No.

Export Wing, Ministry of Commerce
The People's Republic of Bangladesh

The Study on Potential Sub-Sector Growth for Export Diversification in the People's Republic of Bangladesh

PILOT PROJECT COMPLETION REPORT

March 2009

JAPAN INTERNATIONAL COOPERATION AGENCY

UNICO INTERNATIONAL CORPORATION

IDD
JR
09-014

Abbreviations

	Abbreviation	:	English	Japanese
A	APO	:	Asian Productivity Organization	アジア生産性本部
B	B2B	:	Business to Business	企業間取引
	BASIS	:	Bangladesh Association of Software and Information Services	バングラデシュ･ソフトウェア･情報サービス協会
	BCC	:	Bangladesh Computer Council	バングラデシュ･コンピューター評議会
	BIK Japan	:	Bangladesh IT Kumiai Japan	バングラデシュIT組合
	BIISS	:	Bangladesh Institute of International and Strategic Studies	バングラデシュ国際戦略研究所
C	CAD	:	Computer Aided Design	コンピューター支援設計
	CIDA	:	Canadian International Development Agency	カナダ国際開発庁
D	DAC	:	Development Assistance Committee	(OECD) 開発援助委員会
	DANIDA	:	Danish International Development Assistance	デンマーク国際開発援助
E	EPB	:	Export Promotion Bureau	(バングラデシュ) 輸出振興庁
G	GP	:	Green Productivity	緑の生産性
I	IBPC	:	ICT Business Promotion Council	(バングラデシュ) ICTビジネス振興評議会
	IE	:	Industrial Engineering	生産工学
	ITES	:	IT Enabled Service	IT対応サービス
J	JDP	:	Jute Diversified Products	ジュート多様化製品
L	LEIC	:	Local Enterprise Investment Centre	ローカル企業投資センター
	JICA	:	Japan International Cooperation Agency	国際協力機構
N	NPO	:	National Productivity Organisation	国家生産性本部
O	OECD	:	Organisation for Economic Co-operation and Development	経済協力開発機構
P	PDM	:	Project Design Matrix	プロジェクト･デザイン･マトリクス
	PIC	:	Productivity Improvement Cell	生産性改善セル
Q	QC	:	Quality Control	品質
S	SE	:	System Engineer	システム･エンジニア
	SI	:	System Integrator	システム･インテグレーター
T	TQM	:	Total Quality Management	総合的品質管理

Table of Contents

List of Figures and Tables

Chapter 1 Jute Products Industry

Chapter 2 Computer Software Industry

Attachment

Chapter 1 Jute Products Industry

Chapter 2 Computer Software Industry

Chapter 1 Jute Products Industry

Chapter 1 Jute Products Industry

1.1 Design of the Pilot Project

1.1.1 Design Concept

The selected Pilot Project aims to introduce the "KAIZEN (continuous improvement)" technique that has developed in Japan to Bangladesh. Its primary objective is to improve productivity of the jute mills that have the currently operating spinning and weaving processes. Basic principles of project selection and conceptual design are described below in terms of relevance to the Study's objective, i.e., export diversification.

(1) Strengthening of the key export sub-sector

In Bangladesh, garment products account for 75% of the total value of the country's exports, followed by frozen shrimps and jute and jute products, which hold 4 to 5% share each. Other export items account for a combined share of around 20%. For the interest of reducing the risk of depending heavily on garment exports, it is therefore important to boast exports of products that ranked near to the enormous garment sector. Although jute has been a traditional export item but was losing its ground, jute has now potential to grow in the international market by taking advantage of its environment-friendly nature. Thus, the Pilot Project contributes to export diversification by improving the position of jute products.

(2) Need for high quality yarns for diversification of jute products

At present, jute products exported from Bangladesh are dominated by low value added products, such as traditional sacks, cords and ropes, and carpet backing cloth. To make higher value added products (curtains, other materials for household goods and clothes that mix spun jute and other fabrics), it is imperative to produce fine jute yarns of uniform thickness, without any knot to join broken fibers.

At present, the industry produces jute yarns for low value added products due to outdated equipment and low levels of production and management technologies. Thus, commercialization of so-called Jute Diversified Products (such as a shopping bag) by using low quality jute yarns currently available in the country will not likely contribute greatly to export growth, even if design is modified to meet the market needs. An optimum solution is to establish production capability to make yarns and woven fabrics that can be used for production of high grade jute products.

