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PRICE
POVERTY REDUCTION BY INCREASING
THE COMPETITIVENESS OF ENTERPRISES

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BANGLADESH

DRAFT ANNUAL WORK PLAN OCTOBER 2012 – DECEMBER 2013



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Acronyms

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- Leather Products

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- Gantt Chart

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- Gantt Chart

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ACRONYMS

BARI	Bangladesh Agricultural Research Institute
BLSC	Bangladesh Leather Service Center
BPC	Business Promotion Council
BSFF	Bangladesh Shrimp and Fish Foundation
Bt	Bacillus thuringiensis
BTA	Bangladesh Tanners' Association
COEL	Center of Excellence for Leather
COP	Chief of Party
COR	Contracting Officer's Representative
DAE	Department of Agricultural Extension
DILF	Dhaka International Leather Fair
DITF	Dhaka International Trade Fair
DOF	Department of Fisheries
EFADF	Environment Friendly Agricultural Development Foundation
EPB	Export Promotion Bureau
FSB	Fruit and Shoot Borer
FFS	Farmer's Field School
FtF	Feed the Future
GAqP	Good Aquaculture Practices
GHERS	Greater Harvest and Economic Return from Shrimp
GKSSE	Grameen Krishok Shahyak Sangstha Enterprise
GUKED	Gram Unnayan Karma Enterprise Development
HACCP	Hazard analysis and critical control points
ILO	International Labor Organization
ISC	Industry Skill Council
ITC	International Trade Center
JAI	Jagoroni Agro Enterprise
KBK	Krishok Bandhu Karmashuchi
LFMEAB	Leather Goods & Footwear Manufacturers & Exporters Association
LSBPC	Leather Sector Business Promotion Council
LTSE	Leather Technologist SME Entrepreneurs
MOU	Memorandum of Understanding
MSME	Micro, Small, and Medium Enterprises
NGO	Non-governmental Organization
OP	Open Pollinated
PHH	Post-Harvest Handling
PJKE	Proshikhito Jubo Kallyan Enterprise
PMU	Project Management Unit
PPP	Public Private Partnership
RDA	Rural Development Academy
RRF	Rural Reconstruction Foundation
SCA	Seed Certification Agency
SDC	Society Development Committee
SME	Small and Medium Enterprises
SMEF	SME Foundation
SP	Service Provider
SPGCSL	Seed Potato Growers Cooperative Society Limited
SUFCSL	Shibganj Upazila Farmers' Cooperative Society Limited
SW	Southwest

TFRD	Technology for Rural Development
UDP	Urea Deep Placement
USAID	United States Agency for International Development
WFC	World Fish Center

Introduction

Chemonics International is pleased to present the final Poverty Reduction by Increasing the Competitiveness of Enterprises (PRICE) work plan. This work plan covers the period from October 2012 - December 2013 and includes a special section on closeout planning. Due to adjustments in the timeline per Modification No. 7, this work plan overlaps with the October 2011-February 2013 work plan. Due to the organic nature of work planning, some activities in the overlapping quarters may differ between work plans. In instances where this has occurred, this work plan takes precedence and should be used as the guide. For the project to be successful, it must be flexible and adjustable as the project environment changes and as the project's own interventions identify additional or different activities that should or could be pursued to achieve its objectives.

A. PRICE Background

PRICE is working to reduce poverty in Bangladesh by promoting the market based development of three sectors selected for their high potential for generating sustainable jobs, sales, and investment: the horticulture, aquaculture, and leather products sectors.

PRICE seeks to promote broad-based and pro-poor growth in these three sectors by implementing interventions that address key constraints to competitiveness, while integrating large numbers of small and medium enterprises (SME). This requires an understanding of the value chain – from input suppliers to processors to end-market buyers, of the business environment under which it operates, and of the economic agents that participate in it. Through its interventions, PRICE helps these economic agents understand the benefits of working together to increase the competitiveness of the value chain and, through cost sharing arrangements that reduce risk, help SMEs improve their processes and products so they have greater access to more and better markets, both domestic and international.

B. Work Plan Structure and Implementation

This work plan has been produced in consultation with USAID, PRICE's partners in each of the three sectors in which it works, and with the input and guidance from various stakeholders and beneficiaries. Regular consultations will continue throughout the year with our stakeholders to ensure continued work plan relevance.

The causal models, which form the basis for interventions, are shown first. Each sector's causal model shows the primary constraints and interventions planned to address these constraints. The intended outputs, outcomes, and impacts are shown for each constraint. These interventions, based upon the causal model, form the foundation for the Gantt chart and accompanying narrative which provides further background information on the sector, intended activities, and expected results. It is important to remember that the descriptions, scope, and magnitudes of these activities are subject to change as the work plan is implemented.

Certain activities in the work plan span multiple sectors. For example, strengthening the institutional capacity of enterprises, associations, and cooperatives is a potent and cross-cutting intervention. Support for expanded access to finance by members of each value chain is also seen as cross-cutting. Some of these activities are addressed in their individual sections, but are recognized as project wide initiatives. Others are included in the chapter on Communication Activities.

To implement this work plan, PRICE will provide technical assistance, training, and other support which is conducive to value chain development. This support, through PRICE, will be provided to individuals and groups of farmers and entrepreneurs whose commitment will be verified by their willingness to cost-share in proposed interventions.

To avoid redundancy, facilitate leverage, and amplify impact, PRICE will coordinate with a number of other projects in Bangladesh, both USAID and other donor-funded, as well as with Bangladeshi public and private institutions.

Because this work plan represents the final work plan for the project, spanning 15 months, we have included a section on closeout. This section details our general closeout approach, timeline, and actions. This will be refined as the project moves closer to beginning closeout.

The work plan also includes chapters on the Performance Monitoring Plan – including annual and quarterly targets -, and the proposed Budget.

C. Methodology

PRICE followed a bottom up approach to formulate its FY2013 work plan. A series of meetings with partners and beneficiaries were held in each of the three sectors. The objectives of discussions were to make an efficient, effective, and relevant work plan that incorporates the inputs of the partners across each sector's value chain.

D. Equity Integration Activities

PRICE is a pro poor project, supporting economic development with equity. To do this, PRICE works with and supports key economic agents and has adopted a value chain approach for enhancing the competitiveness of its target sectors. One of the key elements of this approach is to facilitate teamwork among value chain actors to maximize wealth creation across the chain (rather than profit maximization by any individual player). This newly created wealth is then shared among the actors with greater equity, increasing the sustainability of the value chain.

To ensure it is being socially responsible, PRICE takes a multi-layered approach with its partners in each sector. PRICE focuses on institutional strengthening, promoting the development of local skills and services, encouraging adherence to improved labor practices, and promoting responsible agricultural practices. An important focus of PRICE interventions is to render economic benefits and transfer skills among women and young adults.

PRICE has adopted this approach to accomplish broad-based economic development through sector transformation, rather than only achieving its targets for sales, jobs, and investments.

In order to ensure the efficient implementation of the PRICE equity approach, the project will undertake the following:

- Incorporate equity and compliance clauses in the memorandums of understanding with development partners (enterprises, associations, cooperatives, etc.).
- Support training on social compliance and equity issues for partners and their employees.
- Organize targeted equity integration training for the entire PRICE staff.
- Adopt policies to ensure that gender is considered prior to the allocation of PRICE resources.

Sector Causal Models

- I. Horticulture
- II. Aquaculture (Fish)
- III. Leather Products

I. Causal Model-Horticulture

Constraints	Interventions	Outputs	Outcomes	Impacts
Crop: Potato				
<p>Inadequate availability of good quality potato seeds of modern varieties of potato leads to poor yields, particularly in the south.</p>	<p>Facilitate increased supply of high quality clean seeds in the south, as well as rest of the country.</p> <ul style="list-style-type: none"> • Improve capacity of potato seed producing enterprises of the south for the production of clean seeds of different generations of modern varieties. • Support establishing linkages between biotech labs and seed producers of south to get best quality tissue culture based planting materials. • Provide technical support in efficient operation of tissue culture labs for production of disease-free potato plantlets. • Organize refresher training of the previously trained laboratory technicians engaged in biotech labs. • Train field technicians, contract farmers and workers in production of pre-breeder, breeder and foundation seeds of potato seed growing organizations. • Farmers and workers are trained for production of 	<p>Capacity of six seed enterprises increased for producing potato seeds.</p> <ul style="list-style-type: none"> • Efficiency of tissue culture laboratories is enhanced. • Knowledge and skills of field personnel engaged in production increased. • Disease free seed production continued and strengthened. • Linked with Seed Certification Agency to provide to the partner companies. • Technical bulletin on seed potato is published. 	<p>Six potato companies produce good quality disease-free certified seeds, and market their products.</p> <p>Increased Sales from different generations of seed potato are \$300,000.</p> <p>\$150,000 worth of plantlets, pre-breeder and breeder seeds produced and sold.</p> <p>New jobs: 300</p> <p>Technical information on seed production is made available for use.</p>	<p>Copy cats emerged.</p> <p>Market share for good quality seeds increased by more than 10 percent in the targeted region.</p> <p>Processing potato seed produced in-country is able to meet 25 percent of industry demand over LOP.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	<p>high-quality disease-free certified seeds of six enterprises/companies.</p> <ul style="list-style-type: none"> • Provide field-level technical support in production of disease-free certified seeds. 			
<p>Small farm holdings operating individually lack economies of scale leading to limited access to inputs, credit and markets.</p>	<p>Promote farmers cooperatives and contract farming system for seed and table potato farmers.</p> <ul style="list-style-type: none"> • Assist sponsor enterprises to design effective contract farming systems. • Assist sponsor entrepreneurs to train relevant staff and farmers on improved farming practices and their respective roles and responsibilities under contract farming systems. • Link entrepreneurs with reputed suppliers of farm inputs. • Support seed and table potato partners to reach 3200 farmers by establishing semi- contract farming and render technical assistance in efficient utilization of resources to increase productivity. 	<p>500 seed potato and 2,700 table potato farmers are brought under semi outgrowing schemes.</p> <p>Capacity of existing outgrowing companies'/associations' capacity increased.</p> <p>Participating farmers are trained on approaches, improved practices and roles and responsibilities of each party.</p>	<p>Per unit area production increased by more than 15 percent in the assisted farms.</p> <p>Potato farmers have better access to inputs, technical knowhow, and credit and market linkages.</p> <p>Increased Sales: \$1.5 million.</p> <p>Copy cats of potato contract farming system emerge, leading to better access to inputs, credit and market for farmers and more skilled farmers for contracting enterprises.</p>	<p>Farmer's income and quality of life improved.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	<ul style="list-style-type: none"> Facilitate exchange visits to sponsor entrepreneurs/ association leaders and farmers to understand successful contract/ cooperating farming ventures. 			
Traditional farming knowledge and skill of farmers is inadequate to maximize yield.	<p>Assist in developing modern potato farming practices.</p> <ul style="list-style-type: none"> Facilitate training on improved potato production technology for farmers. Extend farm-level technical support for crop and disease management. Support collection of soil samples through use of balanced fertilizers 	<p>6,000 potato farmers, mainly in the south, trained on modern techniques of potato growing.</p> <p>Farmers are equipped with more knowledge and skills in potato pest management.</p> <p>Potato farmers know the soil nutrient status of their plots and can apply balanced fertilizer and compost.</p>	<p>Potato farmers are practicing their newly acquired knowledge and skill.</p> <p>Increased Sales: \$2 million in sales from both table and processed potato.</p> <p>New Jobs: 200 fulltime jobs created.</p>	More potato farmers gain and use modern farming practices.
Inefficient pre and post-harvest handling operation and an absence of value addition results considerable loss.	<p>Sponsor skill enhancement trainings on standard post-harvest practices and value addition activities.</p> <ul style="list-style-type: none"> Facilitate trainings for farmers and workers on responsible post-harvest practices and simple value addition techniques such as haulm pulling, curing, cleaning, grading, and sorting. Support the establishment of marketing links with potato producing associations and enterprises with processing industries. 	<p>5,000 farmers and workers receive training on potato harvesting and post-harvest handling techniques.</p> <p>Trained farmers and workers become knowledgeable about post-harvest practices.</p> <p>Linkage established between one processing industry and processing potato producers.</p>	<p>Increasing number of farmers and workers using improved harvesting and post-harvest handling techniques.</p> <p>Processing industries are linked with out-growers schemes and associations.</p> <p>Demand for good quality potato is increased and locally produced potato products are available in the markets.</p> <p>Increased Sales: \$400,000</p> <p>New Jobs: 180</p>	<p>Import of processed potato products are minimized and local products captured the major share.</p> <p>Income enhanced across the value chain.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
Crop: Eggplant				
Inadequate farming knowledge and skill of small holder eggplant farmers is holding them back from maximizing yield potential.	<p>Support capacity building of eggplant farmers to understand and apply modern cultivation techniques.</p> <ul style="list-style-type: none"> Facilitate training of eggplant farmers on production technology. Provide technical assistance to farmers during the production period and assist in organizing FFS during critical growth. Promote use of compost and balanced fertilizers for sustainable higher yields 	<p>3500 eggplant famers are trained on modern production techniques.</p> <p>Farmers become knowledgeable about the use of balanced fertilizer and compost for eggplant cultivation.</p>	<p>Increasing number of farmers are following improved cultivation methods.</p> <p>Increased Sales: \$400,000</p> <p>New Jobs: 200</p>	<p>Productivity of assisted eggplant farmers increased by 15 percent as a result their overall income increased.</p>
Use of low quality seeds of local varieties leads to poor harvest.	<p>Promote access to good seeds of local and high-yielding varieties for the summer and winter seasons.</p> <ul style="list-style-type: none"> Link PRICE-assisted farmers with dealers of reputed seed companies and assist to identify good, locally available landraces. FSB resistant eggplants put on trial demo if released from BARI. Support one seed enterprise with technical assistance for undertaking production of high yielding egg plant seeds. 	<p>Farmers adopt cultivation of high yielding varieties and local land races and initiate production.</p> <p>Capacity of a seed enterprise increased to produce high quality eggplant seeds suitable for summer and winter.</p>	<p>Assisted seed companies start producing modern variety seeds and market them in good packaging.</p> <p>Trained farmers start using improved seeds.</p> <p>Productivity increased by more than 15 percent among the assisted farms.</p> <p>Increased Sales: \$400,000</p> <p>New Jobs: 100</p>	<p>Farmers practicing modern production technology.</p> <p>Overall farm level productivity increased by approximately 15 percent.</p> <p>Income for farmers increased by 10 percent.</p>
High level of pest attacks lead to significant crop damage.	<p>Promote integrated pest management for eggplant farmers.</p>	<p>2000 eggplant farmers are trained on improved pest management techniques.</p>	<p>Less damage to crops and enhanced yield per acre.</p>	<p>Eggplant farmer groups are efficiently managing pest control with a mix of control</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	<ul style="list-style-type: none"> ● Assist eggplant farmers to identify major pests and help to adopt rational control measures with IPM technology. ● Support organizing FFS to identify pest attacks and adopt appropriate measures. ● Facilitate links with bio-control agents, particularly pheromone trap suppliers targeting safe eggplant production. <p>Support given to seedling raising technology.</p> <ul style="list-style-type: none"> ● Support training to farmers on preparation seed beds and raising seedlings technology. ● Establish demonstrations on appropriate seedling raising technologies. 	<p>Farmers are trained on scientific seed bed preparation and seedling raising techniques.</p>	<p>Good quality seedlings are raised and transplanted in increased numbers.</p> <p>Plants and fruits are less susceptible to pests and hence better yields and lower costs.</p> <p>Productivity enhanced</p> <p>Increased Sales: \$250,000</p>	<p>measures resulting minimum crop loss.</p> <p>Income of the eggplant farmers increased.</p> <p>Increasing number of new farmers start using high quality seedlings.</p> <p>Crowding-in happens, as other farmers and enterprises follow or adopt same improvements once benefits are observed.</p>
<p>Farmers are not aware of the nutrient status of their soils but apply high chemical doses of fertilizer causing low productivity and contributing to high production cost.</p>	<p>Assist in soil analyses and facilitate to optimize use of compost and fertilizer.</p> <ul style="list-style-type: none"> ● Assist farmers to collect soil samples of eggplant fields and have them analyzed. ● Train farmers to use balanced fertilizers and compost. ● Assist associations and enterprises to establish 	<p>2000 eggplant farmers become knowledgeable about the fertility level of their soil.</p> <p>Farmers started using compost and balanced doses of fertilizers.</p> <p>Small holders prepare composts at household levels for their own use.</p>	<p>Production cost of eggplant minimized due to optimum use of fertilizer.</p> <p>Farmers are able to decide on the level of nutrient application for better crops.</p> <p>Use of compost for eggplant farming has increased substantially.</p>	<p>Soil fertility level improved for eggplant cultivation.</p> <p>Environmentally sustainable production approach is available.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	<p>links with good sources of commercial sellers of fertilizers and composts.</p> <ul style="list-style-type: none"> • Create awareness through meetings to prepare composts at the household level targeting eggplant fields. 	<p>Eggplant farmers know about sources for good quality fertilizers and composts.</p>		
<p>High frequency of application of pesticides is a threat to human health and ecosystem.</p>	<p>Create awareness and promote a market for safe eggplant.</p> <ul style="list-style-type: none"> • Support awareness development campaigns on production and consumption of safe eggplant among the eggplant growers, sellers and consumers. • Link producers of safe eggplants with exporters, local wholesalers, super-shops and buyers through information dissemination. 	<p>Producers, suppliers and consumers take part in the awareness campaign of producing and consuming safely produced eggplant.</p> <p>Linkage workshops/meetings between producers of safe plants and downstream actors take place.</p>	<p>More growers are aware of using minimum levels of pesticides and adopt alternative pest control methods and are willing to produce safe eggplant.</p> <p>Safe eggplant is made available in the market.</p> <p>Consumers understand the benefit of consuming safe eggplant and are ready to pay premium price for the products.</p>	<p>The threat to human health and the ecosystem from pesticides is reduced.</p> <p>Growers have adopted safer production approaches.</p> <p>Consumers have the option to buy safe eggplants.</p>
Crop: Mango				
<p>Lack of farmers knowledge and skills on orchard management of mango lead to low productivity</p>	<p>Support to enhance farmers' knowledge and skills in mango orchard management</p> <ul style="list-style-type: none"> • Facilitate trainings for mango on better orchard management. • Provide training to farmers, seasonal lessees, and the work force on proper crop protection measures. • Provide technical support to mango farms during 	<p>3000 mango farmers trained on crop production management.</p>	<p>Mango farmers start to adopt improved crop management practices.</p> <p>Increased Sales: \$500,000</p> <p>New Jobs: 400</p>	<p>Number of farms adopting improved practices is growing rapidly, resulting in increased yields and enhanced incomes.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	production season.			
Harvesting of immature fruits and poor post-harvest handling practices result in significant quality and quantity loss.	<p>Assist in responsible post-harvest handling for mango farmers and traders.</p> <ul style="list-style-type: none"> • Train farmers on proper mango harvesting methods. • Facilitate demonstration of proper treatment techniques for different varieties of mango. • Organize demonstrations of proper cleaning, drying, grading and packing for farmers/traders. • Demonstrate use of proper packaging and containers. 	<p>Farmers are trained on maturity and harvesting techniques.</p> <p>Market intermediaries/wholesalers trained on post-harvest handling practices.</p> <p>Farmers are aware of the importance of cleaning and after harvest treatment for longer shelf life.</p> <p>Farmers are aware of using proper packaging material and containers.</p>	<p>Mango farmers adopt responsible post-harvest handling and adopt use of hot water treatment plants.</p> <p>Quality of the fruit is enhanced.</p> <p>Increased Sales: \$150,000.</p> <p>New Jobs: 100</p>	<p>Post-harvest losses of the targeted farmers are reduced by 10 percent.</p>
Widespread use of toxic ripening agent poses significant threat to human health.	<p>Create mass awareness on harmful effects of toxic ripening agents</p> <ul style="list-style-type: none"> • Create awareness through mass media by displaying a video on proper post-harvest handling techniques. • Assist associations to market carbide free, properly ripened mango by helping open outlets in important locations. 	<p>Video on appropriate mango post-harvest handling technique is displayed to farmers, traders and wholesalers.</p> <p>Mango farmers associations open new outlets for marketing of carbide free properly ripened mangoes.</p>	<p>General public becomes aware of the harmful effects of chemicals and demand for carbide-free mango is on rise.</p> <p>Increased Sales: \$50,000.</p>	<p>Toxic chemical-free mango becomes available in the market.</p> <p>Consumers' access to quality mango increased.</p>
Cross Cutting Issues				
Cultivation of high value crops in the southern region is constrained due to poor access to technology, limiting farmers' income and food security.	<p>Promote a "basket" of high value crop production in the south and southwest.</p> <ul style="list-style-type: none"> • Facilitate training to farmers on increasing productivity in tomato, 	<p>7000 farmers are trained on production, pest management and post production of high value crops.</p> <p>Farmers in the south have</p>	<p>Number of farmers in the south growing new crops by adopting modern technology increases.</p> <p>Increased Sales: \$150,000.</p>	<p>Production of high value crops increased with better support services.</p> <p>Farmers' income increased substantially.</p>

