwater. This understanding prompted a fundamental change in project goals. Nationwide surveys documented that high concentrations of naturally occurring arsenic are found in tube wells across more than half of Bangladesh's 64 districts. IDE initiated a revised activity plan for Year 3 of the project. This shifted the program emphasis from sales and installation of drinking water pumps to dissemination of a smaller number of pumps that provide arsenic-free drinking water. IDE has developed a strategy for arsenic mitigation that includes arsenic testing of all IDE-installed pumps. The plan is to reach every pump buyers, as it is mandatory to provide arsenic testing with every single USAID sponsored Janani pump.

The IDE year-3 plan shifted strategy to include the following basic elements:

- Rescheduling of project activities, giving main thrust to arsenic mitigation.
- Mass awareness raising on arsenic and its related issues.
- Development of arsenic testing facilities through the private sector.

The strategy IDE undertook – detailed in the revised activity plan -- is two-part: First, limitation of marketing of pumps to only those areas known to have low incidence rates of arsenic. This severely limits IDE's projected ability to reach 15,000 pump installations by the end of the project. Second, to investigate the feasibility of putting capacity for testing for arsenic within the private sector as part of the service accompanying the purchase of the pump and digging of the well. This will require dealer interest, sufficient quantities of a reliable test kit, and an attractive price structure for the service. The specific pump targets IDE proposed under this new agenda were as follows:

ORIGINAL TARGET	PROPOSED NEW TARGET
40 manufacturers in place	4 Manufacturers
600 dealers selling the pump	300-317 dealers
3000 installers trained	2000 installers trained
50 NGOs working with the project	20 NGOs working with the project
15,000 pumps installed	5,000 pumps installed

PVC accepted IDE's proposal to keep the life-of-project budget the same, but to change certain line items to address the arsenic issue. IDE identified five basic areas in which changes in program activities would be necessary. The evaluator should consider the extent to which the following changes have been successfully undertaken:

1) **Personnel:** In addition to the existing staff strength, a person having field experience in arsenic related activities was to be recruited for supervising the training of testers, and staff and also to supervise the arsenic testing at the field level. The existing staff under the project were to continue with expanded responsibilities planned under the project.

2) **Marketing:** The main thrust of the revised program is on awareness raising around the arsenic problem. The planned market-promotion activities include videos, mobile display shows, rickshaw van processions and folk songs are fully geared towards addressing arsenic.

3) **Training:** The existing Technical Officers (TOs), who have already worked in providing arsenic testing, and the Customers' Sales Officers (CSOs) involved in promotional activities were to be further trained on the arsenic issue. The main task in training was to develop a pool of testers who could provide the door-to-door arsenic testing service at the village level.

4) **Technology:** The arsenic field testing kits available in the market have not been sufficient to meet the high demand, and the more reliable testing kits are beyond the buying capacity of IDE's small-scale business partners. Therefore, IDE has sought to provide a less expensive but reliable testing kit to the dealers and testers.

5) **Studies and Evaluation:** The existing monitoring system with emphasis on arsenic has been further improved in tune with the new program emphasis on awareness raising.

6) **Travel:** Since promotion of drinking water pumps in two of the arsenic high-risk regions has been withdrawn, travel expenditures have been commensurately reduced. The remaining balance has been put in the awareness-raising program.

7) **Administrative and Capital Expenses:** This has remained unchanged and takes into account the actual requirement at the regional level for staff support.

2/3 of the time and effort in this Matching Grant project had occurred before this re-direction. For that reason, it will be important for the evaluator to assess IDE Bangladesh's project performance both before and after this difficult transition. However, because of the importance of the arsenic issue, the evaluator should devote approximately equal effort (50%) to assessing the two periods and presenting them in the evaluation report. For the period before the redirection, achievement of numeric targets or goals (e.g. in terms of wells/pumps installed) will be less important than to document that the hiring of project staff, training, activities, and program monitoring were appropriate and effective. In other words, the evaluator should investigate and establish that the mechanisms for accomplishing and documenting the original goals of the project were in place when the transition began. For that reason, the sources of information for managing and documenting project activities during the first two years should be examined and assessed. The evaluator should attempt to determine that the activities undertaken during that period were appropriate and effective, and were adequately documented in the M & E system.

Third year activities should be assessed according to the revised activities and indicators chart, and the changes in budget and activities provided above. Training documentation and sales reports for ongoing pump installation activities should be

examined and assessed, as should the mitigation and public awareness activities undertaken in areas where pumps were already installed.