(3) Possibility of export expansion through capacity utilization ratio

In the international market, jute regains popularity on account of environmental friendliness in comparison to synthetic fibers. However, jute mills in the country seem to be operated at around 50% or below in capacity utilization. Although the Pilot Project could take just four model jute mills as an experimental purpose of KAIZEN technologies, it is expected that the KAIZEN approach is applied to a total of 124 jute mills over the country. If the operating rate is improved by 10% through application of KAIZEN techniques, exports can be increased by US$100 million, which is equivalent to the value of export of an item in the top ten.

1.1.2 Scope of the Project

1.1.2.1 Summary of the Project

Conceptual design of the Pilot Project for jute products was made as follows.

Name of Project:	Production Processes Improvement (KAIZEN) Project
Target Area:	Throughout Bangladesh
Target Group:	Private jute mills in Bangladesh, which have spinning and weaving processes. Four mills are selected as experimental mills.
Implementing Body:	National Productivity Organisation (NPO) (Supporting Agencies) JICA team and EPB
Overall Goal:	Export of jute products of Bangladesh will increase in terms of value and volume.
Project Purpose:	Four experimental mills will strengthen international competitiveness by improving productivity and quality, and method of KAIZEN will come into wide use in jute mills in Bangladesh

Output

1. A KAIZEN team is organized in a mill and commences collection of performance data of the mill.
2. Method of the performance data collection is reviewed and revised for continuation.
3. Subjects and method of KAIZEN are scrutinized upon the collected data and KAIZEN starts.
4. KAIZEN activities are continued with periodical review and necessary revisions.

5. The results and effects of KAIZEN are summarized for released to public as good practices.

Activities (Those activities are done in each experimental mill)

1-1 Organize a KAIZEN team in a mill.
1-2 Structure a KAIZEN system among the management of the mill, the JICA team and the KAIZEN team.
1-3 Make stakeholders and all employees of the mill aware of the KAIZEN movement.
1-4 The JICA team teaches the KAIZEN team activities of KAIZEN.
1-5 The KAIZEN team begins collection of performance data of the mill.
2-1 The JICA team reviews the midway results of the data collection and give necessary revisions to the KAIZEN team.
2.2 Preliminarily summarize the performance data and discuss production processes to be improved by KAIZEN activities.
2-3 Determine the method of data collection to be done by the KAIZEN team until the next visit of the JICA team to the mill.
3-1 Discuss and determine subjects, target figures for improvement and methods of KAIZEN.
3-2 A KAIZEN team implements KAIZEN activities by a guidance of the JICA team.
4-1 Review the effects of KAIZEN and revise methods if the target figures are not achieved.
4-2 Review and revise method of KAIZEN so as to achieve the target figures.
5-1 Compare the performance data Before- and After-KAIZEN and assess the effects of KAIZEN.
5-2 Announce the effects of KAIZEN to all stakeholders and employees of the mill and organize a permanent system to continue KAIZEN.
5-3 Release the effects of KAIZEN to the public at a KAIZEN seminar.
5-4 Publish a report of the KAIZEN practice for the benefit of the jute products industry in Bangladesh.

1.1.2.2 Project Description

(1) Definition of KAIZEN for the Pilot Project

The KAIZEN has wide range of approaches applicable for production control and quality management specifically in the field of production site. Japanese word “KAIZEN” directly means “Continuous Improvement” in English. KAIZEN so-called for the Pilot Project contains the following three major basic concepts:

1) Strict and detailed process control under the slogan “the next process is your customer.”
2) Strict enforcement of 5S activities under the slogan “high quality products come from a clean factory.”
3) Strict application of “systemized visible management”

1) The next process is your customer

This concept constitutes the foundation of any KAIZEN activity. Process control should be made in such manner to facilitate productivity improvement efforts in the subsequent process. Its conceptual view is shown Figure 1.1-1.