Constraints	Interventions	Outputs	Outcomes	Impacts
	cabbages, cauliflowers, beans, cucumbers, gourds, chili, and onion. <ul style="list-style-type: none"> • Train farmers on production technology of mainly vine and other suitable crops in the dykes. 	better access to technology and associated support services.		
Horticulture farmers lack knowledge of and access to quality compost, which holds them back from realizing their yield potential.	Train farmers and promote production and marketing of high quality organic fertilizer. <ul style="list-style-type: none"> • Continue assisting bio-fertilizer and compost companies to improve their technical efficiency in producing high quality produce. • Organize trainings for farmers, dealers, and retailers on the importance of environment friendly bio-fertilizer and its effects on yield and profitability. • Support farmers in establishing links with bio-fertilizer suppliers. • Provide technical assistance to crop producers to produce and utilize farm-based compost. Assist establishing of demonstrations with bio-fertilizers to promote use and the proper application method. • Support enterprises/ associations in the 	Farmers' access to organic fertilizer improved. 4,500 farmers trained on use of organic fertilizers.	Increasing number of farmers using organic fertilizers in right quantity. Increased Sales: \$150,000 New Jobs: 200	Sustainable productivity is visible and soil health is improved.

Constraints	Interventions	Outputs	Outcomes	Impacts
	introduction of soil nutrition information, fertilizer-use cards among farmers.			
Limited availability of affordable good quality vegetable seeds for year-round vegetable cultivation leads to low productivity of horticulture crops.	<p>Support production of good quality, modern, open pollinated varieties of vegetable seeds.</p> <ul style="list-style-type: none"> Facilitate technical trainings for seed growing contract farmers through seed producing enterprises. Provide technical assistance to ensure seed quality during production, post-production and processing through technical support. Assist in introduction of new OP varieties through establishing demonstrations and field days. 	<p>Seed growing farmers are better informed and skilled in seed production technology.</p> <p>Seed producing enterprises are getting better seeds and adopting better seed producing technology.</p>	<p>Supported seed companies start producing good quality seeds of high yielding varieties and market them in good packaging following seed law.</p> <p>Trained farmers start using improved seeds.</p>	<p>Quality seed supply enhanced by 5 percent in the project area.</p> <p>Vegetable production by the project's farmers increased by 20 percent resulting in better income.</p>
Farmers in southern Bangladesh use low yielding seed varieties due to inadequate access to information on seed varieties.	<p>Assist reputed seed companies to introduce high yielding hybrids with embedded technical service.</p> <ul style="list-style-type: none"> Support seed dealers' training, yard meetings, demonstrations and field days to promote hybrids. Strengthen and establish a strong market network. Organize seed fairs. 	<p>Marketing systems for hybrid seed companies developed by individual companies.</p> <p>Seed dealers are aware of good seeds.</p> <p>Farmers get technical information and have access to good quality hybrid seeds.</p>	<p>Demonstration effects bring more farmers into adoption of new variety and technology.</p> <p>Increased Sales: \$60,000</p>	New hybrid varieties with improved attributes are available in the market and productivity is enhanced.
Poor knowledge in selection, use, and application of pesticides.	<p>Promote safe horticultural produce at the field.</p> <ul style="list-style-type: none"> Facilitate farmers' training 	1,000 trained farmers are aware of the benefits of using good practices, and IPM.	Trained horticulture farmers start using good practices, IPM techniques, and keep records,	Demonstration effect draws new farmers to good cultivation practices, IPM and record

Constraints	Interventions	Outputs	Outcomes	Impacts
	<p>to promote good practices, IPM, and biological post management.</p> <ul style="list-style-type: none"> Assist in organizing campaigns on the consumption of safe vegetables. Facilitate campaign on the safe use of pesticides and plant protection measures. Support training of work force on food quality and safety. 	<p>800 workers learn about proper handling operation and PHH.</p>	<p>reaping the benefits.</p> <p>Traceability in safe vegetable production system introduced.</p> <p>Increased Sales: \$400,000</p>	<p>keeping.</p> <p>Product quality improved.</p> <p>Farmers receive better prices.</p>
<p>Poor market access by small holders in remote places leads to poor income and produce losses.</p>	<p>Assist associations/enterprises in establishing market linkages for the distant farmers.</p> <ul style="list-style-type: none"> Assist in market linkage with wholesalers through market intermediaries/ group marketing and super shops. Continue support in market information dissemination. 	<p>Vegetable farmers in the remotest areas are linked with wholesalers on a regular basis making marketing easier and more efficient.</p> <p>Dyke farmers get better access to market prices and technical knowledge through the information centers.</p>	<p>Vegetables farmers in the south are getting actual market prices for their produce instead of the prices offered by middle men.</p> <p>Access to vital market information, such as the daily price of the regional market is easier.</p> <p>Increased Sales: \$200,000</p>	<p>Farmers get better prices and economic conditions improved.</p> <p>Farmers in distant isolated areas will receive information regarding product demand and price which will eventually lead to informed decisions on sales and production.</p>
<p>Inadequate access to finance to small holders frustrates further growth and investments.</p>	<p>Facilitate increased access to finance.</p> <ul style="list-style-type: none"> Assist involvement of microfinance Institutions to develop horticulture sector-specific crop based loan products. Organize workshops/ seminars with partner enterprises and financial institutions. 	<p>Four microfinance organizations develop horticultural crop based loan products.</p> <p>Financial institutions start offering loans to enterprises and farmers.</p>	<p>Increased numbers of men and women farmers have access to finance.</p> <p>Increased sales: \$250,000</p>	<p>Financing agencies are offering new products for horticultural farmers.</p>

II. Causal Model-Aquaculture (Fish)

Constraints	Interventions	Outputs	Outcomes	Impacts
Short supply of good quality seed leads to low farm yields.	<p>Increasing farmers' access to inbreed-free seeds.</p> <ul style="list-style-type: none"> Assist hatcheries on production of inbreed-free fish seeds. Assist linking fish-seed traders to hatcheries producing inbreed-free seeds. Promote perennial use of fry and fingerlings through overwintering for year round production. 	<p>Fish hatcheries have access to inbreed-free broods, better brood management.</p> <p>Fish farmers become aware of the benefits of using high quality grade seeds.</p>	<p>Supply of inbreed-free fries and fingerlings increased.</p> <p>Nursery owners procure quality spawn and nurse those to quality fingerlings.</p> <p>Productivity increased by 5-7 percent based on state of hatcheries.</p> <p>Increased sales: \$1 Million</p> <p>New jobs: 250</p>	<p>Production and revenue from sales enhanced resulting in new jobs and increased income for the hatcheries and nurseries.</p>
Inadequate access to quality inputs leads to sub-optimal productivity in fish farming.	<p>Facilitating better access to quality inputs and improved management information.</p> <ul style="list-style-type: none"> Assist training for input sellers and sensitization resulting in required embedded services and link with farming groups. Support association member training on joint procurement of feed and other inputs. Support improvement of farmers' backward linkages and facilitate group procurement of inputs for smallholders. 	<p>Farming groups collectively and cost-effectively procure quality feeds and other farming inputs.</p> <p>Farmers have access to primary farming information from dealers and traders.</p>	<p>Increased production, supply and use of high quality inputs.</p> <p>Group procurement creates access to quality inputs for micro and small enterprises in cost effective ways.</p> <p>Increased sales: \$1 Million</p> <p>New jobs: 100</p>	<p>Productivity increased by approximately 5 percent for the assisted farms resulting in enhanced revenue and increased income for the farmers.</p> <p>Farmers are aware of, and use high quality seeds resulting in production increases.</p>

<p>Inadequate improved farming knowledge and skills result in low yields.</p>	<p>Promoting Good Aquaculture Practices (GAqP).</p> <ul style="list-style-type: none"> • Support trainings and demonstrations on optimum stocking, high density farming and other productivity related issues. • Support trainings on post-harvest handlings, cool chain management and responsible transportation. • Arrange in-country study trips to lead farmers' associations and cooperatives in relatively better productive areas. 	<p>Approx. 5,000 traditional farmers are trained on GAqP and improved/ high density/ semi-intensive aqua farming techniques.</p> <p>Approx. 100 lead farmers observe better farming practices and acquired first-hand experience in country.</p>	<p>Farmers put knowledge into practice and productivity increases by 10-15 percent for the trained farmers of partner associations.</p> <p>Increased sales: \$3 Million</p> <p>New Jobs: 500</p> <p>Increased Investment: \$50,000</p>	<p>Incomes for farmers increased significantly (10-15 percent).</p>
<p>Lack of year round farming integration under diverse agro-ecological conditions lead to limited resource mobilization.</p>	<p>Promote integrated farming for year round crop production.</p> <ul style="list-style-type: none"> • Assist with training on integrated farming and symbiotic farming. • Support crop-rotational fish culture and horticultural crop farming on pond embankments. • Support training on efficient use of organic debris by embankment cropping. 	<p>Farming groups are trained on optimal use of seasonal water bodies and embankments for increased productivity year round.</p>	<p>Effective utilization of water bodies, embankments for diverse crop production year round.</p> <p>Increased Sales: \$500,000</p> <p>New Jobs: 200</p>	<p>Production increased by 10-15 percent, depending on existing facilities.</p> <p>Family-based diverse nutrition is available.</p>
<p>Lack of alternative aquaculture methods for under-utilized natural resources, especially in the climate vulnerable regions.</p>	<p>Promote fish farming in floating cages in open waters.</p> <ul style="list-style-type: none"> • Organize training for farmers and fisherman on floating cages based in rivers/ waterlogged/hoars areas. • Facilitate exposure visits for potential entrepreneurs to witness modern cage farming practicing areas. • Promote farming of air breathing species and mono-sex tilapia, especially in SW Bangladesh. 	<p>Farmers become aware of the economic potential of floating cage farming.</p> <p>Approx. 1,000 farmers will receive training on cage farming techniques.</p> <p>Farmers become aware of the potential of high value commercial species.</p>	<p>400-500 new cage farming units operating and producing premium grade products for local consumption and export.</p> <p>Two to four new culture species introduced.</p> <p>Increased Investment: \$150,000</p> <p>New Jobs: 300</p>	<p>Alternate aquaculture generates new jobs, draws new investments and creates new wealth.</p>

<p>Inadequate access to finance limits growth.</p>	<p>Support access to finance initiatives.</p> <ul style="list-style-type: none"> • Assist farmers/enterprises to prepare business plans. • Link farmers/enterprises with bank/micro-finance sources. • Assist microfinance organizations in customizing products for seasonal repayments. 	<p>Five to seven fish associations, cooperatives, or enterprises receive assistance in preparing business plans.</p> <p>Better links with banks and MFIs.</p> <p>Smallholders have access to seasonal modified micro finances.</p>	<p>Farmers get access to bank loans and other sources of finance.</p> <p>Increased Investment: \$200,000</p>	<p>Investment for farmers enhanced. Productivity and sales increased. New jobs are created. Farmer incomes increased.</p>
<p>Weak associations, poor member services, and ineffective bargaining power threaten sustainability.</p>	<p>Strengthen the institutional capacity of associations, cooperatives, and /farming groups.</p> <ul style="list-style-type: none"> • Help associations develop a basic information management or cooperative system. • Support associations in formulating and rendering the services efficiently, effectively and sustainably. • Assist small holder farmers in group marketing and sales forecasting. 	<p>Four to six associations or cooperatives receive institutional development support.</p> <p>Increased options and economies of scale enhance bargaining power.</p>	<p>Performance of the associations improves. Members of the associations receive required services cost effectively.</p> <p>Farmers received three to four percent better prices</p> <p>Increased Sales: \$200,000</p> <p>Increased Investment: \$100,000</p>	<p>Productivity and revenue from sales increased by five percent.</p> <p>Farmers invest additional income in their businesses.</p>

<p>Knowledge gap on hygienic dry fish production and marketing leads to wide-scale prevalence of poor quality, unhygienic and adulterated dry fish in the market.</p>	<p>Promote a market for hygienic dry fish.</p> <ul style="list-style-type: none"> • Support training for the members of partner associations on HACCP, food safety, packaging, storage techniques and group marketing. • Organize linkage workshops between association members and wholesalers and exporters. 	<p>200 smallholder dry fish traders are trained in hygienic dry fish productions, packaging and marketing.</p> <p>200 workers developed on handling and manufacturing of hygienic dry fish production.</p> <p>One linkage workshop held (linking association-based smallholders & wholesalers).</p>	<p>Dry fish producers are aware of the benefits of hygienic dry fish production.</p> <p>5-7 percent increased production of hygienic dry fish.</p> <p>Dry fish producers are better linked with the forward market.</p> <p>Increased Sales: \$ 1 million</p>	<p>Sales and export revenue increased by around ten percent.</p>
<p>Inadequate awareness of bio-security and HACCP compliance measures constrains sales.</p>	<p>Promote hygiene and standard bio-security in chain.</p> <ul style="list-style-type: none"> • Facilitate training on bio-security and HACCP for depots and processing plant workers and managers. • Create awareness through workshops/fairs/posters/leaflets/videos on using traceable inputs. • Encourage marketing of live fish. • Promote processed fish products export to ethnic markets abroad. 	<p>All actors associated with processing and handling of raw materials are aware of bio-security and HACCP.</p> <p>Farmers' awareness on using traceable inputs increased.</p> <p>Supply chain actors know about the detrimental effect of shoddy practices.</p>	<p>Suppliers, processing plants and exporters are more compliant on bio-security and HACCP measures.</p> <p>Increased Sales: \$500,000</p>	<p>Rejection rate reduced significantly.</p> <p>Exports enhanced.</p>