Regarding the Year-3 amelioration activities in Bangladesh, it will be important for the evaluator to document:

- That a person with field experience in arsenic-related activities has been recruited, and has been supervising the training of testers and IDE staff. Additionally, it will be important to document that this person has supervised the program of arsenic testing at the field level. Data on the number of pumps tested and the amelioration or remediation actions taken will be essential.

- That with regard to marketing, the effectiveness of the public awareness campaign of videos, mobile display shows, etc. has been assessed. The evaluator should investigate and document the production and use of a 60-minute film on arsenic awareness and a 15-minute docu-drama on the same subject. Similarly, the evaluator should document the production and dissemination of posters and leaflets promoting arsenic awareness. Records of farmers' meetings and displays should be documented and assessed in terms of regional coverage and topical content. (Did the campaign reach all pump owners? Did they raise awareness of the arsenic problem beyond pump purchasers?)

- The impact of the training provided to Technical Officers and Customers' Sales Officers. (Has a pool of testers (91) been developed who can provide door-to-door arsenic testing at the village level? Were they trained in 5 training courses? How effective were they in educating farm families about arsenic risks, and in facilitating amelioration?)

- That pumps testing positive for arsenic have been painted red on the spout, and that those with acceptable levels of arsenic have been painted green. (What fraction of the 5,000 installed pumps have been tested? What impact has the color scheme had on patterns of pump usage?)

- That the monitoring and evaluation system has been modified to accommodate arsenic-related data.

- An arsenator tester was procured and used, and that it produced reliable results.

IDE Headquarters (30% effort)

In addition to expanding the mass-marketing of small-scale water and irrigation devices in two countries, an important purpose of the IDE Matching Grant was to increase the organization's capacity at headquarters in order to expand IDE's global effectiveness. The Matching Grant is structured to provide IDE with support for headquarters capacity-building in the areas of management systems, public education, and documentation.

IDE's capacity strengthening objectives included:

1) Better management systems throughout the organization to facilitate planning, communication, monitoring, evaluation, information and lessons sharing;
2) Increased effectiveness of public education and outreach;
3) Improved monitoring and evaluation systems that are essential for program management and documentation of successes;
4) Development of regional committees to facilitate communication within IDE, with the aim of fostering greater cooperation between country programs;
5) Enhancement of IDE's capacity to assist its collaborators in building their capacity, and of IDE's ability to transfer mature products to other country programs and share program experience with other organizations.

The following goals were specified in the DIP and provide the basic framework for assessment of program progress at IDE headquarters. The evaluator should consider the accomplishment of each Goal in terms of success in realizing the Measurable Objectives listed below it.

Goal 1: **Strengthen operational and technical capacity to facilitate expansion and leveraging of IDE model.**

Evaluation of Measurable Objectives:

1. *Hiring of Accountant, M&E Officer, new Country Desk Officer*

- Review and evaluate the status of the above staff positions, assessing the extent to which head office personnel have contributed to the overall strengthening of operational and technical capacity within IDE. Indicate the extent to which these positions have been institutionalized within IDE rather than hired primarily to strengthen MG project-related activities.
- Review all head office documentation and conduct staff interviews both at IDE headquarters and IDE India and IDE Bangladesh in order to determine fulfillment of this objective.

2. *Standardization of Information Systems*

- Review and evaluate all documentation pertaining to Management Information Systems (MIS) that have been established by IDE headquarters, IDE India, and IDE Bangladesh.
- Assess the extent to which harmonization of MIS at headquarters and across country programs (India, Bangladesh) has been achieved in terms of systems used, reporting methods, and monitoring and evaluation protocols for such systems.
- Conduct staff interviews at IDE headquarters and IDE India, IDE Bangladesh to determine the overall status of standardization of MIS. Assess the extent to which this MIS data has actually been used in India and Bangladesh field situations to strengthen program management.

3. *Vitalizing Consulting Arm of IDE in rural mass marketing expertise, and technology development and dissemination*
   - Review and evaluate all documentation on consulting rosters and files at IDE headquarters as it pertains to the current capacity of IDE to deploy human resources for consultation in specialized domains of rural mass marketing and technology diffusion and development.
   - Conduct staff interviews at IDE headquarters to evaluate institutional capacity to provide timely and effective consulting services upon demand to IDE clientele.
   - Describe the changes in client demand for IDE's consulting services that have occurred since this capability was put in place.