- Spinning process : Customer is the Weaving process
- Weaving process : Customer is the Sewing process
- Sewing process: Customer is the Packing and Stocking process

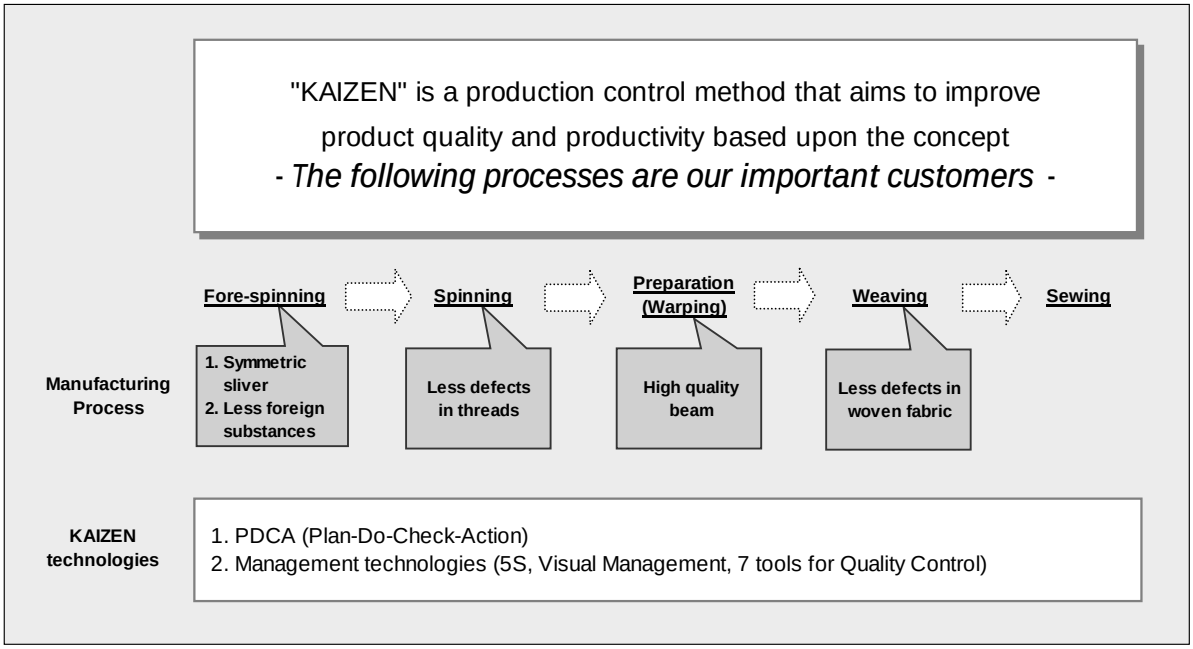

Figure 1.1-1 Pilot Project Concept for Jute Products Industry

2) High quality products come from a clean factory

It is no exaggeration to say: “High quality products come only from a clean factory.” This is a golden rule governing any manufacturing industry. Unfortunately the golden rule is neglected by jute mills in Bangladesh, which are dusty and untidy. In the raw jute splitting process, visibility is limited to five meters due to floating jute waste. In fact, jute waste floats throughout the mill, including the spinning and weaving processes. Clearly, most jute mills are in the poor working environment that should be dealt with before

application of proper process control. It is therefore imperative to start KAIZEN activity with 5S (especially, 3S (cleaning, tidying, and setting in order)).

The 5S represents the first letter of five words important for maintaining factories and offices ordinary. These words are translated to various languages also using the five words starting S as shown in the Table 1.1-1. The 5S, originated in Japan and widely adopted not only in Japan but also in various areas and countries, represents the basic code of conduct to support efficient and productive activities on the shop floor, as shown in Figure 1.1-2.

Note that the Pilot Project implemented 3S, instead of 5S, concurrently with KAIZEN activities covering the production line.

1) Seiri (sort)
2) Seiton (set in order)
3) Seisou (shine)

The implementation process started in a model section established at each mill. As 3S becomes daily practice, actual activities conducted on the shop floor are to be made visible to everyone by using visual management techniques. If favorable results are obtained at the model section, implementation is to be deployed to other sections.