III. Causal Model-Leather Products

Constraints	Interventions	Outputs	Outcomes	Impacts
<p>Inadequate semi-skilled and skilled workforce - both workers and supervisors. Lack of a skilled workforce is causing limitations in production and sales for sector actors. This is also challenging for potential new investors thinking of setting up factories, thus losing opportunities for employment generation and investment.</p>	<p>Develop and enhance skills of workforce (workers and supervisors) by providing technical and managerial “On the Job” training in the footwear and leather goods sub-sectors.</p> <ul style="list-style-type: none"> • Support the sector to develop semi- skilled and skilled workers through COEL training. • Assist the sector in developing skilled floor supervisors and mid-level managers through COEL training. • Partner with the LFMEAB and its member organizations to train additional new workers in parallel with COEL program. • Help LTSE members to train their new recruits for expanded factories. 	<p>Approximately 3,000 workers and supervisors will be trained in footwear and goods manufacturing techniques.</p>	<p>Approximately 1,000 trained workers (including 30 supervisors) will acquire full time jobs in the footwear and goods sub-sectors.</p> <p>Additional production by 1,000 newly trained workers will increase sales by \$7 Million</p>	<p>Income generated for newly employed workforce.</p>
<p>Lack of competitiveness of SMEs. Inefficiency at all levels is a common phenomenon of SMEs. Limited access to business information and knowledge of sustainable business plans, lack of appropriate equipment and proper working environments, and poor practices in management and compliance, all contribute to lack of competitiveness.</p>	<p>Assist SMEs to realize their potential by providing technical assistance, facilitating new market linkages, and providing assistance in accessing market information and finance.</p> <ul style="list-style-type: none"> • Help SMEs to build linkages with lead enterprises and corporate business houses through workshops, buyer-seller meetings and other events. • Support SMEs in expanding linkages and sales through participation at trade fairs. • Facilitate skill enhancement program for Aarong’s sub-contractors. • Assist SMEs in learning better business practices by arranging visits to large industries. • Support LTSE group in establishing their own brand by working with branding and promotional experts. • Disseminate to SMEs information and lessons learned regarding improved and cost effective 	<ul style="list-style-type: none"> • Approximately 50 SMEs will take part in one linkage program • Four exposure visits • One trade fair • Two management skill enhancement programs • 2 “Improve Technology” training programs <p>100 trainees from LTSE group will receive training on occupational health and safety (OHS).</p>	<p>5 SMEs will build business linkages with other players.</p> <p>Increased Sales: \$75,000</p> <p>20 SMEs will implement better business practices.</p> <p>100 workers will be trained on OHS.</p>	<p>Better working environment will be created.</p> <p>Factory compliance with local laws will be improved.</p>

	<p>production.</p> <ul style="list-style-type: none"> Motivational and technical training programs for LTSE workers and supervisors. 			
<p>Lack of dedicated services and service providers (SP). Absence of services related to workforce skill development, project development, product development, and property testing of raw and finished materials, is forcing the sector to outsource, thus making the sector less competitive.</p>	<p>Strengthen capacity of existing service providers to improve their services by gaining assistance from related marketing experts and increasing cooperation between service providers.</p> <ul style="list-style-type: none"> Strengthen capacity of COEL by providing technical assistance in the area of TOT and product development. Facilitate linkages with BLSC and BCLET for joint collaboration in conducting materials testing. Assist LFMEAB to update their existing website and knowledge center to serve as an information hub to the sector. Facilitate linkages with LTSE and ILET for joint collaboration in conducting entrepreneurship development. 	<p>Two interactive meetings will be held between COEL and BLSC/BCLET.</p> <p>LFMEAB will have an updated website and knowledge center.</p> <p>ILET students will be better prepared to become entrepreneurs.</p>	<p>Institutional capacity of COEL will be strengthened.</p> <p>Relationship between COEL and BLSC will be improved.</p> <p>Interested sector players will use the knowledge center to stay up to date on market knowledge, production, and technology.</p> <p>LTSE group will be strengthened and can leverage their capacity.</p>	<p>Sector gets improved services from the new supply of skilled workers.</p> <p>Improved access to information.</p> <p>Sector will benefit from new entrepreneurs.</p>
<p>Presence of manmade defects in crust/finished leather. Due to a lack of awareness of proper flaying, preservation techniques and overall importance of the leather to the economy, significant damages occur on hides and skins during every Eid-al-Azha (Qurbani). This leads to poor quality of finished leather and wasted raw materials.</p>	<p>Reduce manmade defects of hides and skins by facilitating flaying campaigns prior to Qurbani (2013).</p> <ul style="list-style-type: none"> Assist the leather industry through a flaying awareness campaign in collaboration with LSBPC and BEGP. 	<p>One minute audio-visual documentary on flaying and preservation will be broadcast on various popular national TV channels.</p>	<p>Approximately 200,000 people will learn about proper flaying and preservation techniques.</p>	<p>Seasonal flayers will be educated on proper flaying and preservation methods.</p>

Horticulture

A. Overview

In Bangladesh, the overall production of major vegetables including potato was satisfactory during FY2012. Despite potato production which was about 6.5 percent less than the previous year, the national average yields increased, thanks to an increased supply of better seeds and good weather. Production of other major vegetables such as, eggplant, tomato, gourds, and onions were also good and prices were stable. Mango production was not as good as expected but high prices compensated farmers' income.

Exports of vegetables and fruits have been trending upwards in the past several years; according to Export Promotion Bureau (EPB) data, fruit and vegetables showed a tremendous growth of 51.70 percent and of 7.95 percent by earning \$57.16 million and \$77.43 million, respectively.

Although PRICE will continue to primarily work on potato, eggplant, and mango, a basket of other vegetables crops such as tomatoes, different kind of gourds and a number of vine crops will be included in the in the south and southwest.

PRICE will work to address the major constraints to growth in the sector, such as:

- Inadequate availability and poor access to good quality inputs, particularly seeds and fertilizer.
- Low soil organic matter content and poor soil.
- Traditional farming practices due to poor knowledge and skill of a very large number of poor small holders.
- Lack of high yielding and suitable processing varieties appropriate for further value addition.
- Unsafe application and high frequent use of chemicals due to lack of knowledge, absence of good agricultural practices, poor phyto-sanitary services.
- High post-harvest losses due to highly perishable nature of the crop, bad climate conditions, poor infrastructure, and farmer's inadequate knowledge.
- Weak supply chain and lack of market information.
- Limited or no land available for expansion of horticultural crop cultivation, mainly in the south, due to different ecological constraints.
- Limited access to credit and investments, and inadequate number of outgrowing schemes.

B. Strategic Focus

During FY2013, PRICE will place its major effort of strengthening the value chain of potato, eggplant and other suitable high value crops in the south and southwest. In particular PRICE interventions will focus in the Khulna and Jessore regions. Strengthening the value chains of the most suitable crops of the region is expected to have a positive impact on the livelihoods of many poor farmers of the region.

In more ecologically constrained areas, particularly in Khulna and Bagerhat, focus will be on dyke-based farming where relay and intercropping can be introduced with safe methods for producing year round vegetables. Support may be provided, where possible, incorporating fish and rice so that small farmers can harvest year-round by adopting a holistic rather than single component approach.

Through its interventions, PRICE and its partners will continue to provide technical support to farmers to increase productivity, minimize post-harvest losses, rationalize the use of chemicals, and adopt sustainable production techniques, through cooperation with non-governmental organizations (NGO), associations, enterprises, and companies, farmers will gain access to better inputs, finance, and markets. By doing so, not only will sales and income increase, but job creation and food security will also be improved.

PRICE will continue to work with farmer associations, enterprises and NGOs, reaching more than 30,000 horticultural farmers. Through its technical support, PRICE will facilitate the introduction and use of improved inputs, promote good agricultural practices to minimize post-harvest losses, rationalize the use of chemicals, and

focus on access to finance and markets. These activities will result in increased sales, jobs, investments, and food security.

C. Interventions

Potato

Support disease-free quality potato seed production from tissue cultured sources

Production of good quality and disease-free seed materials is the key to the success of the potato industry. Therefore, PRICE will support selected companies with technical expertise to promote the production of quality and disease free plantlets, tuberlets, breeder, and foundation seeds. PRICE will also continue its work with seed producing entities, new enterprises and farmers' associations to establish marketing linkages to ensure access to good quality seeds.

PRICE will focus on existing and potential potato growing areas of the south and establish linkages with good potato seed sources. PRICE will also support existing potato seed partners in Chudanga to increase the capacity of the company to produce breeder seeds from the pre-breeder seed and plantlets.

Facilitate enhancement of potato productivity and adopt appropriate post-harvest handling

Access to better seeds, application of modern technology and production techniques, adoption of better management practices, use of required inputs, favorable weather, and continued technical advice during the growing season are keys to success for potato production. In addition, harvesting and post-harvest handling needs to be improved to minimize losses, maximize longer storage times and improve marketable product so that farmers can get best price from their produces.

To address some of these issues, PRICE will facilitate trainings for about 10,000 potato farmers on integrated crop management including harvesting and post-harvest handling. Linkages will be established with input sellers and producers to get the best quality certified seeds, compost, and crop protection products in a timely fashion. Farmers will also be linked with financial institutions to obtain necessary credit.

PRICE also plans to facilitate trainings and field schools to teach how to grow crops by adopting integrated crop management method and also to identify pests and diseases and adopt prophylactic and control measures with rational and minimum uses of pesticides. Demonstrations will be established with processing types of potato.

PRICE will facilitate hands-on training for about 3000 workers, primarily women, who traditionally do the job of harvesting and onward post-harvest handling operations. Awareness will also be developed among the potato growers and seed enterprises on proper harvesting and post-harvest techniques so their products can meet the quality standards for local and export markets.

Eggplant

Support in increasing productivity by adopting appropriate crop management

PRICE will support eggplant farmers in the south to increase productivity by providing training and technical assistance on several key production aspects, particularly the proper use of good seeds of proven high yielding varieties, seedling raising techniques, fertilizer application in combination with use of compost, clean cultivation practices, irrigation management during winter and improvement of drainage during high rainfall. About 2,000 new farmers in the south along with existing farmers will be trained on productivity enhancement. The increased use of various types of compost including tricho-compost and tricho-extract in eggplants will be promoted including inter-cropping and crop rotations. The repeat planting of eggplants on the same land will be discouraged.

Facilitate biological control measures integrated with other crop management practices

Solarization of seed beds, use of tricho-derma and other means of soil treatments of seed beds will be practiced to yield better seedlings for transplantations in order to minimize diseases. Regular vigilance and hand removal of infested plant shoots will be popularized. Pheromone traps will be promoted to control fruit and shoot borer.

PRICE will also build farmers' awareness and adoption of clean production management, growth of natural predators by limiting the use of toxic pesticides in favor of bio-pesticides, and promote integrated pest management practices. This will be done through demonstrations and a farmer's field school (FFS).

Eggplant farmers often grow crops in the same field year after year which makes the soil nutrient deficient. Improper replenishment with imbalanced fertilizer makes the land unsuitable for sustainable good yield. Regular soil health checks are one aspect of better fertilizer management. Through testing institutes, PRICE will facilitate testing the soil of 3,000 eggplant farmers where eggplant is cultivated regularly and provide soil cards to the farmers with appropriate fertilizer recommendations for eggplant.

High Value Vegetables

Support to farmers growing a basket of high value horticultural crops

In line with the Feed the Future (FTF) program, PRICE has shifted its focus to south and southwest during the remaining period and will promote a basket of high value vegetables like tomato, cool crops, beans, cucumber, gourds, onion and turmeric, potato, and eggplant. PRICE interventions will address improved productivity, pest management, soil nutrition management, access to quality seeds and inputs, post-harvest handling, and marketing. PRICE will work with new associations and NGOs, as well as older partners, to reach 10,000 new farmers with assistance addressing constraints of production, and better access to inputs credit and markets.

Mango

Assist in increasing productivity of mango

To improve regular production of mango, PRICE will assist 2,000 new mango farmers in the south while continuing to support existing farmers in the south and north by providing training on orchard floor management, irrigation schedule and techniques, and fertilizer management. Technical guidance will be followed from blooming to fruit setting so that farmers can get support during critical periods of fruiting. Flip charts, flyers with important notes will be given to farmers to follow the guidance.

Support proper harvesting and post-harvest handling

At times, unscrupulous middlemen buyers lure small farmers into early harvesting of mango. Due to this, mango often cannot develop properly, doesn't accumulate proper micronutrients, vitamins and other essential phytochemicals useful for human beings. Instead, these mangoes end up with carbide treatment for artificial ripening. To address this, PRICE will work with three enterprises to organize 2,000 mango farmers in the south so that mangoes are harvested after attaining full maturity. Farmers and traders will be made aware of the harmful after-effect of early harvesting and the use of toxic chemicals through meetings, seminars, and campaigns.

Proper harvesting and post-harvest techniques will also be addressed through training for farmers and 500 workers on proper cleaning, treatments for rotting, sorting, grading, and packing in plastic crates. PRICE will also attempt to organize a mango fair with chemical-free mango of different varieties.

Cross-cutting

Promote access to best quality vegetable seeds of high value crops

Unfortunately, access to good quality varieties and hybrids, as well as high yielding open pollinated vegetable seeds, still remain a major stumbling block to improving the horticulture sector. PRICE will continue to work

with Lalteer Seed Company, Padma Seed Company and others in the south and southwest region so that seed dealers are trained and farmers are informed about good varieties.

One way of informing farmers on good varieties is through organizing yard meetings followed by demonstrations. Therefore, farmers are able to know about new high yielding varieties and see the results in the demonstration plots by attending field days to assess the quality, and receive hands on training so that good quality seeds reach thousands of farmers and farmers are able to grow new high yielding crops. Through the dealers these seed companies and enterprises will provide embedded services to the farmer's communities about the technical aspect of the varieties and ensure access to good quality seeds. PRICE will organize seed fairs to bring farmers, enterprises and seed companies together under the same umbrella to facilitate mutual understanding about the other's needs, preferences, and products.

Promote dyke-based horticulture farming in geographically constrained areas in the south

Regions of the south, Khulna and Bagerhat in particular, have limited suitable land for year round horticultural crop cultivation other than dykes. These dykes are built for several purposes. They demarcate ownership of land, cultivate fish, rice, hold rainwater, and stop infiltration of saline water. Through its previous interventions, PRICE demonstrated that dykes could be utilized efficiently to grow year round vegetables profitably along with fish and rice. PRICE will continue to work with its existing two partners and involve two new partners in dyke farming to scale up its activity in the area by involving more than 5000 farmers. Training, technical support, access to quality inputs and marketing would be supported through the partners to ensure better economic return and nutrition to the family.

Encourage use, production and marketing of organic fertilizer

PRICE will continue to support existing enterprises to increase their efficiency in producing vermi- and tricho-composts and train farmers on use, doses, and application methods for different high value crops. Opportunities will be explored to work with additional enterprises and individual cattle-holding smallholders of the south to utilize cow dung to prepare compost. Support will be provided for marketing the products of the companies so that farmers can easily get access to the compost and grow their crops with better attributes and at the same time, lower the costs of production.

Support access to finance

Access to finance is crucial for farmers who need timely funds to buy inputs and employ labor for field-based work. Business enterprises also need credit from the formal banking system. Through workshops and meetings, PRICE will work with its partner enterprises (who have captive finance facilities) and reputed micro-finance organizations to design farmer friendly products in line with the seasonality of particular crops.

D. Close-Out and Sustainability

In preparation for close-out, PRICE's horticulture sector will hold several closing workshops and roundtable meetings so that partners and stakeholders can share their results, lessons learned, and outline a way forward. All technical, promotional and extension materials will be distributed to the partners and stakeholders.

PRICE has teamed up with a variety of companies and associations through its horticulture work such as Konica Seed Company, Lalteer Seed Company, Padma Seed Company, GKSSE, Riya Fertilizers. Some of the associations PRICE works with are Kansat Mango Farmers Associations and Seed Potato Farmers Association. PRICE also collaborates with agro-enterprises like PRIDE Agro Enterprise, EFADF Agro Enterprise and several microfinance NGOs. Each of these entities has business interests which will encourage them to continue the activities initiated under PRICE when the project is over.

For example, it is expected that seed and input companies will continue their outreach to farmers through their dealer networks. For technology upgrades, some have already been linked with research organizations like BARI

and other with universities and public institutions like RDA-Bogra. The institutions will continue to extend services when associations or companies require new technology. These institutions are natural partners in dissemination of technology and will serve as a vehicle for technology transfer.

The potato seed sector received major support from PRICE, especially in strengthening the tissue culture laboratories and developing a well-trained lab and field workforce associated with potato seed production. Labs were linked with seed producers and all the partners were formally linked with RDA Biotechnology Laboratory which will continue to work in unison with the Seed Certification Agency. This linkage should make seed certification easier for PRICE's seed partners.

Seed companies and compost making enterprises will continue to provide service to farmers and farmers now have options to choose from a number of PRICE-supported enterprises to whom they are now linked. Contract farming NGO-linked enterprises will be benefitted in three ways/ First, through linkages with input supply companies, secondly, as providers of microfinance, and thirdly, through bulk marketing of farmers' produce.