Goal 2: **Public Education and Outreach – especially through increased visibility in the international development community.**

Evaluation of Measurable Objectives:

1. *Membership in InterAction*
   - Review and evaluate all documentation on IDE membership and participation in InterAction. Determine the extent to which engagement in this consortium has increased the visibility of IDE in the international development community.
   - Conduct interviews with IDE headquarters staff, InterAction personnel, and collaborative institutional partners of IDE (PVOs, NGOs, bi/multilateral donors) to assess the current status and visibility of IDE in the international development community.

2. *Increased IDE exposure through heightened public education campaigns*
   (Note: Since Goal #5 considerably overlapped this objective, the two have been combined in the following bulleted points.)
- Review and evaluate IDE headquarter strategy aimed at increasing local and national public awareness of IDE program activities. Review and evaluate all documentation on educational outreach/public awareness materials produced and disseminated by IDE headquarters.
- Conduct interviews with IDE headquarters and local constituents (Denver-based) in the international development community to assess overall visibility and knowledge of IDE's program activities and services. Assess the degree to which public outreach

by IDE has mobilized both a domestic and international constituency for IDE technical services and capacity.

3. *Upgrade Capacity to Distribute Material*
   - Review and evaluate all operational systems (mailing, electronic media, video, computerization, etc) used by IDE to distribute educational materials to the general public. Assess the overall effectiveness of these systems as viable media strategies to increased public awareness of IDE's development mission and core program activities.

Goal 3: **Monitoring and Evaluation/Management Information Systems – Improve MIS and M & E Systems**

Evaluation of Measurable Objectives:

1. *M&E/MIS Officer Hired*
   - Review and evaluate documentation pertaining to the role and responsibilities of the M&E/MIS Officer. Assess the extent to which the newly created M&E function has contributed to improved donor solicitation, increased grant support, program planning, and institutional decision making.

   - Conduct interviews with IDE headquarters staff, IDE India, and IDE Bangladesh to assess the impact of M&E/MIS on key organizational processes of strategic planning, program evaluation, and donor engagement. Assess the extent to which ongoing program management decisions at the country level have been impacted by the MIS system.

2. *Create M&E/MIS Guidelines/Basis for Evaluation*
   - Review and evaluate documentation on M&E/MIS guidelines for program and institutional evaluation. Determine to what extent guidelines have improved or transformed institutional capacity to monitor and evaluate program activities.

Goal 4: **Regional Development**

Evaluation of Measurable Objectives:

1. *Improved communication within IDE via e-mail and monthly reporting*
   - Review and evaluate electronic channels of communication between IDE headquarters, IDE India, and IDE Bangladesh. This will include the regular exchange of program information, as well as monthly and quarterly reporting procedures between headquarters and the country offices.
   - Conduct interviews with IDE headquarters staff, IDE India, and IDE Bangladesh to determine the extent to which electronic communication and reporting has facilitated improved channels of interaction and program development within IDE.

2. *Better cooperation between/among IDE headquarters and country programs through shared technologies and standardized evaluation systems*
   - Review and evaluate the status of harmonization of program planning, monitoring, and evaluation between/among IDE headquarters and IDE India and IDE Bangladesh.
   - Conduct interviews with all staff (headquarters and country programs) to verify the extent to which such harmonization is taking place.

3. *Intense training for private enterprise networks in program countries*
   - Review and evaluate the scope of professional staff training in all dimensions of private enterprise development (marketing and promotion, financial management, program development, data collection, monitoring and evaluation).
- Conduct interviews with program staff at IDE India and IDE Bangladesh to assess the extent to which human capacity building has been achieved. Describe the Matching Grant program contexts in which in which these improved skills have actually been used.

4. Participation in regional committees
- Review and evaluate the degree of participation of IDE India and IDE Bangladesh in regional institutions (committee, other level) engaged in water resource development, technology dissemination, and/or related international activities.
- Conduct interviews with country program staff directly engaged in participation in regional committee development activities. Assess the extent to which regional networking has benefited each country program in terms of heightened awareness of IDE's program mission or greater institutional cooperation in addressing water resource needs.

Goal 5: **Technology Dissemination**

(Note: Goal # 5 substantially overlaps Goal # 2, so these two Goals have been combined under Goal #2.)