Table 1.1-1 5S in Various Language

Japanese	English	Spanish	Bengali
SEIRI	Sort Tidiness Organization	Selectional	Proysoniy → Sajano
SEITON	Set in order Orderliness	Ordenir	Parikalpit → Sangpfth Kara
SEISOU	Shine Cleaning Systematization	Limpiar	Parishkar → Saf Kara
SEIKETSU	Sustain Clean, Neat	Uniformar	Paribesh → Salbniy
SHITSUKE	Standardize Discipline	Disciplana	Brashikan → Sanrakhon

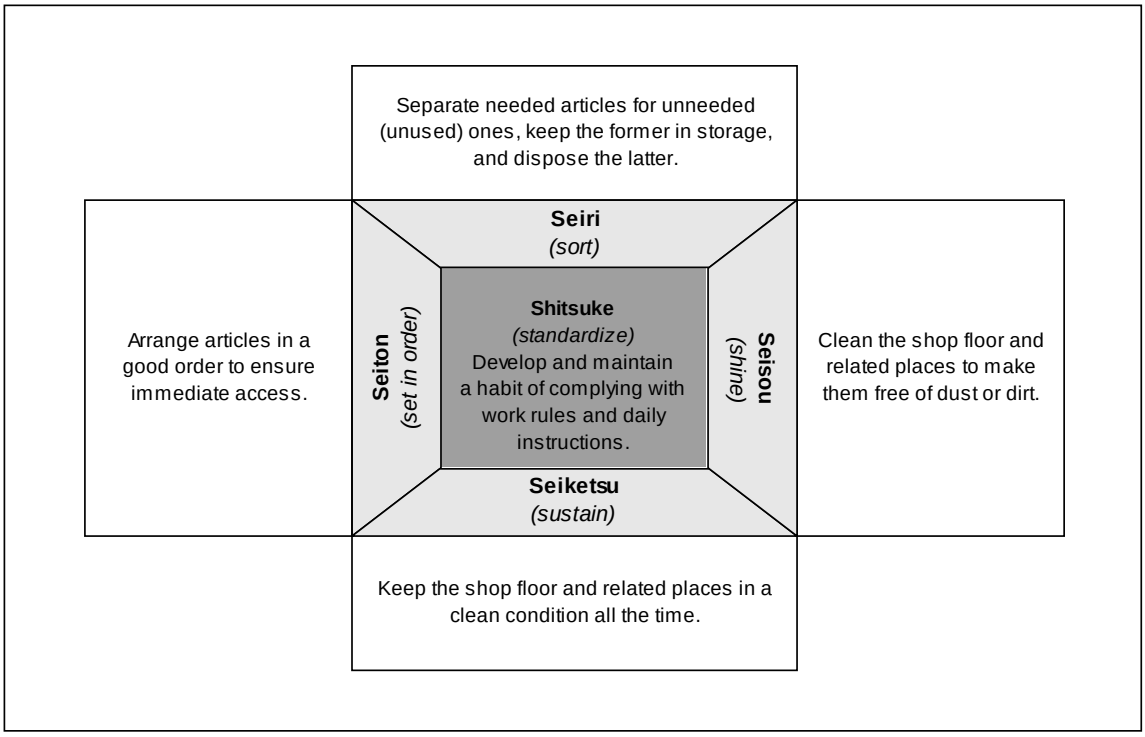

Figure 1.1-2 5S Explained by Element

3) Systemized Visible Management

The actual state and progress of production control should be made known to factory managers and workers in a comprehensive and quantitative form. Specifically, it is important to post applicable job standards, key points in machinery maintenance, the summary of thread breakage and machinery stoppage rates, histograms tabulating their causes, and the method of ending (with photos) on a bulletin board in a visible manner. These materials should also be used for workers' education and training. Job standards should then be revised and updated from time to time as part of small group activity. So-called "QC Seven Tools" for visual management consists of the following graphic methods: i) Graphs (Pie graph, bar graph, and line graph), ii) Pareto Diagram, iii) Cause and effect diagram, iv) Check sheet, v) Histogram, vi) Scatter diagram and vii) Control chart.

Refer to Table 1.1-2 for Project Design Matrix (PDM) for the Pilot Project.

Table 1.1-2 PDM (Project Design Matrix) <1/2>

Ver. No.: 0.2(E)

Date: June 30, 2008

Name of Project: Production Processes Improvement (KAIZEN) Project

Project Period: Oct. 1, 2007 - August 31, 2008 (11 months)

Target Area: Throughout Bangladesh

Target Group: Private jute mills in Bangladesh, which have spinning and weaving processes. Four mills are selected as experimental mills.