Organizational strengthening support made most of the PRICE partners stronger in terms of good accounting systems, better management, and large databases of farmers and information of individual technical service providers.

Farmers have largely benefitted from linkages with soil resource institutes for soil testing at a nominal price. Previously, farmers did not have information on the best seed varieties and where they could be purchased. Many DAE field-based extension agents and research scientists are now well connected with farmers since many of them worked as resource persons in different trainings. Most of the farmers use cell phones and are able to contact resource persons and consultants when faced with difficult problems and they now have direct access to wholesalers in Dhaka and other larger markets through which they can get accurate market information and can conduct better negotiations. Farmers now calculate their cost of production and have disseminated this information within their communities.

Gantt Chart for Horticulture Activities, FY2013

Horticulture Activities	Q1	Q2	Q3	Q4	Q5	Partners	Locations
1. Potato							
1.1. Facilitate increased supply of high quality clean seeds							
1.1.1. Assist to improve the capacity of six seed potato producing enterprises for the production of clean seeds of different generations of modern varieties.						Konica, PRIDE Ferdouse-Biotech, TFRD, SPGSCL, Sajib, Konica, Bluemoon	Jessore-Khulna, Bogra-Nilphamari
1.1.2. Facilitate technical support in strengthening operation of five tissue culture labs.						RDA, Ferdouse-Biotech, TFRD, SPGSCL	Bogra, Rajshahi, Nilphamari
1.1.3. Assist to train lab technicians, field technicians, seed farmers in production of pre-breeder, breeder, foundation and certified seeds.						Ferdouse-Biotech, TFRD, SPGSCL, Sajib, Unique, Konica, Bluemoon	Bogra, Rajshahi, Nilphamari
1.1.4. Provide technical assistance at the field level production of seeds.						RDA, Ferdouse-Biotech, TFRD, SPGSCL	Bogra, Rajshahi, Nilphamari
1.1.5. Support hands-on training to 500 workers on planting, harvest and post-harvest handling of seed potato.						TFRD, SPGCSL, Unique, Sajib	Chudanga, Jessore, Bogra, Rajshahi, Nilphamari
1.2. Promote farmers' associations and contract farming systems							
1.2.1. Assist entrepreneurs to train staff and farmers on contract farming systems and also improved farming practices.						PRIDE, PJKAE, Dipti, Ferdouse-Biotech, TFRD, SPGSCL, Sajib, Unique	Jessore, Bogra
1.2.2. Support six partners to reach 500 seed potato farmers and 2700 table potato farmers through contract farming.						Konica, Pride, Jogoroni, RRF, Dipti, PJKAE, Murail, RRF, etc.	Jessore-Khulna region, Bogra-Nilphamari
1.2.3. Facilitate farmers exchange visits from the south to highly organized potato cultivation areas in other parts of the country.						PRIDE, RRF, etc. to RDA, TFRD	Jessore-Khulna region, to Bogra-Nilphamari
1.3. Assist in adoption of modern potato farming practices							
1.3.1. Support trainings on improved potato growing technology for 6,000 farmers.						SUFOCS, Dipti, Pride, Jagoroni, GUKED	Jessore, Khulna, Bogra
1.3.2. Provide farm level technical support for integrated crop management with an emphasis on pest and disease management.						Konica, Pride, Jogoroni, RRF, Dipti, PJKAE, SDC,	Jessore, Khulna, Bogra

					SUFCOS	
1.3.3. Support collecting soil samples and gain information of local soils to encourage balanced doses of fertilizer with composts and bio-fertilizers.					PRIDE, PJKAE, etc.	Jessore
1.3.4. Technical support on water management to farmers.					Konica, Pride, Jagoroni, RRF, Dipti, PJKAE, Murail, etc.	Chuadnga, Jessore
1.4. Sponsor skill enhancement training on standard harvest and post-harvest						
1.4.1. Facilitate trainings for farmers and the workforce on proper harvesting and post-harvest techniques and value addition practices such as haulm killing, curing, cleaning, sorting, grading and packing.					Konica, Pride, Jagoroni, RRF, Dipti, PJKAE, SUFOCS, Murail, etc.	Jessore-Khulna region, Bogra-Nilphamari
1.4.2. Support establishing links between potato producer groups and processors.					Bluemoon, Bombay	Faridpur, Rangpur, Dhaka
2. Eggplant						
2.1. Capacity building of eggplant farmers						
2.1.1. Facilitate training for 5,500 eggplant farmers on production technology.					Jagoroni, Shushilon, PJKE, PRIDE Agro Enterprise, SDC, Polly Prokriti, Dipti, etc.	Jessore, Magura, Fardipur
2.1.2. Assist with provision of hands-on training on clean cultivation practices, crop rotation, adoption of irrigation, drainage management and other cultural practices.					Jagoroni, PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokriti, Dipti, etc.	Jessore, Faridpur
2.1.3. Provide technical assistance to the farmers during the production period and assist in organizing farmer's field schools during critical growth periods.					Jagoroni, PJKE, PRIDE Agro Enterprise KBK, SDC, Polly Prokriti, Dipti, etc.	Jessore, Fardipdpur, Magura, Khulna
2.2. Promote access to good seeds and planting materials of local and high-yielding varieties						
2.2.1. Link PRICE-assisted farmers with reputable dealers and seed companies to promote hybrid and high yielding varieties.					Dipti, Jagoroni, PJKE, Renaissance PRIDE Agro Enterprise KBK, SDC, Polly Prokriti	Jessore, Khulna, Magura, Bagerhat

2.2.2. Help establish demonstrations to improve seedling raising technology.					Polly Prokrity, PJKAE, PRIDE agro Enterprise etc.	Jessore, Magura, Faridpur
2.2.3. Support training for farmers on preparation seed beds and seedling raising technology.					SDC, Polly Prokrity, PJKAE, PRIDE agro Enterprise etc.	Jessore, Magura, Faridpur
2.3. Promote integrated pest and crop management for eggplant farmers						
2.3.1. Assist eggplant farmers to identify major pests and help to adopt rational control measures with IPM technology.					Jagoroni, Shushilon, PJKE, PRIDE Agro Enterprise, SDC, Polly Prokrity, Dipti, etc.	Jessore, Magura, Faridpur, Khulna
2.3.2. Support organizing field schools to identify pest attacks and adopt appropriate measures based on economic threshold levels.					Jagoroni, PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokrity, Dipti, etc.	Jessore, Magura, Faridpur, Khulna
2.3.3. Facilitate links with bio-control agents, particularly pheromone trap suppliers targeting safe eggplant production.					Shushilon, SMKK, Jagoroni, PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokrity, Dipti, etc.	Pirojpur, Jessore, Magura, Faridpur, Khulna
2.4. Assist getting soils analyzed, encourage optimal use of chemical fertilizer and incorporate compost						
2.4.1. Provide technical assistance for 2,500 farmers to collect soil samples from their eggplant fields and have them analyzed.					PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokrity, Dipti, etc.	Pirojpur, Jessore, Magura, Faridpur, Khulna
2.4.2. Train farmers to use a balance of fertilizers and compost.					Shushilon, SMKK, Jagoroni, PJKE, PRIDE Agro Enterprise, KB, SDC, Polly Prokrity, Dipti, etc.	Pirojpur, Jessore, Magura, Faridpur, Khulna
2.4.3. Assist associations and enterprises to establish links with good sources of commercial sellers of fertilizers and composts.					PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokrity, Dipti, etc.	Mehepur, Pirojpur, Jessore, Magura, Faridpur, Khulna

2.4.4. Create awareness through yard meetings to prepare composts at the household level using eggplant field.					Renaissance, EFADF SDC, SMKK	Bagerhat , Mehepur, Pirojpur, Jessore, Magura, Faridpur, Khulna
2.5. Create awareness and promote a market for safe eggplant						
2.5.1. Promote an awareness development campaign on production and consumption of safe eggplant for eggplant growers, sellers, and consumers.					Jagoroni, PJKE, PRIDE Agro Enterprise, KBK, SDC, Polly Prokriti,EFADF Dipti, etc.	Bagerhat, Khulna, Pirojpur, Mehepur, Jessore, Magura, Faridpur, Khulna
2.5.2. Support associations, entrepreneurs, and farmer groups on marketing safe eggplant via traders, local wholesalers, super-shops and buyers through information dissemination and meetings.					Jagoroni, PJKE, PRIDE Agro Enterprise, KBK, SMKK, EFADF SDC, Polly Prokriti, Dipti, etc.	Bagerhat, Khulna, Pirojpur, Mehepur, Jessore, Magura, Faridpur, Khulna
3. High Value Vegetables						
3.1. Promote a basket of high value crop production in the south and southwest						
3.1.1. Facilitate trainings for 3,000 farmers on increasing productivity in tomato, summer tomato, cabbage, cauliflower, beans, cucumbers, gourds, chili, and onion.					RRF, Jagoroni, Polly Prokrity, PRIDE	Khulna-Jessore
3.1.2. Support organizations to train 4,000 farmers on production technology, crop protection, post-production and marketing of mainly vine and other suitable crops in the dykes.					EFADF, Renaissance, SMKK, etc.	Khulna, Bagerhat
3.1.3. Assist to organize 100 demonstrations on new crop varieties and utilizing technology.					PRIDE, Padma, PJKAE, Renaissance, SDC, Polly Prokrity, Biotech	Jessore, Bagerhat Fardipur, Magura
3.1.4. Support vegetable farmers' exposure to new vegetable varieties, compost use and IPM through community meetings, field days, fairs, exchange visits, demonstrations, and technical support.					EFADF, RRF, Jagoroni, Polly Prokrity, PRIDE, DIPTI, SDC	Jessore, Bagerhat Fardipur, Magura
4. Mango						
4.1 .Support enhancement of farmers' knowledge/skill in mango orchard management						
4.1.1. Support training for 4,500 mango farmers on orchard floor management including pruning, fertilization and irrigation.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira

4.1.2. Assist in providing training to farmers, seasonal lessees, and workforce on proper crop protection measures to minimize spray schedule.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira
4.1.3. Provide technical support to mango farmers during production and harvesting season.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira
4.2. Assist in responsible harvest and post-harvest handling for mango farmers and traders						
4.2.1. Train farmers on proper mango harvesting methods, including staggered harvesting based on maturity index.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira
4.2.2. Facilitate demonstration of proper treatment techniques, including cleaning, drying, grading and packing for farmers and traders for increasing the shelf life of different varieties of mango.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira
4.2.3. Promote the use of standard crates for better transportation and train the workforce on proper packing.					Adorsho, Chesta, KMFCSL, Bonolota, Uttaran	Chuadanga, Nwabganj, Satkhira
4.3. Support to undertake awareness campaign through appropriate audio/visual media on harmful effect of toxic ripening agents						
4.3.1. Create awareness through mass media by displaying video documents on proper post-harvest handling.					KMFCSL, Adorsho	Chudanga, Chapai
4.3.2. Assist associations to market carbide-free, properly ripened mango by helping them open outlets in important locations.					Chesta, Adorsho, KMFCSL	Chudanga, Chapai
5. Cross Cutting issues						
5.1 Compost						
5.1.1. Facilitate training for 2,500 farmers facing difficulties in getting good yield and input traders on the importance/benefits of environment friendly composts particularly tricho-vermi and other bio-fertilizer.					GKSSE, Riya, Biotech	Bogra, Sirajganj, Chudanga
5.1.2. Support to establish demonstrations and field days on use and effects of compost and bio-fertilizer.					GKSSE, Riya, Biotech	Bogra, Sirajganj, Chudanga
5.1.3. Continue assisting bio-fertilizer and composting companies to improve their technical efficiency in producing good quality produce.					GKSSE, Riya, Biotech	Bogra, Sirajganj, Chudanga

5.1.4. Provide technical assistance to produce and utilize farm-based compost by crop producers.					GKSSE, Riya, Biotech	Bogra, Sirajganj, Chudanga
5.1.5. Support technical training for DAE field staff.					GKSSE, Riya, Biotech	Bogra, Sirajganj, Chudanga
5.1.6. Stage folk drama, other promotional activities on use and importance of compost.					Riya	Sirajganj
5.2 Seeds						
5.2.1. Facilitate technical training to seed growing contract farmers through seed producing enterprises.					Padma, Konica	Jhenaidha, Jessore
5.2.2. Support in ensuring seed quality during production, post-production and processing through technical support.					Padma, Konica	Jhenaidha, Jessore
5.2.3. Assist in introduction of new OP/hybrid varieties through demonstrations and field days.					Padma	Jhenaidaha
5.2.4. Support seed dealers' training, farmer's yard and technical meetings, demonstrations and field days to promote hybrids.					Padma, Konica, Lalteer, etc.	Chuadnga, Jessore
5.2.5. Strengthen and establish through technical assistance a strong market network for new seeds.					Padma, Konica	Chudanga, Jessore
5.2.6. Support to organize seed fairs to bring the seed producers, traders, and farmers to establish effective linkages.					Seed partners and others	Jessore/ Khulna
5.3 Market linkage						
5.3.1. Assist in establishing market linkages for remote farmers with wholesalers through market intermediaries, group marketing and with super shops.					Renaissance, EFADF, SDC, SMKK	Bagerhat, Pirojpur, Khulna,
5.3.2. Continue supporting market information dissemination.					EFADF, Renaissance	Bagerhat, Khulna, Barisal, etc.
5.3.3. Assist new enterprises and associations to establish marketing networks to develop marketing strategies for their produce.					Konica, Padma Seeds	Jessore, Barisal, Khulna region
5.4 Access to Credit						
5.4.1. Facilitate access to seasonal crop-based credit for 2,500 farmers.					Renaissance, GUKED, SDC, RRF, JAI, KBK	Jessore, Bagerhat, Niphamari

5.4.2. Organize workshops and seminars with partner enterprises and financial institutions.					All partners	Jessore, Khulna, Bogra
5.5 Capacity building						
5.5.1. Develop, publish and distribute technical materials, fact sheets and flyers.					Existing partners	Jessore, Khulna, Bagerhat, Pirojpur etc.
5.5.2. Share experiences through results and lesson learning workshop round tables, and seminars, etc.					Existing partners	Jessore, Khulna, etc.
5.5.3. Strengthen management and technical capacity of the associations and cooperatives through technical training and support.					Existing partners	Jessore, Khulna, Bogra
<p>ACRONYMS: Rural Development Academy (RDA), Technology for Rural Development (TFRD), Seed Potato Growers Cooperative Society Limited (SPGCSL), Rural Reconstruction Foundation (RRF), Proshikhito Jubo Kallyan Enterprise (PJKE), Dipti Agro Enterprise, PRIDE Agro Enterprise, Environment Friendly Agricultural Development Foundation (EFADF), Gram Unnayan Karma Enterprise Development (GUKED), Grameen Krishok Shahyak Sangstha Enterprise (GKSSE), Society Development Committee (SDC), Jagoroni Agro Enterprise (JAI), Krishok Bandhu Karmashuchi (KBK), Shibganj Upazila Farmers' Cooperative Society Limited (SUFCSL).</p>						

Aquaculture

A. Overview

Bangladesh is the third largest freshwater fish producer in the world, behind China and India, with nearly five million hectares of fresh and brackish water resources. The progress of aquaculture throughout Bangladesh is not homogenous; northern regions such as Mymensingh, Comilla and Bogra have developed high-yield fish farming, while the southwest of the country mostly follows traditional methods of fish and shrimp farming.

The fish market in Bangladesh has an approximate volume of 2.8 million mt/yr, and is conservatively valued at \$3 billion, with around \$100 million in exports. There are about 30 aquatic farmed species; the market is expanding both for low cost and high value species. Fish and crustaceans from natural sources and farming combined provide more than 60 percent of the animal protein consumed in the country, earned approximately US\$ 600 million foreign currency in FY2012, and created employment for more than 11 million people in rural and coastal areas. The subsector benefits from a strong and ever increasing local market, a large consumer group and the prospect of high sales, employment generation, and investment.

Traditionally, the northern part of Bangladesh has flourished in fish farming and relatively high yielding farms are located in the north and low yielding farms are situated in southern parts of the country. This year, PRICE will focus on the southwestern parts of the country to help those farms produce at rates on par with northern areas, coping with diverse climatic conditions.

The key constraints to growth in the fish subsector are:

- Farmers' inadequate access to quality seeds, which leads to sub-optimal productivity.
- Lack of information about quality seeds, feeds and other inputs which leads to low productivity.
- Inadequate knowledge of improved, productive, and innovative farming, which results in low yields and sub-utilization of potential physical resources.
- Absence of farming integration under diverse climatic conditions for varied and symbiotic crops, which leads to sub-optimal farm yield year round.
- Poor acceptance of unconventional or alternative aquaculture, which results in lost opportunities to produce and market high value fish species.
- High post-harvest loss of produce during transportation, storing, and marketing.
- Poor packaging, storage, and non-traceable dry fish marketing.
- Few value-added products lead to bulk exports and less export income.
- Inadequate access to domestic and export markets.
- Weak associations and poor member services threaten sustainability of fish farming organizations.
- Inadequate access to finance and institutional credit.