Goal 6: **Documentation of organization-Wide Policies and Procedures**

Evaluation of Measurable Objectives:

1. *Regular presentation of strategic and business plans to the Board*
- Review and evaluate documentation on strategic planning and program reporting to the IDE Board of Directors. Assess the impact of such procedures on Board engagement in policy, goal setting, and the overall vision and direction of IDE. Also assess the extent to which country programs (India, Bangladesh) have been integrated into strategic planning and program reporting to the Board.
- Conduct interviews with IDE headquarters, IDE India, and IDE Bangladesh to assess the extent of staff participation in strategic planning and reporting to the Board.

2. *Use of M&E/MIS guidelines*

- Review and evaluate documentation on M&E/MIS guidelines. Assess how such guidelines have shaped organization-wide policies and procedures within IDE at both headquarter and country program levels.

3. *Updated Personnel Manual*

- Review and evaluate documentation on personnel policy and procedures at IDE headquarters, IDE India, and IDE Bangladesh. Assess how such documentation has influenced the efficiency of operation of headquarters and each country program.

4. *Operations Manual*

- Review and evaluate documentation on operational procedures within IDE headquarters, IDE India, and IDE Bangladesh. Assess how such documentation has influenced the efficiency of operation of headquarters and each country program.

Goal 7: **Assessment of Success of the Project**

Evaluation of Measurable Objectives:

1. *Assessment of Project Success*

- Review and evaluate global indicators of project success based upon achievement of the following outputs:
- M&E Guidelines/MIS System in place
- Monthly reporting from Country Directors
- Semi-annual presentation of accomplishments to Board of Directors
- Measure progress toward project objectives on an on-going basis

IV. SUSTAINABILITY PLAN (10% effort):

The IDE MG project strategy for ensuring long-term sustainability of impacts is essentially to develop the market forces of supply and demand for micro-irrigation to the point that IDE's support for various actors in the supply-demand continuum is no longer required. The premise regarding the sustainability of demand is that an underlying need for irrigation technologies can be galvanized by creating large-scale awareness about affordable, quality products among potential buyers. The sustainability of production and supply can be ensured, the reasoning goes, through IDE's support for private sector manufacturers, distributors, dealers, fitters and NGOs. This support would take the form of training in various operational and technical areas. IDE's project planning assumes that the supply network which emerges will be a major step toward a sustainable, functioning market for irrigation technologies. The project planned to further enhance prospects for sustainability by familiarizing potential donors with the success of IDE's approach. This would result in successful leveraging of donor investments in the private sector.

IDE recognized that the precursors for this vision of sustainability lie not only in market signals, but in effective organization and planning. The following Measurable Objectives and Indicators were presented in the DIP as a framework for these organizational precursors. Many of these objectives and indicators will have been assessed elsewhere in this evaluation, and so should not present additional data-gathering tasks. The evaluator's assessment of prospects for sustainability should, however, be formulated and presented separately from performance assessment of these indicators in other program areas.

SUSTAINABILITY OBJECTIVES AND INDICATORS IN THE DIP

MEASURABLE OBJECTIVES	INDICATORS
To build a strong team	Team complete, committed and competent
To modify IDE's micro-irrigation products (if required) to suit the specific needs of small and marginal farmers in the proposed program areas.	Final product drawings are ready
To build a strong, sustainable supply chain for the above products	Some manufacturers ready to produce the systems
To generate interest among donors to provide resources for this cause	Major donors are convinced about the utility of micro-irrigation
To build an MIS system to provide timely, usable information	MIS package field-tested

The evaluator's task in terms of assessing IDE's success in establishing the preconditions for sustainability is:

- To analyze the supply-demand balance for irrigation systems in light of IDE's sales figures and projections. The evaluator should assess the prospects for program impacts beyond the life of the project based on the balance of these forces.

- To assess IDE's success in establishing an interdependent supply, distribution and sales chain, and in establishing a product niche that will endure beyond the life of the project.

- To evaluate the validity of the assumptions underlying the definition of sustainability in the DIP. Of particular interest will be assumptions about the responsiveness of the markets in India and Bangladesh to supply and demand forces.

- To consider whether imperfections in the agricultural inputs market – primarily government subsidy for certain inputs – has significantly affected a sustainability plan premised on the operation of a 'free' market.

- To differentiate the apparent prospects for sustainability in terms of program elements that are within IDE's operational control versus those that are external to it

-- primarily the policy elements affecting demand for irrigation technologies (i.e. government subsidies, water supply or other market interventions/distortions).