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Export of jute products of Bangladesh will increase in terms of value and volume.	* By the year 2009-10, export of jute products of Bangladesh will have increased 10% in terms of value and volume compared to 2006-07.	* National statistics.	
Project Purpose Productivity of jute mills in Bangladesh will be enhanced through KAIZEN activities.	* By the end of 2010, productivity will have increased by 30%, on a quantity basis, compared to that at the beginning of the Project, for the standard product (selected in the First Visit) in every model mill.	* Production control documents in the mill.	* Plentiful supply of raw jute will be secured. * Availability of raw jute, labor and energy will not deteriorate from the level in 2006-07.
	* By the end of 2010, the machine stoppage ratio (thread breakage ratio in case of spinning process) of the standard product will have improved 30%, on a reduction-rate basis, compared to that at the beginning of the Project, in every model mill.	* Performance data collected in the course of the Project.	* KAIZEN activities will sustainably spread to many jute mills. * Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.
	* By the end of the year 2009, additional 10 jute mills will have initiated KAIZEN activities, instructed by NPO.	* Report by NPO.	
Output 1. A KAIZEN team is organized in a mill and commences collection of performance data of the mill.	1. By the end of the 3rd Field Survey, the lists of KAIZEN team members and the results of first data collection will have been obtained from the four mills.	1. Submitted by each mill.	* Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.
2. Method of the performance data collection is reviewed and revised for continuation.	2-1. By the end of the 3rd Field Survey, a summary of first data collection will have been provided to each mill.	2-1. "Report of First Visit" submitted to each mill by the JICA Study Team.	* Power supply will not worsen from the level at the beginning of the Project.
	2-2. By the end of the 3rd Field Survey, revised blank check sheets will have been provided for further data collection.	2-2. Provided by the JICA Study Team.	* The quality of raw jute will not seriously degrade from the level at the beginning of the Project.
3. Subjects and method of KAIZEN are scrutinized upon the collected data and KAIZEN starts.	3. By the end of the 3rd Field Survey, the management and the KAIZEN team will have made a commitment to the subjects and methods of KAIZEN for each mill.	3. Seminars held at the end of the First Visit to each mill, with attendance of the management, the KAIZEN team, and the JICA Study Team.	* Business environment for jute mills in Bangladesh will not deteriorate to the extent which discourages the managements against any further challenge.
4. KAIZEN activities are continued with periodical review and necessary revisions.	4. By the end of the 5th Field Survey, 30% improvement in performance data compared to the beginning of the Project will have been observed for the first priority subject in each mill.	4. Performance data collected in the course of the Project.	
5. The results and effects of KAIZEN are summarized for released to public as good practices.	5. By the end of the 6th Field Survey, a report of KAIZEN practice in the four mills will have been compiled and distributed among stakeholders including media representatives and other jute mills.	5. Report booklets prepared by the JICA Study Team and an explanatory seminar with attendance of media representatives and other jute mills where the booklets will be distributed.	