B. Strategic Focus

The project will strengthen linkages starting from the market and working backwards to producers while targeting post-production activities to generate added value. PRICE will also work to ensure that producers have stronger market information so they can adjust their production cycles and product range. PRICE will directly target the key commercial species of local and exotic carp, pangas (Mekong river catfish), tilapia, and some air breathing fish (stinging catfish, climbing perch, and snakehead fish) in the FTF locations. Some of these fish types could be raised cost-effectively to fulfill the animal protein demands in the SW as well as in poor urban areas. There are options to work across the aquaculture supply and value chain, ranging from foundation work with hatcheries, commercial producers, feed millers, and processors, while strengthening cold chains, marketing, quality assurance, and information technology solutions.

In this period, major resources will be allocated to the southwest region of the country where productivity is relatively low and there is a lack of modern fish farming techniques. PRICE will also continue follow up activities in Mymensingh, Bogra and Cox's Bazar to ensure sustainability and growth of our previous activities. To attain better outputs and good aquaculture practices for an appreciable mass of fish farmers, PRICE will continue to work through organized farming groups and community farmers, planning to reach more than 8,500 additional fish farmers by the end of December 2013. PRICE will work with technical consultants who will provide customized services to farming associations. This method will allow PRICE to reach a large number of micro-, small, and medium to large scale commercial fish farmers, many of which are women.

The project will pursue sustainable and increased farm productivity in the north and southwest by following sustainable and environmentally friendly integrated aquaculture practices that contribute to food security, strengthen organizations for sustainable production, and facilitate climate change adaptation through a variety of mechanisms including:

- Educating farmers on improved farming techniques with quality grade inputs.
- Assisting the transformation of seasonal farming to perennial under changing climatic conditions.
- Adaptation of innovate aquaculture, such as floating cage farming, to adapt to rising sea levels and inundation of low lying areas.
- Providing embedded services to farmers through fish seed traders, feed marketing agents, and micro-input sellers.
- Promoting access to high-quality inputs through group procurement and linkages.
- Strengthening organizations to increase the sustainability of the associations and groups.
- Partnerships with local NGOs interested in financing household-based aquaculture through short, medium, and seasonal micro-financing.

PRICE's current subcontract with the World Fish Center (WFC) ends in December 2012, and as the new FTF WFC initiative will focus on fish seed and hatcheries as well as shrimp across the value chain, PRICE will coordinate with WFC and other donor projects, to avoid duplication.

C. Interventions

Increasing farmers' access to quality seeds

PRICE will expand assistance to partners to establish cross-linkages among hatcheries, commercial nurseries, and fish seed traders for easy access of inbreed-free quality grade seeds to farmers. PRICE will also increase the capacity of hatcheries to raise inbreed-free resources to brood levels at in-house brood bank facilities on hatchery premises. PRICE will continue to assist individual farms that are opting for more intensive farming methods, and feed mills that are willing to produce commercial feed with traceable inputs.

PRICE's partner organizations will receive assistance in group procurement of better quality grade inputs, seeds, feed, lime, fertilizers, micro-nutrients, allowed antibiotics and probiotics, medicine, and water purifiers. This assistance will help increase production while simultaneously improving the quality of the produce. The project will continue to assist input sellers and feed millers to provide feed, and other inputs to farmers with embedded services.

Promoting improved productivity and good aquaculture practices (GAqP)

PRICE will train 8,500 fish farmers and workers on improved/high density and semi-intensive fish farming techniques. This will build capacity and increase yields, resulting in higher investment and employment creation. These interventions will expand the average yield from four-five mt per ha to seven-eight mt per ha by the end of 2013. PRICE will arrange in-country exposure trips for association based farmers with low production levels to high production farms where they can observe how the more productive, similar sized productive farms are working.

Promoting responsible harvest and post-harvest handling

Farmers, depots and traders need to be educated on responsible harvest so that they can conduct responsible post-harvest handling to deter quick spoilage of high perishable items and ensure high prices. PRICE will provide hands-on training to farmers and fish handlers on live fish marketing, fish icing and cool chain management and responsible transportation for keeping safe products through retail marketing.

Promoting innovative integrated farming in the southwest

PRICE will facilitate farming integration among members of farming associations and groups to produce multiple crops seasonally and more than one crop by successive crops or crop-rotation while reducing prevalent disease risks. As fish ponds are confined by embankments, the banks of the ponds will be used to produce vegetables and short-duration fruit for family consumption and income generation.

Popularizing fish farming in floating cages in open waters

Fish culture in floating cages can be useful in coping with adverse environmental situations like rises in sea levels and the inundation of low-lying areas. As the coastal lowlands are frequently fraught with the threat of cyclones, floating fish cages can be salvaged by quick harvests. PRICE has evaluated prospects of promoting cage farming in the southwest and plans to train farmers on sustainable and diverse cage farming and management who have initiated floating cage-based farms of fast growing fresh water species.

Increasing farmers' access to finances

Small scale fish farmers often lack resources suitable for collateral to pursue to bank loans, and the weekly repayment model of micro-credit loans is not suitable for fish farmers as fish do not grow quickly enough to be sold within a couple of weeks. To overcome farmers' cash flow problems, PRICE modeled a new harvest-based repayment schedule which was accepted by several NGOs offering microfinance and will be expanded to new farmers. Prospective entrepreneurs will be trained on bankable business plans and linked to these NGOs through workshops and meetings.

Strengthening the institutional capacity of the associations and cooperatives

PRICE will work with associations and cooperative partners to help them identify core services required by members and develop a basic information management system that will formulate mechanisms to render effective and sustainable services. The leading members will be trained on group procurement of quality inputs and group sales, so that they will be in a position to apply better bargaining power. Associations will also be trained and encouraged to maintain documentation that shows the cost-benefit analysis of their work.

Promoting a market for hygienic dry fish

Hygienic manufacturing of dry fish will be promoted through trainings to entrepreneurs and their representatives and workforce. PRICE will work with the dry fish manufacturing association to help them procure raw materials in groups, transport materials in a responsible manner, and to produce hygienic dry fish and safe packaging.

Promoting hygiene and standard bio-security in the product chain and value addition

PRICE will work closely with the processors and suppliers of depots to reduce post-harvest losses by improving product handling and cold chain management. PRICE and partner processors will jointly educate suppliers on hazard analysis and critical control points (HACCP), bio-security measures and product traceability, and will work to add product value instead of only block freezing. Concurrently, PRICE will work with them to explore possibilities for non-traditional fish items such as fish scale, dried air bladder, and dried catfish fat.

Studies on aquaculture, environment and gender integration

PRICE will facilitate a study to determine household consumption tendencies and assess the potential for household pond-raised fish and integrated farming to increase family nutrition. To address concerns about the

environmental effects, gender equity, major fish diseases, the impacts of tilapia mono-sexing process, the survival rate of fish seeds, and the participation of woman in household aquaculture studies will be carried out.

Printing and distribution of aquaculture extension material

PRICE is preparing a number of resource materials that are broad-based and can be used by multiple organizations interested in the development of aquaculture in Bangladesh. PRICE will make all the documents accessible to the general public. PRICE is negotiating with public universities to jointly publish these materials with the goal of making them sustainable after PRICE ends.

Result dissemination, lessons learned workshops, and PRICE beneficiary list

At the end of the project, achievements gained and lessons learned together with future suggestions will be disseminated through a series of workshops in Dhaka and in the regions so that work initiated by PRICE will not be lost. The PRICE partner and beneficiary list will be made available to help future development projects avoid duplication and overlapping.

D. Close-out and Sustainability

PRICE's aquaculture activities have mainly involved organized groups and enterprises, and the capacity building of these enterprises is critical for sustainability. It is expected that the information, knowledge and skill acquired by the value chain actors through hands-on training will be useful throughout their business lives and will be further refined through experience. The project has initiated in-country study trips and built strong linkages among associations and groups that will be maintained by the interested groups after the project phases out. Capacity of the input sellers and traders associations have been developed so they will be able to provide embedded services to throughout the value chain. Since all of these companies, associations, and enterprises have a business incentive to ensure successful production, it is expected that they will continue the activities even after the project has ended.

Microfinance institutions and banks have been linked with the individual farmers through associations, who serve as guarantors. These efforts will ensure that farmers continue to have access to credit which in turn will help them obtain technology or inputs. PRICE also recognizes that strong organizational support is required to increase outreach. During the remaining joint activities between PRICE and its partners, activities for organizational strengthening will be completed.

PRICE aquaculture has documented the entire list of beneficiaries in the value chain and will continue to do so through the end of project. This will serve as a reference for the future. The list of PRICE beneficiaries will ultimately prevent duplication of efforts and will ensure the best use of scarce resources.

Gantt Chart for Aquaculture Activities, FY2013

Aquaculture Activities	Q1	Q2	Q3	Q4	Q5	Partners	Locations
1. Increasing Farmers Access to Inbreed-free Seeds							
1.1. Assist hatcheries in quality brood sourcing and management for production of inbreed-free fish seeds.						Beneficiary farmers of hatcheries and farming associations, new partners	Activities in the southwest, some follow-up in existing locations
1.2. Link seed traders and farming groups to nursing groups.						Same as above	Same as above
1.3. Training and linking farming groups with over-wintering nursing groups.						Same as above	Same as above
2. Farmers Access to Quality Inputs and Embedded Services							
2.1. Train fish seed traders and inputs sellers.						Beneficiary farmers, seed traders, and traders	Same as above
2.2. Conduct group organizations and train association members on group procurement.						Same as above	Same as above
2.3. Ensure quality inputs through trainings on hormone & fish medicine, probiotic and micro-nutrients with input sellers.						Same as above	Same as above
3. Productivity GAP Training for Farming Groups							
3.1. Train farmers on improved farming practices.						Beneficiary farmers, seed traders, and traders	Same as above
3.2. Arrange in-country study trips for the most productive and leading farmers.						Same as above	Same as above
3.3. Assist pond demonstration for farming and nursing groups.						Same as above	Same as above
4. Training on Harvest and Post-Harvest Handling							
4.1. Train farmers on depuration/raceway treatment/live fish marketing.						Beneficiary farmers, seed traders, and traders	Same as above
4.2. Train farmers on responsible harvest and post-harvest handling and marketing of live fish.						Same as above	Same as above
4.3. Train farmers on cleaning, sorting, icing and transportation.						Same as above	Same as above
5. Promotion of Innovative Integrated Farming in SW							
5.1. Introduce integrated and symbiotic farming in the southwest.						Same as above	Same as above
5.2. Train on crop rotational to disease risk mitigation in the southwest..						Same as above	Same as above

5.3. Introduce embankments cropping and efficient use of organic debris in the bottom of ponds..						Same as above	Same as above
6. Popularization of Cage Aquaculture							
6.1. Train on cage manufacturing and settings and maintenance.						Same as above	Same as above
6.2. Train on cage farming, feeding and trouble shooting.						Same as above	Same as above
6.3. Promote farming of other air breathing species in the southwest and how to market them. .						Same as above	Same as above
7. Access to Finance Initiatives							
7.1. Assist farmers and entrepreneurs to prepare business plans.						Same as above	Same as above
7.2. Link prospective entrepreneurs to bankers through workshop sand meeting with financing options						Same as above	Same as above
7.3 Awareness creation for stakeholders on better understanding of modified seasonal microfinance loans and repayment mechanisms.						Same as above	Same as above
8. Strengthening Institutional Capacity of Associations/Cooperatives							
8.1. Assist associations in understanding membership obligations and developing a basic information management system.						Same as above	Same as above
8.2. Assist associations in identifying services and formulating and improving by-laws for sustainability.						Same as above	Same as above
8.3. Assist small farm holders for group procurements, marketing and sales forecasting.						Same as above	Same as above
9. Promoting a Market for Hygienic Dry Fish							
9.1. Provide Trainings to members on HACCP, food safety, packaging, storage, and marketing.						Same as above	Same as above
9.2. Provide trainings on cleaning, sorting, icing and improved drying and transportation techniques.						Same as above	Same as above
9.3. Organize linkage workshops between association members and wholesalers and exporters.						Same as above	Same as above
10. Promoting Hygiene and Standard Bio-Security in Product Chain							
10.1. Facilitate trainings on bio-security and HACCP for depots and processing staff.						Same as above	Same as above
10.2. Create awareness through workshops, fairs, posters, leaflets, and videos on using traceable inputs effectively.						Same as above	Same as above
10.3. Encourage marketing for live fish at the retailer's level.						Same as above	Same as above
10.4. Promote export of fisheries products to ethnic markets through							

processing plants and or dry fish association.						
11. Studies on Aquaculture, Environment and Gender Integration						
11.1. Conduct studies on family level fish intake by PRICE beneficiaries.						Beneficiary farmer/and hatcheries Emphasis on SW
11.2. Conduct studies on the status of major fish diseases and best protection measures.						Same as above Same as above
11.3. Conduct studies on the environmental implication of tilapia mono-sexing process.						Same as above Same as above
11.4. Conduct studies on fish fry, fingerlings and PL survivals on different transportation techniques and distances.						Same as above Same as above
11.5. Conduct a survey on gender integration in household aquaculture practices with PRICE beneficiaries.						Beneficiary farmers
12. Printing and Distribution of Aquaculture Extension Materials						
						All PRICE associated partners Dhaka
13. Result Dissemination and Lesson Learning Workshops						
						All PRICE associated partners Dhaka & SW

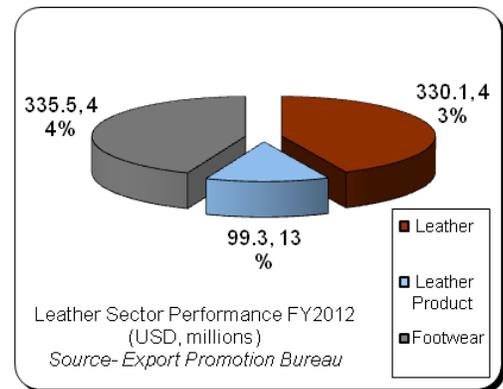
Leather Products

A. Overview

The overall exports of Bangladesh faced a jolt due to the global recession. In FY 2012, total exports grew only by 5.9 percent compared to an almost 40 percent increase in FY 2011.

However, compared to other manufacturing sectors, the overall leather sector performance in FY 2012 looks stable. In FY 2012, the leather sector grew by 17.5 percent and earned \$765 million, making up approximately 57 percent of the sector's total revenue, of which \$434.8 million came from the footwear and leather products subsectors. This fell slightly short of the sector's overall strategic target of \$792 million.

In order to support Bangladesh's leather products sector, PRICE will continue to focus its activities on value-added leather goods and footwear, and to a smaller extent, hides and skins.



PRICE's stakeholders in the leather products sector continue to emphasize the lack of skilled machine operators, supervisors, and mid-level managers as one of the sector's key constraints. Currently, PRICE is working with associations and service providers to facilitate several skill development programs, which will be continued during the extension period.

In addition, PRICE will continue to support leather product producing SMEs as SMES are not meeting the demand of domestic and international markets. Inefficiency in production, limited access to market information and finance, and inappropriate linkages with other market players are key constraints for SMEs. PRICE will focus on addressing these challenges and support SMEs in improving productivity and quality and reducing prices and rejection rates.

PRICE will also address the ongoing constraint of improper flaying and basic preservation techniques practiced by flayers/butchers and other people sacrificing cattle, particularly during Eid-al-azha (Qurbani). Of the 200-220 million square feet of raw skins and hides produced locally, forty percent is collected during Eid-al-Azha; however, it is estimated that 15 percent of that is lost due to improper flaying and preservation. PRICE plans to continue its awareness campaign through the broadcast of informational clips on local TV channels to educate the public and seasonal flayers on proper methods for flaying and preservation.

B. Strategic Focus

PRICE's interventions in the leather sector have bolstered livelihoods through creating jobs at the worker and supervisor levels, increasing sales for participating SMEs, and stimulating investments. These interventions will continue to create disposable income for employees and encourage successful entrepreneurs to expand within or outside the sector. During the extension period, current activities will continue with SMEs and larger sized firms in niche situations, although currently, most factories are located outside the FTF districts.

Depending on the lessons learned and subsequent direction from the industry experts and stakeholders, and to wrap up the final year's activities, PRICE will focus its existing activities rather than expanding to broader activities. In addition, to continue the legacy of PRICE's work, one or two special initiatives will be taken, such as a mass awareness campaign on proper flaying methods on television.

C. Interventions

Leather Products

PRICE will continue training workers and supervisors on improved manufacturing approaches, adoption of modern techniques, quality assurance, and enterprise development, together with enterprise and industry promotions. PRICE will continue working with its existing partners; Center of Excellence for Leather (COEL), the Bangladesh Tanners Association (BTA) and the Bangladesh Finished Leather, Leather Goods, and Footwear Exporters Association (BFLLEA) and the Leather Sector Business Promotion Council (LSBPC).

PRICE will continue its effort in supporting SMEs by providing assistance in enhancing skills of the workforce, supporting linkages with markets, and acquiring better access to finance.

Workforce development

PRICE will continue its support (while phasing out over time) in developing skills of new workers in association with LFMEAB. In parallel, PRICE will strongly support COEL in developing skills of operators, supervisors, and mid-managers, to ensure it can take ownership by the end of the project. PRICE will implement these activities in partnership with industry associations, development partners, service providers and educational institutions.