- To investigate and assess the effectiveness of IDE's sustainability strategy in strengthening and leveraging other donor investments in the private sector. The evaluator should attempt to determine if evidence exists that market forces are becoming sufficiently strong and clear as to diminish the need for additional donor support of the sort provided in the Matching Grant.

V. TEAM COMPOSITION AND PARTICIPATION

The evaluation will be headed by a PVC-designated evaluator in collaboration with IDE. IDE may appoint staff to participate in the evaluation. The relative roles and responsibilities of other team members in terms of logistics, report participation, and other considerations will be refined during the TPM, to be held well in advance of the start of the evaluation. AMATech, the support contractor to PVC, will contract this evaluator. She/he will have all or most of the skills itemized below:

- a background in strategic planning and organizational development;
- technical expertise and professional experience pertaining to microenterprise development initiatives;
- familiarity with waters systems
- solid skills in data collection and analysis and M&E;
- specific experience in the evaluation of PVO programs;
- long-term field, research, consulting, and evaluation experience.

VI. LEVEL OF EFFORT

A maximum number of 40 days may be used for this consultancy. A level of effort is attached as part of the schedule (see below). A six-day work-week is allowed for this consultancy.

Total Time:		40 days
1. Denver =		8
Travel to/from Denver	=	2
3. India	=	10
Travel to India	=	2
4. Bangladesh	=	10
Travel to Bangladesh	=	1
5. Return travel to US	=	2
6. Report write up	=	12
	TOTAL	47 days

VII. SCHEDULE

The schedule presents a working schedule and LOE for the evaluator.

July 30: Depart Washington for New Delhi
July 31: Arrive New Delhi
August 13: Depart New Delhi for Dhaka
August 25: Depart Dhaka for Washington, DC
August 26: Arrive Washington, DC
August 31: Depart Washington, DC for Denver
September 9: Depart Denver
September 25: Draft evaluation report due at PVC
O/a September 29: Evaluation debriefing for BHR/PVC
October 6: Final evaluation report due PVC

VIII. REPORTING AND DISSEMINATION REQUIREMENTS

This SOW will serve as a general guide for the outline and content of the evaluation report. The final report will be submitted both to PVC and IDE at a mutually agreed up date (normally agreed to at the TPM). The evaluator will complete the draft report for review and comment well within the evaluation period stipulated, and distribute it simultaneously to AMATech, the PVC Project Backstop, and the designated contact person in IDE's US Office. These parties will review the draft report and provide any comments and changes for incorporation in the final report. A debriefing forum may be held and used for commenting on the evaluation report. All such comments and suggested changes must be sent to the evaluator and the PVC backstop. The authority for final clearance on the report rests in the hands of the PVC Project Backstop.

ANNEX 2: Itinerary/Schedule

July 30:	Depart Washington for New Delhi
August 1:	Arrive New Delhi (plane delayed)
August 13:	Depart New Delhi for Dhaka
August 25:	Depart Dhaka for Washington, DC
August 26:	Arrive Washington, DC
September 3:	Depart Washington, DC for Denver
September 14:	Depart Denver for Washington, DC
October 6:	Draft evaluation report due at PVC
October 17:	Evaluation debriefing for BHR/PVC

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ANNEX 4: Persons Interviewed

Board
Paul Myers
Michael Edesess

Denver
Paul Polak
Fritz Kramer
John Magistro
Jeff Saussier
Anke Herrmann
Keith Frausto
Tim Gibb
Melanie Formanek

IDE India
Tom Hemphill
Amitabha Sadangi
Guru Naik
Dr. V.K. Dixit
Govinda Raju
Suresh Subramaniam
Sudarshan Suryawanshi
Aparna Pradhan
Ajay Dhalpawar
V.T. Sunil
Sachin S. Chepe

USAID India
Ram Berry

Bangladesh
David Nunley
Mrinal Sircar
Fahmida Mariam
Abul Ashraf
Mrinal Saha
Mominul Islam
Shoaib Chowdhury
Badrul Alam
Md Saifuddin Khaled
Sad Ahmed
Ranadhir Kumar Das
Narayan Ch. Chakaraborty
Anup Kumar Roy

Abdus Sobhan

Hand Pump Manufacturer
Moshiur Rahman Rana

USAID Bangladesh
Charles Uphaus