SMEs development

SME contributions to the Bangladeshi economy are critical, particularly in terms of employment generation, precision of inputs to other industries, and support to larger enterprises as sub-contractors. On one hand, SMEs are conducting direct business but are also assisting larger businesses. Therefore, strengthening SME capacity is very important. PRICE will continue supporting SMEs through developing its workforce capacity, facilitating linkages with markets, providing training on improved technology and management practices, and increasing access to finance.

Additionally, since the leather sector lacks linkages between its value chain actors, PRICE will facilitate a backward and forward linkage value chain event to expand their networks. PRICE will partner with industry associations and its members, development partners, and service providers to undertake this activity.

Service provider (SP) development

PRICE is helping COEL become a full-fledged SP to address future sector constraints. PRICE will extend its support to COEL to open up new activities, particularly in product development. COEL started its activities as a skill development center to address the shortage of skilled workers, but eventually will become a full service hub for the sector, offering support to SMEs, large firms, and other stakeholders.

Over the last two years, PRICE supported Bangladesh Leather Service Center, BLSC, to strengthen its institutional capacity. PRICE will continue to explore collaboration opportunities between COEL and BLSC to help them leverage each other's resources for quality improvement and to strengthen the industry.

Hides and Skins

Hides and skins are key raw materials for tanning and leather. Due to improper flaying and preservation methods, the leather sector is unable to produce high quality leather, thus losing a significant value of it. In the extension period, PRICE will continue awareness campaigns and trainings on flaying and improved preservation (drying, sorting, and transport to tanneries) for seasonal flayers and butchers to improve the quality of raw hides and skins.

Basic raw materials quality improvement

The quality of footwear and goods is directly proportional to the quality of raw materials, i.e. leather. However, many raw materials are damaged during flaying due to a lack of knowledge of flayers, raw hide/skin dealers and

people sacrificing cattle during Qurbani. PRICE will continue its support for associations and other partners, such as BPC, in conducting awareness campaigns.

Publications

Quality manual for leather SMEs

Various studies and stakeholder meetings have identified that SMEs have limited access to information on technology, markets, and better business practices. Most small enterprises run inefficiently and do not know the best practices that reduce inefficiencies. Thus, a number of small producers recommended developing a quality manual for SMEs that would give guidelines on production. In response, PRICE, in collaboration with Aarong, will develop and publish a standard manual for SME producers to outline better business practices in terms of technology and management.

This quality manual is the first of its kind for leather sector SMEs. This initiative is expected to improve product quality, reduce rejections, increase productivity of small producers, and increase customer satisfaction.

Publications on PRICE's work

PRICE will work closely with various partners on publishing reports, documentaries, and videos to create a sustainable record of its initiatives by outlining its approaches and lessons learned. These publications will be distributed among relevant stakeholders and institutions as a reference.

D. Close-Out and Sustainability

The PRICE leather products sector will arrange close-out events with its partners, including associations and SME groups. At the events, relevant stakeholders will discuss lesson learned and share their own experiences to promote the exchange of information and ideas and have partners execute those ideas after PRICE ends. Published reports, documentaries, and videos will be used as tools for sustainability and will be distributed among stakeholders, institutions, and partners.

Gantt Chart for Leather Sector Activities, FY 2013

Leather Activities	Q1	Q2	Q3	Q4	Q5	Partners
1. Workforce Development						
1.1. Facilitate COEL initiative in developing 500 semi-skilled workers.						COEL, LFMEAB members
1.2. Work with COEL in developing 50 skilled floor supervisors.						COEL, LFMEAB members
1.3. Facilitate COEL initiative in developing skills of 100 mid-level managers on design and production.						LFMEAB, COEL
1.4. Continue working with PICARD by training 400 new workers.						LFMEAB, PICARD
1.5. Assist PICARD in developing 50 skilled floor supervisors.						LFMEAB, PICARD
1.6. Assist Bay initiative of developing skills of 250 new workers.						LFMEAB, Bay
1.7. Continue to support Bengal Shoes' initiative of training 800 workers.						LFMEAB, Bengal
1.8. Work with BSIL in developing 500 moccasin sewers.						LFMEAB, Bengal
1.9. Facilitate training of 300 workers for USBANGLA leather products.						LFMEAB, USBANGLA
1.10. Facilitate training of 200 workers of LTSE group.						LTSE members
2. SME Development						
2.1. Help SMEs build linkages with lead enterprises/corporate business houses by organizing workshops/buyer-seller meetings.						LFMEAB
2.2. Support to SMEs on product/catalogue development, business meeting facilitation; support SMEs in increasing linkages and sales through participation at DITF.						BPC, EPB
2.3. Follow up with participating SMEs in the Dhaka International Trade Fair (DITF).						SP, SMEs
2.4. Facilitate skill enhancement training in prefabrication for Aarong's small subcontractors.						Aarong
2.5. Assist SMEs in designing a long term development plan for its small suppliers.						Aarong, LTSE
2.6. Assist SMEs in learning better business practices by arranging three visits to large industries.						FTF SMEs, LFMEAB members
2.7. Engage branding/merchandising experts to support LTSE group in establishing own brand.						LTSE, SP
2.8. Arrange two knowledge sharing workshops to disseminate information on improved and cost effective production.						SMEF, potential FTF SMEs
2.9. Facilitate backward and forward linkage fair.						LFMEAB and partners
3. SP Development						
3.1. Support COEL's design of a long term plan for service center activities.						COEL, LFMEAB
3.2. Assist LFMEAB in capacity building and developing a knowledge center.						LFMEAB
4. Quality Improvement of Basic Raw Materials-Leather						
4.1. Assist BTA and BFLLEA in developing awareness messages and poster/leaflet information;						BTS, BFLLEA, LSBPC, BEGP

facilitating orientations for imams; and in organizing a flaying campaign in collaboration with LSBPC and BEGP.						
5. Publications						
5.1. Collaborate with partners to publish lesson learned from joint work with PRICE.						LFMEAB, LTSE, BPC, Aarong
5.2. Produce a quality manual for leather SMEs.						Aarong, SP

Communications

Effective communications are an essential part of good project management. PRICE's communications illustrate the project's vision, underscore stakeholder buy-in to the project's objectives, serve to keep the USAID/B mission informed, and disseminate knowledge to ensure lessons learned benefit the wider community. PRICE target audiences include USAID, private sector partners, public sector partners, donors, donor-funded projects, and the general public.

A. Communications Activities

There are many potential communications tools available to PRICE, but it is important to prioritize in order to focus on project impact without unduly straining project resources.

Success Stories

PRICE has a rich pool of partners who have achieved successes as a result of collaboration with the project. It is important to share these success stories with the USAID/B mission, with in-country stakeholders, as well as through the USAID/Washington Telling Our Story web site (www.usaid.gov/stories). Success stories, therefore, are a primary tool for sharing project impact and will be submitted on a quarterly basis, with a minimum of 10 per year.

Weekly Updates

PRICE will continue to provide weekly updates of its activities on the last working day of every week to the USAID Economic Growth Office. These will be short (1-2 page) descriptions of noteworthy events and technical breakthroughs resulting from project interventions.

Annual Events and Activities

As described below, the project hosts and participates in a number of events, both project-wide and sector specific, from trainings to public outreach campaigns. For the 2013 fiscal year, activities include participation in the USAID-organized Gender Fair, America Week, Dhaka International Trade Fair, access to finance workshops, flaying and food safety awareness creation campaigns, buyer seller meetings, and National Fish Week.

Progress Reporting

PRICE produces three quarterly reports and one annual report per year. The reports are detailed summaries of activities and accomplishments during the reporting period in each of the sectors PRICE works in. Additionally, PRICE submits semi-annual performance figures and narratives to the USAID Mission.

Quarterly Newsletter

PRICE produces a quarterly newsletter in order to reach a broad audience that is inclusive of PRICE partners and beneficiaries. The newsletter serves to cover all sector highlights and a feature focus on at least one PRICE partner. This feature focus will touch on PRICE's intervention and impact, the importance of the partner organization's role in their industry, and human interest.

Project Website

The project website is being updated to provide the latest highlights of the project, main accomplishments, sector news, and upcoming activities. The website www.price-bd.com will be regularly updated throughout the life of the project with the latest news on all sectors.

Photographs

New project photographs will be provided regularly. PRICE will also update catalogs with new photos, or print new photos of PRICE's events, milestones, and achievements when required. In addition, photos can be published as a part of success stories as well.

Video

PRICE will produce new video productions on project activities, which can be updated as needed.

Print Publications

PRICE will publish number of training manuals for all three sectors. In addition, project briefs, sector briefs, brochures, catalogues, on-demand leaflets, posters, flip charts, folders or any other similar print publications can be produced as required.

Special Promotion of PRICE Beneficiaries through Mass Media

During this period, PRICE will promote a number of its beneficiaries' success stories through both electronic and print mass media.

B. Promotional activities

In addition to the sector-specific events outlined above, PRICE will conduct and participate in several cross-cutting events with a broader perspective:

- America Week is a three-day annual event designed to showcase U.S.-financed activities in support of the government and people of Bangladesh. Like most other USAID projects, PRICE will be scheduled to participate and showcase the activities in the upcoming America Week, to be held in January 2013. The specific date and venue for this event is to be determined.
- Gender Fair is a USAID-sponsored event designed to showcase the activities, outcomes, and impacts of USG-funded projects focused on attaining gender equity in Bangladesh. PRICE will participate in this important event to demonstrate its gender-specific achievements in the horticulture, aquaculture, and leather products sectors. The Gender Fair is generally scheduled to take place in March in Dhaka.

C. General Promotional Initiatives

Project activities of the three sectors may also be promoted through different interactive promotional activities. Details are given below:

Promotional materials development and distribution	Promotional materials such as posters, calendars, caps, t-shirts, and pens can be distributed in special events or when necessary.
Workshops, Seminars and Campaigns	Occasional workshops and seminars can be arranged for the sectors' partners based on sector-specific activities, which will also be an opportunity for PRICE to highlight its activities and achievements. For media coverage, national press and electronic media can be invited.
Mini Fairs	Mini fairs can be arranged through partners. This will involve partners as well as beneficiaries. In addition, through the mini-fairs, sector activities can be promoted among visitors and also through the media at the local and national levels.
Press and Media Report	To highlight particular activities, reporters from renowned electronic and print can be invited to report on a particular topic and through their sector-specific reporting. PRICE's activities will be highlighted as a part of the report.
Promoting through Partners	PRICE activities can also be promoted through the partners' activities. In all partner events and activities that PRICE supports, USAID and PRICE branding will be applied to

	ensure visibility.
Video documentary	PRICE will develop (through a third party) sector-specific video documentaries as promotional tools.
Promotion through Social Media	Promotion through social media such as Facebook and Twitter is an emerging medium for real-time promotion. Project achievements can be shared through USAID/B and Chemonics' social media accounts through the designated contact person.

**Annex 1: Communication Matrix

**Annex 2: Gantt chart for General and Communication Activities, October 2012-2013

PRICE Monitoring and Evaluation Plan¹

The PRICE monitoring and evaluation (M&E) plan is designed to demonstrate the extent to, which the project is achieving its objectives and ultimately improve the program. It defines the indicators that measure progress towards project objectives. The M&E Plan determines what data must be collected at what moments of the campaign, the methods of data collection, and how findings will be analyzed and reported. The M&E system is the basis for quarterly and annual reports to USAID. The PRICE team collects and analyzes performance information regularly; PRICE not only collects performance and impact data; it adds value to the raw data by performing appropriate analysis and providing context for data interpretation, thereby transforming raw data into useful information. Results from the analyses help determine whether adjustments to the project implementation plan are required. Finally, this information is conveyed to relevant internal and external parties through communications (i.e. knowledge sharing) and achieves impact as knowledge is acted upon. An understanding and agreement among all stakeholders of the project is developed to establish an effective performance management plan. Essentially, all of them are the users of the system.

A. Features of the PRICE M&E System

The PRICE M&E system is designed to involve all technical team members and project counterparts. This approach has several benefits:

Efficiency. Because technical team members and counterparts have first-hand knowledge of their activities and resulting impacts, they are best suited to efficiently collect and verify basic M&E data in their respective technical areas.

Ownership. By being involved in project M&E efforts, technical team members can ensure that the information generated is relevant and consistent with the interests of the project while our counterparts will see the demonstrated success of reforms.

Feedback. Having collected and analyzed M&E information, technical team members and counterparts are aware of project progress and will be able to use M&E information to guide project implementation.

The project M&E is responsible for organizing data collection. They ensure that project team members have the necessary tools to collect data and that they collect it consistently and at the appropriate frequency. They verify data quality and analyze and report trends. Annually, they review the appropriateness of the M&E Plan and make necessary additions or adjustments to the existing indicators. The Chief of Party supervises the overall M&E system.

The technical area specialists are responsible for managing the process of primary data collection and entry in their respective technical areas. They then use the information to make management decisions about implementation activities. These technical specialists communicate progress to PRICE counterparts informally during the course of technical assistance and formally in quarterly reports to help them make decisions about necessary and priority interventions.

PRICE collects basic M&E data from the various administrative and technical records of the project, specially-designed surveys, and focus groups. PRICE also consults records, statistics, surveys, and databases maintained by the Government of Bangladesh (GOB), USAID, other donors, and NGOs as additional sources of data. There must be a balance between M&E data collection and technical work. The PRICE M&E system is designed to allow the efficient collection of data by project staff or counterparts.

¹ At the time of the submission of this draft work plan, the final PRICE M&E Plan was still under consultative review. The M&E Plan included here will be replaced by the finalized M&E Plan upon its approval by USAID.

PRICE Project, Link to USAID/Bangladesh Strategy

The PRICE project is a priority project under Development Objective 2 of USAID/Bangladesh’s Country Development Cooperation Strategy (CDCS). Development 2, “Food Security Improved”, seeks to increase the volume of food produced by Bangladesh’s small farmers and increase the purchasing power of the food-insecure poor. DO2 is the flagship DO for the United States Government (USG)’s Feed the Future (FTF) Strategy and its objective in Bangladesh, “Availability, Access, and Utilization of Domestically Produced and Nutritious Foods Increased.”

PRICE will directly contribute to the achievement of Intermediate Results (IRs) IR2.1 and IR2.2 .of the DO2 Results Framework.

B. Measurement of Performance

The basic premise of the project is that true poverty reduction is about ensuring decent, sustainable jobs for vulnerable groups, with such jobs arising from increases in sales and investment across value chains in response to market demand. Indeed, the PRICE contract stipulates that sales, job, and investment increases are the essential project performance targets. As such, the focus of PRICE performance indicators is on sales, jobs, and investment—particularly for the benefit of women, young adults, and small and medium enterprises (SMEs)—to achieve equitable growth. These are the performance indicators for the overall strategic objective. All performance indicators have specific targets for the life of the project.

PRICE also uses tracking indicators that allow the project to track other aspects of its work and to support requirements for overall USAID reporting. For example, tracking indicators include disaggregation of performance indicators by gender, age, sector, region, exports, and SMEs. These indicators also track the number of SMEs receiving PRICE assistance and financing, training metrics, and other measures.

PRICE primarily collects data on performance and tracking indicators relevant to activities directly implemented by the project in collaboration with counterparts. This principle of “manageable interest” helps ensure that the results reported by PRICE’s M&E system are within the project’s ability to influence, particularly at the Key Result Area (KRA) level. Through these performance and tracking indicators, PRICE is able to accomplish the following:

- Capture and communicate major project impacts
- Track implementation progress against targets
- Supply information concerning major PRICE activities
- Identify problems constraining performance and resolution
- Contribute to USAID’s own performance management and reporting needs

Performance of the project and of the three sectors (Aquaculture, Leather Products and Horticulture) has been measured using seven defined indicators till March 2012. Two types of indicators have been used to monitor PRICE’s contribution to (1) project performance assessment and (2) key indicators of the global U.S. Foreign Assistance Framework, including the Feed the Future (FtF) Initiative indicators. The first category is called Custom indicators and the second is called Standard indicators. *Custom* indicators are indicators generated for specific use by PRICE and include impact, outcome and output indicators. *Standard* indicators are used to report on PRICE’s contribution to the global results of priority program areas of the U.S. Foreign Assistance Framework, including FtF indicators. *Standard* indicators also include impact, outcome and output indicators. All these indicators are measured quarterly and annually throughout implementation in order to monitor progress towards targets agreed with USAID.

While the indicators are intended to be reported on over the life of the project, it is likely that adjustments would be necessary over time. Annually, PRICE reviews the M&E Plan in coordination with USAID and other counterparts, and the indicators modified as necessary.

Critical Assumptions

In designing the PRICE M&E system, PRICE focused on indicators within the manageable interest of the activity. This approach allows the project to measure impacts that can, to a large extent, be attributed to the project. The project's ability to demonstrate improvement in these measures is based on the following assumptions:

- Absence of sociopolitical instability
- No major agro-climatic shocks during the project period. These include major climatic shock such drought, floods and other weather hazards.
- Generally stable fiscal and monetary policy
- Willingness of project counterparts and beneficiaries to carefully consider and implement project recommendations

C. M&E Plan Updated in June 2012: FTF Requirement

Following commencement of FtF-funded interventions at the beginning of fiscal year 2011, which targets 20 districts in the south and south west of Bangladesh, PRICE enters a situation where PRICE project achievements will be measured based on:

- 1) PRICE activities within the FtF 20 target districts, which will reach a level of effort of 75.0 and not exceeding 80.0 percent; and
- 2) PRICE activities outside the FtF 20 target districts, which will reach a level of effort not exceeding 20.0 to 25.0 percent;
- 3) The PRICE project achievement will combine findings from 1) and 2).

USAID and PRICE had several meetings to discuss the definitions of FtF indicators, identify FtF indicators that match with PRICE's existing indicators, and select indicators PRICE should continue to report on. It was agreed that PRICE should select a set of FtF indicators for reporting which are possible to report on without incurring any additional expenses. Then PRICE may continue to report on other standard as well as custom indicators which PRICE has been reporting on. The M&E Plan will be updated to include the list of all these indicators: FtF or Standard, PRICE contractual obligations and other custom. The previous set of 7 PRICE indicators will be replaced by this new set. Targets have been set for the rest of the period for these indicators in the M&E Plan. After the last meeting in June 2012, the following 11 indicators under the two categories were decided to report on.

Standard FtF Indicators

PRICE is now using five standard indicators (Indicators 1-5) and six custom indicators (Indicators 6-11).

The five standard (FtF) indicators that are also included in the F-Framework are:

Indicator 1: *Value of incremental sales (USD) (collected at farm-level) attributed to FTF implementation* (F-Indicator 4.5.2-23; FTF required if Applicable)

Indicator 2: *Value of new private sector investment (USD) in the agriculture sector or food chain leveraged by FTF implementation* (F-Indicator 4.5.2-38; FTF required if Applicable)

Indicator 3: *Number of individuals who have received USG supported short-term agricultural sector productivity or food security training* (F-Indicator 4.5.2-7; FtF required if Applicable and Whole of Government)

Indicator 4: *Number of farmers and others who have applied new technologies or management practices as a result of USG assistance* (F-Indicator 4.5.2-5; FtF required if Applicable and Whole of Government)

Indicator 5: *Number of hectares under improved technologies or management practices as a result of USG assistance* (F-Indicator 4.5.2-2; FtF required if Applicable and Whole of Government)

Custom Indicators

The six custom indicators are as follows:

Indicator 6: *Total value of sales increased: (contract-bound)*

Justification: Economic activities are largely measured by the creation of sales.

It is the aggregation of the increase in total value of gross sales of assisted firms and farmers that can be attributed to PRICE activities. It is calculated in United States dollars and disaggregated by domestic and export sales.

Indicator 7: *Total number of full-time jobs created: (contract-bound)*

Justification: True poverty reduction means having a decent job with jobs arising from increases in sales and investment across the value chains in response to market demand.

Full-time equivalent jobs will be defined as those equal to 260 work-days per year for non- agricultural production and 150 days for agricultural production (given the seasonality associated with agriculture work). Only new jobs will count, calculated by taking the total number of work days of a firm or farmer in a performance period and dividing by 260 or 150, as appropriate. A new job will be attributed to the year in which the job originated.

Indicator 8: *Total value of investment increased: (contract-bound)*

Justification: Economic activities are largely measured by increased investment.

It is the aggregation of the increase in the total value of investment of assisted firms that can be attributed to PRICE activities. Investment will include loan and private equity. It is calculated in United States dollars and disaggregated by domestic and export sales.

Indicator 9: *Number of persons participating in USAID workforce development programs:*

Justification & Management Utility: This indicator measures the number of individuals who enrolled in USG-funded workforce development programs. It is assumed that increased access to quality programs will result in a more skilled, adaptable workforce.

It will give the number of persons participating in USG-funded workforce development programs including, technical and vocational programs and workforce readiness programs.

Indicator 10: *Number of MSMEs receiving USG-supported assistance to access bank loans or private equity* (F-Indicator 4.5.2-30)

Justification & Management Utility: Firms improve their productivity, and in turn their competitiveness, by accessing capital and increasing investment in productive assets. It is the number of MSMEs who are receiving assistance from USG supported sources to obtain bank loans or private properties.

Indicator 11: *Total value of sales (USD) increased of USG assisted business*

Justification: Economic activities are largely measured by the creation of sales.

It is the aggregation of the increase in total value of gross sales of assisted firms only that can be attributed to PRICE activities. It is calculated in United States dollars and is a subset of Indicator 6.

The indicator, 'Number of staff (workers and managers) trained on key issues of Bangladesh Labor Law 2006' will no longer be reported on from FY 2012 onwards following consultation and agreement with USAID.

For the first three Custom indicators (Indicator 6-8), PRICE has targets set by the contract with USAID (US Embassy Contract No. 388-C-00-08-00021-00). For the other Custom and Standard indicators mentioned here, PRICE has agreed to report on though PRICE does not have any contractually obligated targets.

Indicator reference sheets have been prepared for each indicator in order to provide more detail on indicator definition, units of measure, justification, data collection, and where possible, proposed targets. Please see at the end of document.

D. Use of Case Studies

Case studies are occasionally used to provide deeper understanding of progress or to complement data collected by M&E. However, this should not be confused with the qualitative indicators. Rather this is a subjective approach and presents a plausible case that progress is being made by using illustrative examples. This is not used as substitute to the other precise measures. Case studies are prepared by the Communication personnel of the project, under direct supervision of COP. Sector Team Leaders and others can come up with the idea of any seemingly interesting cases being observed within the boundary of Project activities and the resulting impacts. Four types of case studies are prepared: case study, success story, first person story and, photo story. Usually 12 case studies are prepared each year which are submitted to USAID with quarterly and annual reports and then uploaded in the PRICE website.

E. Source of Data

Secondary Source of Data

PRICE M&E uses both primary and secondary sources of information to measure the indicators. Secondary sources can be a range of organizations including the government of Bangladesh (e.g. ministries), EPB (Export Promotion Bureau), DoF (Department of Fisheries), business associations, international organizations such as the World Bank, United Nations, universities, commercial firms and implementing partners like BSFF, BFFEA etc. Data is collected in regular intervals or based on need and a database is maintained for that. This is used for analyzing industry trend, project and sector performance etc.

Primary Source of Data

Primary sources of data are the partners or the beneficiaries themselves. For Indicators 1 and 2, 6, 7, 8, 10, and 11 the source of information is the partners or beneficiaries themselves. PRICE collects data from them directly. For Indicator 3 and Indicator 9, data is taken from the quarterly training reports produced by the project Training personnel, and adjusted for the indicators' requirement. Such adjustments include ignoring double-counting when one MSME has received training twice. For Indicator 10 (assistance to access bank loans or private equity), data is collected by respective sector teams through regular monitoring of the partner. Sample survey method is not used for this indicator because the extrapolation of survey results might contain high sampling error. Lastly, Indicator 9 will be calculated based on the information from Indicator 3. Indicator 10 will be calculated by using mini or sample survey for each farmer group to estimate the adoption rate of improved technology or management practices. FtF indicator 4.5.2-2 is considered as an outcome from 4.5.2-5 which is, in turn, an outcome of 4.5.2-7.

F. Baselines

Baseline is the value of an indicator before the commencement of activities, used for comparison when measuring progress toward a result. Baseline periods are taken as one year right before implementation of the activity begins. Baseline is collected from individual partner and compared with that individual partner's performance results during performance measurement periods (quarterly and annually). Thus it is an ongoing process as the project activity starts with different partners in different times. For the indicators of increase in sales and creation of jobs, PRICE technical team collects baseline information during the process of making MoUs or growth plans with the partners. This is verified later. For the producer groups or associations or cooperatives with hundreds of farmers, baseline data on these indicators is collected during the first training sessions conducted for the farmers. The hired consultants as well as the technical team members present in the training sessions collect the data from the partners in an organized way. For the rest of the indicators, baseline is taken as zero logically.

G. Data Collection Tools

Data Elements

Many of the project's indicators are aggregate indicators, made up of various data elements. M&E works with each technical team and counterpart to design database spreadsheets, forms, and surveys to capture and manage these data elements.

Tools

Formats for data collection on three contract bound indicators have been designed by the PRICE M&E team, taking suggestions from the technical team. From time to time, these have been modified to fit the project requirement. PRICE uses M&E-designed formats to collect data on the indicators (increase in sales, creation of jobs and increase in investment) based on the different types, sources and methods of data collection. Detailed guidelines are attached with each format. All filled out data forms are signed by the interviewees and the interviewers.

For the other indicators which are related to training or assistance provided by PRICE, Quarterly Training Reports generated by the PRICE Training personnel is the source of information.

H. Methods of Data Collection

For the indicators (increase in sales, creation of jobs and increase in investment), performance of the partners is collected quarterly from the partners starting from the end of the baseline period. The quarters are calendar quarters (Oct-Dec, Jan-Mar etc.). Baseline and quarterly performance data are collected in two ways: partner interview, and, sample survey.

The first method (partner interview) is suitable for the individual SMEs PRICE is working with. As the name suggests, the source of information for this method is the partner or client with whom the project is working with. The approach is to proceed in a way of discussion with the partner enterprise and lead the discussion according to the need for information on performance. The partner might recall the information from memory or might check relevant business records for providing the information. Format for recording the gathered information were designed by the M&E. The interviews are conducted by the PRICE technical team who have contact with partner enterprises and thus can easily collect data from them ensuring the quality of data.

The second method for data collection, sample survey, has been used because in some cases performance data on sales, jobs and investment was not readily available from the partners. Those partners do not have any organized way of keeping records on parameters like sales, jobs or investment. Thus to collect data from those partners such as fish farmers' associations who have large number of members (from 60 to 3000), sample survey method has been used. The sources of information in this case are the beneficiaries of the interventions, i.e. the members of

the associations etc. These surveys can be of two types: a) Large surveys with statistically viable sample size, b) Mini surveys with a minimum sample size of 30 or larger (to approach to normal distribution).

For large surveys (type a) , statistically viable sample size is calculated beforehand considering the character of population to be surveyed. Professional survey teams work for data collection after taking detailed briefing on the project and process of data collection from the PRICE technical and M&E teams. Formats for data collection are provided by PRICE M&E. Sample points are selected at random. However, the cost and time required for conducting this type of survey for each partner with combined body of micro enterprises were considered huge to be conducted quarterly. Thus it has been decided that PRICE would conduct this type of full-fledged surveys only annually, at the end of US fiscal year, September.

For mini-surveys (type b), a minimum sample size of 30 or larger is taken. Statistical viability behind such decision is that when the sample size is greater than 30, the distribution approaches normal distribution. Also the homogeneity in the population (similar type of land, weather, availability of inputs, market linkage, sharing of knowledge etc.) is considered here. For the quarterly reports, these types of mini surveys are conducted from 2010. However, these quarterly mini survey results are verified during the later annual survey.

Data Collection by Third-Party

If necessary, PRICE may subcontract to a local research entity to conduct wide-scale surveys for this performance monitoring plan. PRICE hires third party professional survey teams for collecting data from farmer groups (associations, cooperatives, NGOs etc.). These third party survey teams ensure the integrity of data to some extent as they are not involved in the project and thus do not have any potential conflict of interests. M&E selects the surveyors from a pool of candidates, given the required qualification of a surveyor. Educational qualification as well as relevant experience are required for selection.

Data Entry

For the data collected on enterprise performance in each quarter on the indicators related sales, jobs and investment, the respective Sector team performs initial data entry in the soft copy of the Enterprise data format (in Excel). This is later checked by M&E and confirmed for final entry. M&E then enters the data into the M&E database.

For the sample surveys conducted, appropriate format for data entry is prepared by M&E. Easy to use MS Excel format is being used. For the mini surveys conducted quarterly of sample size 30, data entry is done by the PRICE Data Specialist. For the bigger surveys conducted by hired survey teams, data entry is done by the hired professional data entry operator. These third party survey teams provide data in soft copy as well as the hard copies of filled out formats. PRICE Data Specialist coordinates this process and conducts checking on entry.

Data Storage

For all the data collected from partners, PRICE M&E is responsible for the final storage in the Dhaka office. Detailed written procedure for that is available and the filing is done in a user-friendly procedure so that anyone can easily understand and find out any raw data file intended.

I. Quality Control

Data Quality Analysis

The M&E Team conducts visits to some sources of data to verify the collected data. These are random verifications and conducted without prior notice. Data verification is also done over telephone with the partner or beneficiary. M&E team talk to the partner or beneficiary and in this way, check back with the data already at hand. If any discrepancy is observed, it is consulted with the technical team before correction. At least 10% data verification is done as advised by USAID. If required, M&E team takes help from the technical teams for verification. After verification is completed, M&E signs on the data formats.

After that, the PRICE technical team provides initial quality control for the various raw data elements. Technical team examines the data to identify common errors including logical inconsistencies, out-of-range values, significant departures from trends, or other errors so that they can be immediately addressed.

The project M&E team is responsible for data quality control after data entry. Around 10 percent of the tabulated data is compared with the raw data forms to ensure accuracy of data entry. The M&E team then performs basic data analysis and tabulation to identify potential erroneous data. When errors are identified early, the M&E team makes appropriate corrections by coordinating and consulting with counterparts as appropriate.

As the size of data verification for surveys has also increased a lot in the past year, PRICE has planned to employ third party firms for data verification also from September 2012.

As some indicators' information is collected from the training reports, the data quality of training report is also important. To ensure that quality, the Training Specialist conducts visits to the ongoing training sessions, consults with the partners and beneficiaries, checks the quality of training administration etc. and provides on-spot recommendations. S/he also communicates the feedback to respective Sector team.

Data Quality Criteria

Five related standards are used to examine data quality in more depth². Criteria for Good Data Quality include:

1. Validity
2. Precision
3. Reliability
4. Timeliness
5. Integrity

(1) Validity. An indicator should clearly and adequately represent the intended result.

- Attribution. Does the indicator measure the contribution of the project?
- Bias and/or Sampling Errors. Are there any biases or sampling errors that affect the data?

(2) Precision. Data should be sufficiently precise to present a fair picture of performance and enable management decision-making at the appropriate levels. Also, there should be a sufficient degree of confidence in the data's accuracy.

(3) Reliability. Data should reflect stable and consistent data collection processes and analysis methods over time, so that changes in data are not due to changes in the data collection method.

In other words, if the data collection procedure were repeated, the same result should occur.

(4) Timeliness. Data should be timely enough to influence management decision-making. There are two key aspects of timeliness. First, data must be available frequently enough to influence decision-making. Second, data should be current enough when available.

(5) Integrity. Data that are collected, analyzed, and reported should have established mechanisms in place to reduce manipulation. There are generally two types of issues that affect data integrity. The first is inaccurate transcription. For example, a number might be incorrectly entered into a database system or recorded in a performance report. Data integrity is at greatest risk of being compromised during collection and analysis. The second, and more complex issue, is whether there is any incentive on the part of the data source to manipulate the

² Definitions are derived from USAID Programming Policy, ADS Chapter 203 Assessing and Learning, p. 20.

data. For example, if a project obtains data from stakeholders who depend on funding from the project, the stakeholder may have an incentive to skew data.

Data Quality Assessments (DQA) by USAID

USAID conducts annual DQA visits to PRICE project areas and meets partners, stakeholders, consultants. The team discusses with the partners, beneficiaries and also check on some required documents on the spot. USAID also meets PRICE personnel for this and discusses the whole data collection, quality control and reporting process in detail. Based on that, USAID prepares its annual DQA report for the project. At the middle of the project life, a team from USAID Head Office has conducted the midterm evaluation of PRICE performance.

Potential for Double Counting

PRICE works to minimize potential double counting through close coordination between sectors and technical teams. The project M&E reviews indicators with each team and identify areas where overlapping between sectors may occur. Once identified, the teams work together to determine how the data will be monitored and reported.

Double counting may also occur between PRICE and other USAID projects operating under SO 12. The M&E will identify these situations and work with partner projects to determine if the results may be better reported through one or the other project. However in some situations, it may be appropriate for both projects to monitor the same data. In these cases, the project may still monitor and report on the data but will report the magnitude of potential overlaps. With this information, USAID is able to adjust for double counting when consolidating indicators from various partners.

J. Data Analysis

After ensuring data quality, the data is processed and analyzed by the PRICE M&E team. MS Excel program has been used for the processing and analysis of data so far. For the indicators on increase in sales, creation of jobs and increase in investment, separate processing techniques are used for data collected from enterprises directly (by using Enterprise Data Format) and the data collected from the combined body of beneficiaries, i.e. associations or cooperatives (by using sample survey method and format). Data from sample surveys is extrapolated for getting the figure for the whole populations (taking cultivable land area as the basis). PRICE is establishing software for data entry and analysis of the collected data.

However, the process of measurement of performance is same for both: comparing performance period results with the baseline period data. The performance period data is compared with the same period in baseline and the resulting change is taken as performance. For example, while calculating quarterly increase in sales (Indicator 6) of a partner, the gross sales of the partner in that particular quarter is compared with the baseline sales of the partner in the same quarter in the baseline year. That means:

Increase in Sales in the quarter = Value of Sales in the quarter – Value of Baseline Sales in the same quarter

For Indicator 7, ‘Total number of full-time jobs created’, the creation of jobs are considered across the value chain/s, wherever applicable. For the jobs created directly by the partners (only one node in a value chain), data is collected from the partners. Performance calculation from this data is as stated above: performance period data is compared with the same period in baseline and the resulting change is taken as performance.

For estimating the additional jobs created downstream or upstream or on-farm as a result of partner activities, PRICE has drafted a Job Model (with the help of a short term consultant supervised by DCOP) by September 2010. The Job Model estimates Job Factors for different type of partners (enterprise, group of farmers) in several parts: downstream, upstream and on-farm.

The *downstream Job Factor* gives the factor by which additional labor days are used by a partner for each additional unit of production in a period. The total quantity of increased production of a partner in a period is multiplied by the respective job factor and the resulting full time equivalent job is calculated. For example, if partner A has increased its production by 500 MT in a period and partner A's downstream job factor is 5 (labor days per MT of production), the resulting full time equivalent job created downstream is: $(500 \times 5) / 150 = 16.67$.

With the accumulated data at hand till September 2010, *the downstream job factor* has been used to calculate additional jobs created by the enterprises and farmer groups till September 2010 and reported in the annual report of FY 2010. Since then, downstream job ratio has been used in the same way.

The *on-farm job factors* are used in the Job Model because in Bangladesh scenario, a major part of the labor used in agriculture is family labors for which farmers don't keep records. The on-farm job factor in the Job Model calculates the total on-farm labor requirement factors of different partners which may include hired and/or family labor. For the accumulated data at hand till September 2010, on-farm job factor has been used to calculate additional jobs created by the farmer groups and reported in the annual report of FY 2010.

In each sector, all the partners' performances are summed up for getting the aggregate performance on the 3 indicators for the sector. Then the three sectors' performances are summed up to get the project performance.

While analyzing the data, the M&E team focuses on the segregation required by the definition of an indicator, i.e. by sector, age, region, export-import etc. After that, the quantitative achievements are linked back to the qualitative improvements by the partners. Qualitative results are collected through regular M&E activities as well as sector activity reports. The M&E team takes the consent of technical team before establishing such relationship in the analyses.

K. Data Management Software

The existing PRICE M&E Database is designed to follow the development of appropriate recording and reporting formats and data collection tools that are consistent with the indicators and information need systems and M&E plans. Project reporting requirements have determined the type of data management, processing, analyses and reporting. Though the present system uses MS Excel application for data processing and reporting, still it takes considerable time and this situation is supposed to worsen with the higher scale of the project. Thus an automated M&E Data Management System or software that captures outputs and outcome indicators using a common user-friendly software package is being developed. This will add flexibility, efficiency to and enhance reliability of the PRICE M&E system.

Relational database structure has been used to develop the Data Management System for PRICE. This structure will allow automatic navigation in the database and support query facilities. The design includes module creation, ID creation, data analyses, upload and download options etc. Around 15 users will access the system and able to see the reports. Access to the System will be secured by password. 4 of these users will have access for data entry (but not uploading) to the system modules. M&E Manager will have administrative access to the system.

PRICE already signed an agreement with Grameen Solutions Ltd., a renowned software company in Bangladesh, to establish the system. They are developing the software using Apache Web Server, MySQL-5 as database and PHP-5 as the web scripting language. AJAX and Java Script frameworks are also being used.

Evaluations

USAID or its designee may conduct evaluations focused on key implementation issues during the implementation of PRICE. Evaluations will be conducted in line with ADS 203 and the USAID Evaluation Policy of January 2011 and accompanying documents. Such external evaluation (s) may include a detailed review and analysis of the development hypothesis, cause and effect dynamics, project organization, management, field work, significant

outputs, and the quality and quantity of overall performance. PRICE will provide sufficient planning for the regular collection of data that may be required for different types of evaluations, including counterfactual data for impact evaluations.

L. PRICE Performance Data Table

For the rest of project period, PRICE has following performance data tables (updated October 2012):

Standard Indicators

Indicator No.	Indicator title	Unit	Disaggregated by:	Baseline		FY12 Target	Achieved to end of FY12			FY13 Target	FY14 (Oct-Dec '13) Target
				Year	Value		FTF Zone	Non-FTF Zone	Total		
4.5.2-23	Value of incremental sales at farm level attributed to FtF implementation	USD, mill.	Fish and shrimp	2011	79,320,356		10,097,135	30,574,906	40,672,041	9,600,000	800,000
			Horticulture	2011	9,161,599		7,814,158	15,754,042	23,568,200	10,125,000	1,500,000
			Total	2011	88,481,955		17,911,294	46,328,948	64,240,241	19,725,000	2,300,000
4.5.2-38	Value of new private sector investment in the agriculture sector or food chain leveraged by FtF implementation	USD, mill.	None		0		10,175,434	2,240,287	12,415,721	1,660,000	100,000
4.5.2-2	Number of hectares under improved technologies or management practices as a result of USG assistance	Hectares	New		0		3,183	2,127	5,310	2,050	0
			Continuing		0		0	0	0	5,310	7,360
			Male		0		2,418	1,934	4,352	6,020	6,020
			Female		0		765	193	958	1,340	1,340
			Total		0	40,564	3,183	2,127	5,310	7,360	7,360
4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	Number	New		0		12,278	3,465	15,743	9,220	0
			Continuing		0		0	0	0	15,740	24,960
			Male		0		9,088	2,580	11,668	19,220	19,220
			Female		0		3,191	885	4,076	5,740	5,740
			Total		0	39,600	12,278	3,465	15,743	24,960	24,960
4.5.2-7	Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	Number	Male		0		30,786	13,740	44,526	25,950	0
			Female		0		10,074	2,608	12,682	5,550	0
			Producers		0		40,380	15,768	56,148	30,750	0
			People in government		0		0	190	190	0	0
			People in private sector firms		0		480	390	870	750	0
			Total		0	52,800	40,860	16,348	57,208	31,500	0

Custom Indicators

Indicator No.	Indicator title	Unit	Disaggregated by:	Baseline		FY12 Target	Achieved to end of FY12			FY13 Target	FY14 (Oct-Dec '13) Target
				Year	Value		FTF Zone	Non-FTF Zone	Total		
Custom	Total Value of Sales Increased	USD, mill.	Domestic	2011	101,831,571	34,349,369	23,115,214	58,151,611	81,266,825	23,099,250	2,958,350
			Export	2011	81,866,821	27,949,648	6,604,774	37,013,518	43,618,291	28,351,100	5,876,500
			Aquaculture	2011	170,903,146	26,181,337	17,915,674	34,615,710	52,531,384	12,000,000	1,000,000
			Horticulture	2011	12,795,246	13,051,243	11,804,315	24,291,994	36,096,309	12,025,000	2,000,000
			Leather/Leather products	2011	0	23,066,436	0	36,257,424	36,257,424	27,425,350	5,834,850
			Total	2011	183,698,392	62,299,017	29,719,988	95,165,128	124,885,117	51,450,350	8,834,850
Custom	Number of Full-time equivalent Jobs Created	Number	Aquaculture		0	10,908	14,016	4,985	19,001	2,900	300
			Horticulture		0	3,534	1,475	5,113	6,588	2,900	1,000
			Leather/Leather products		0	880	0	2,736	2,736	870	0
			Male		0	13,708	15,270	9,254	24,524	4,610	975
			Female		0	1,614	221	3,580	3,801	2,060	325
			Total		0	15,322	15,491	12,834	28,325	6,670	1,300
Custom	Total Value of Investment Increased	USD, mill.	Aquaculture		0	2,604,828	10,025,298	2,150,976	12,176,274	1,300,000	0
			Horticulture		0	217,519	150,136	89,311	239,447	360,000	100,000
			Leather/Leather products		0	200,000	0	180,120	180,120	250,000	0
			Total		0	3,022,346	10,175,434	2,420,407	12,595,841	1,910,000	100,000
Custom	Number of persons participated in WF-dev prog	Number	Aquaculture		0	770	850	920	1,770	1,000	0
			Horticulture		0	870	420	710	1,130	5,700	0
			Leather/Leather products		0	3,200	0	3,496	3,496	2,800	0
			Male		0	2,722	770	2,097	2,867	4,200	0
			Female		0	2,118	500	3,029	3,529	5,300	0
			Total		0	4,840	1,270	5,126	6,396	9,500	0
Custom	Number of firms and farmers receiving USG assistance to access formal loan or micro-credit	Number	Aquaculture		0	750	0	791	791	500	0
			Horticulture		0	0	2,160	3,581	5,741	15,000	4,000
			Leather/Leather products		0	8	0	21	21	0	0
			Male		0	379	1,185	3,917	5,102	14,500	3,800
			Female		0	379	975	476	1,451	1,000	200
			Total		0	758	2,160	4,393	6,553	15,500	4,000
Custom	Total value of sales	USD, mill.	Aquaculture	2011	91,582,790		7,818,539	4,040,804	11,859,342	2,400,000	200,000
			Horticulture	2011	3,633,647		3,990,156	8,537,952	12,528,109	1,900,000	500,000

Indicator No.	Indicator title	Unit	Disaggregated by:	Baseline		FY12 Target	Achieved to end of FY12			FY13 Target	FY14 (Oct-Dec '13) Target
				Year	Value		FTF Zone	Non-FTF Zone	Total		
	increased of USG assisted businesses		Total	2011	95,216,437		11,808,695	12,578,756	24,387,451	4,300,000	700,000

Monitoring & Evaluation Gantt Chart of Activities, FY2013

Activities	Q1	Q2	Q3	Q4	Q5
Setting baselines					
Partner database management					
Hire third party survey and verification firms for performance data collection					
Performance data collection under three sectors					
Quarterly and annual performance data entry and checking					
Data quality assessment					
Quarterly and annual performance data processing and analysis					
Writing quarterly and annual performance reports					
Design evaluation plans for 3 sectors					
Conduct evaluations on the field for 3 sectors					
Writing evaluation reports					
Training on data management					
Any other reports					

Closeout Planning

This draft demobilization plan and closeout timeline is based upon a December 2013 closeout, in accordance with the recently modified project contract.

A. General Considerations and Timing

Chemonics has significant experience conducting project closeouts and we will draw upon that experience for the closeout of the PRICE Project. The expected closeout date for the contract is December 31, 2013, and as this is the final work plan for the project, the draft closeout plan and timeline are included herein. It is expected that this timeline and draft plan will be adjusted as necessary during the final months of the project. The PRICE Project will work with USAID to further develop and refine the closeout plan and timeline as the project progresses.

Based on past experience, Chemonics recognizes that early planning and action are key to successfully closing out projects. Therefore, our draft closeout plan begins in September 2013. The chart below summarizes major aspects of project closeout and their corresponding dates:

Task	Sept 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2013
Demobilization plan to USAID					
Property Disposition Plan to USAID					
Majority of activities are finalized and MOUs are completed					
Pre closeout audit					
Inform staff of end dates					
Close field office					
Close out event, Dhaka					
Dhaka office closes					
Home office close out STTA					
Field accounting close out STTA					
Financial close out					
Final report due to USAID					

B. Pre-Closeout Administrative Audit

Approximately three months before the end date of the project, a home office member of the project management team will travel to Bangladesh to conduct a pre-closeout audit. The purpose of this home office STTA is to review contractual obligations, ensure execution of all deliverables, and update project trackers and financial records. The STTA will work closely with the project staff to refine the timeline for closeout, develop a comprehensive plan including timeline, action items, and responsibility for conducting all closeout related tasks. Where needed, specific training or guidance will be provided to project staff in regards to closeout tasks. A detailed closeout tracker will be developed that project staff and home office staff will use to monitor progress on closeout tasks until the end of the project.

C. Disposition of Property and Equipment

The project will collaborate closely with the Contracting Officer's Representative (COR) to determine how to best dispose of property and equipment purchased with project funds. The project inventory tracker is updated continually after the purchase of any property or equipment. Chemonics plans to submit a detailed property

disposition plan for review by USAID no later than September 2013. The property disposition plan, consisting of office and residence furnishings, computer equipment, and generators, etc., will identify what project equipment is in good condition and could be transferred to other organizations for use or to other operating USAID projects. For non-expendable property our team will take into account the following factors:

1. USAID preference
2. The request of other USAID contractors or partners
3. The partners with whom the project has worked
4. The impact to be achieved by disposing of a given item of property to a given local partner and/or a USAID funded project.

Upon receipt of USAID’s approval to transfer equipment to the recommended recipients, the project office will prepare handover receipts and an inventory inspection form for each recipient organization.

D. Personnel

Expatriate Staff

By October 2013, the home office PMU will send an individualized memo to the Chief of Party to discuss any pending allowances, benefits, coverage, repatriation procedures, and HHE shipment arrangements. The COP is budgeted until December 15, 2013.

Local Staff

It is our intention to assist local staff as much as possible with their transition from employment on the PRICE Project to future employment opportunities. Every effort will be made to assist the staff in finding new opportunities through networking with NGOs, donors, and USAID-funded projects in Bangladesh. Chemonics will provide attestation of employment for all staff.

Home Office Support for Closeout

The home office PMU is committed to ensuring a smooth closeout. The PMU will work closely with the COP and local staff as closeout preparations begin in 2013. Chemonics project management staff will travel to Dhaka approximately three months prior to the end of the project for the pre-closeout administrative audit, as detailed in Section II. Additional closeout STTA trips are planned for November and December 2013 to assist with direct closeout activities. This STTA will work with the office staff to terminate residence and project office leases, prepare the office space for handover, close bank accounts and local accounting records, prepare files for shipment, and other specific closeout tasks. In December 2013 a home office field accountant will travel to Dhaka to conduct a finance closeout audit. Detailed scopes of work for all assignments will be sent to USAID for approval before the assignments begin.

Closeout Staffing Plan

The chart below reflects the plan for the phasing out of PRICE staff. These assumptions are in line with activities in this work plan.

Local Long Term Staff

Name	Position	Location	Oct	Nov	Dec
Shafinaj Rahman	M&E Manager	Dhaka			
Md. Amirul Islam	Leather Team Leader	Dhaka			
Dr. A.B. Siddiqui	Horticulture Team Leader	Dhaka			
Md. Nurul Islam	Aquaculture Team Leader	Dhaka			
Bushra Rahman	Communications Manager	Dhaka			

A.B.M. Nurul Islam	SCF Manager	Dhaka			
Mahmouda Khan	Training & Equity Manager	Dhaka			
Md. Nasirul Islam	M&E Specialist	Dhaka			
Md. Mozammel Huq	Data Specialist	Dhaka			
Md. Abdul Baten Bhuiyan	Aquaculture Advisor	Dhaka			
TBD	Leather Advisor	Dhaka			
Andrii Shkulov	Finance Manager	Dhaka			
TBD	Data Specialist #2	Jessore			
TBD	Data Specialist #3	Jessore			
Kazi Azadur Rahman	Aquaculture Advisor	Jessore			
Md. Abdul Mannan	Aquaculture Advisor	Jessore			
Md. Mizanur Rahman	Horticulture Specialist	Jessore			
Mehedi Hassan	Horticulture Advisor	Jessore			
Ashraful Islam	Horticulture Advisor	Jessore			
Abdul Mannan Sarker	Horticulture Advisor	Jessore			
Rafiqul Islam Faaruqui	Horticulture Advisor	Jessore			

Local Support Staff

Name	Position	Location	Oct	Nov	Dec
Shamima Afroz	Operations Officer	Dhaka			
Md. Yasin Shadat	Accountant	Dhaka			
Zillur Rahman	Office Helper	Dhaka			
Belal Chowdhury	Office Helper	Dhaka			
Tahmina Hussain	Project Information Associate	Dhaka			
Md. Anisur Rahman	Project Support Officer	Dhaka			
Quazi Rizwana Rahman	Executive Secretary	Dhaka			
Siddhertha Kumer Saha	Project Support Officer	Jessore			
TBD	Office Helper	Jessore			

E. Administrative

The PRICE Project office will notify vendors of the project termination and final invoice date by November 15, 2013. Service from local vendors will end on or about December 20, 2013 for the Dhaka office – or earlier, where appropriate. The home office will review the contract and modifications to ensure compliance through December 2013. The home and field office will plan for the following:

- Arrangement for payment of outstanding expenses (utilities, vendors, office lease, deposits, etc.).
- Shipment of technical and financial files to Washington, DC.
- Termination of leases and/or service contracts.
- Termination of project subcontracts.
- Review of files and approvals.

After more than five years of project operations, a key component of project closeout will be the organization of project administrative and technical files so that records may be accessed easily for both future projects and

government audits. Files will be sorted, organized, and packed to be combined with Chemonics Home Office records. The PMU will submit a deliverables tracker to the COR in September 2013 to obtain concurrence on which technical reports should be submitted to USAID's Development Experience Clearinghouse (that have not yet been submitted).

F. Accounting and Banking

The home and project office will continue to monitor accounting files and bank accounts through December 2013 in order to ensure sufficient funding through closure. Most accounting closeout tasks will be completed by December 20, 2013.

G. Closeout Communications

In accordance with our contract requirements, Chemonics is prepared to submit to USAID a final report that summarizes actual achievements against planned performance targets, descriptions of major achievements and supporting data, and an analysis of the impact as a result of interventions. The PMU, COP, and technical team will discuss a schedule for producing the final report approximately six months before the end of the project and will work with USAID to submit an outline for comment.

In coordination with USAID, Chemonics is planning to hold a closeout event in Dhaka in November 2013 to celebrate the work of the project and our partners and the impact that work has made.

POVERTY REDUCTION BY INCREASING THE COMPETITIVENESS OF ENTERPRISES (PRICE)

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