Table 1.1-2 PDM (Project Design Matrix) <2/2>

Activities	Input[a]		
	Japan	Bangladesh	
1-1. Organize a KAIZEN team in a mill. 1-2. Structure a KAIZEN system among the management of the mill, the JICA team and the KAIZEN team. 1-3. Make stakeholders and all employees of the mill aware of the KAIZEN movement. 1-4. The JICA team teaches the KAIZEN team activities of KAIZEN. 1-5. The KAIZEN team begins collection of performance data of the mill.	**Human resources** Project Leader & Expert [Production control technology] 4.4M/M Expert [Management methods] 4.47M/M Project Coordinator 1.17M/M Japanese-Bengali Translator 4.5M/M	**Human resources** KAIZEN methods Experts (NPO) 9M/M **Facilities** A conference/lecture room at each mill Accommodation for the JICA Study Team at each mill Meal service for the JICA Study Team at each mill	* Four experimental mills remain to be active participants in the Project and agree to disclose necessary data. * Experts from NPO who are trained through participating in the Project will continue to be dispatched for the Project.
2-1. The JICA team reviews the midway results of the data collection and give necessary revisions to the KAIZEN team. 2-2. Preliminarily summarize the performance data and discuss production processes to be improved by KAIZEN activities. 2-3. Determine the method of data collection to be done by the KAIZEN team until the next visit of the JICA team to the mill.	**Equipments and supplies** Measuring tools and other equipments JPY 450,000 Papers and other supplies JPY 20,000 **Travel expenses** Rental cars JPY 730,000		
3-1. Discuss and determine subjects, target figures for improvement and methods of KAIZEN. 3-2. A KAIZEN team implements KAIZEN activities by a guidance of the JICA team.	Fee for accommodation and meals JPY 920,000 Daily allowances to NPO Experts JPY 310,000		**Pre-Conditions** * Four experimental mills participate in the Project as previously arranged. * NPO dispatches experts to cooperate with JICA Study Team.
4-1. Review the effects of KAIZEN and revise methods if the target figures are not achieved. 4-2. Review and revise method of KAIZEN so as to achieve the target figures.			
5-1. Compare the performance data Before- and After-KAIZEN and assess the effects of KAIZEN. 5-2. Announce the effects of KAIZEN to all stakeholders and employees of the mill and organize a permanent system to continue KAIZEN. 5-3. Release the effects of KAIZEN to the public at a KAIZEN seminar. 5-4. Publish a report of the KAIZEN practice for the benefit of the jute products industry in Bangladesh.			

a. Assumptions for calculation of Inputs

Japan - Human resources

Mr. Uesugi, Mr. Nishigaki and the Translator (Mr. Alam) for the 3rd, 4th, 5th and 6th Field Surveys.
Project Coordinator M/M may need to be adjusted to reflect the actual assignment.

Japan - Equipments and supplies

Derived from the cost estimates for Pilot Projects by Mr. Sugiyama. Rounded up.

Japan - Travel expenses

Number of days the JICA Study Team will stay at mills is estimated to total 76 (28+16+16+16).
Number of persons staying at mills is estimated to average 6 (JICA team 4+NPO 2).
Rental car: JPY9,582/day × total days(76). Rounded up.
Accommodation & meals: JPY2,000/man-day×total man-day(76×6=456). Rounded up.
Daily Allowances to NPO experts: JPY2,000/man-day×total man-day(76×2=152). Rounded up.

Bangladesh - Human resources

Number of persons participating on site is estimated to average 2 (same as above).

1.1.3 Organization for Project Implementation

1.1.3.1 Counterpart : National Productivity Organisation (NPO)

In Bangladesh, KAIZEN and 5S are virtually unknown to industry and other sectors. To disseminate these concepts, the JICA Study Team has decided to transfer knowledge and expertise in the course of the Pilot Project, namely advisory service for selected mills. For this purpose, National Productivity Organisation (NPO) was named as the counterpart organization to receive technology transfer on an OJT basis. NPO has agreed to make its staff members accompany the Study Team as they visit client companies. On September 30, 2007 the Study Team and NPO signed an agreement to assign NPO's three staff members to the Pilot Project and make at least one staff accompany the Study Team during field service. Upon completion of the Pilot Project, NPO was to be responsible for dissemination of KAIZEN techniques for the jute industry, as transferred by the Study Team, to other companies in the industry. NPO made a special agreement with the JICA Study Team for cooperation to the Pilot Project as shown in Attachment 1.1-1 attached at the end of this Chapter.

The following are general description on NPO and the implementation system for advisory service under the Pilot Project.

(1) Background and objective of the establishment of NPO

WHAT IS NPO?

National Productivity Organisation (NPO) is a government department under the Ministry of Industries established in 1989. It is a national level organization specialized in productivity promotion with the mission to accelerate the pace of economic development through its multidimensional activities including the creation of productivity awareness, development of productivity infrastructure and implementation of productivity improvement programs. NPO is the only organization responsible for formulation and implementation of productivity-related policy of the Bangladesh government. NPO also implements plans and programs of the Tokyo based Asian Productivity Organization (APO) which is an inter-government body covering the Asia pacific region.

OBJECTIVES

* Act as a promoter to create and disseminate productivity consciousness and awareness to the general population particularly industrial enterprises
* Develop an institutional framework for productivity movement in the country
* Undertake human resources development (HRD) programs focusing on productivity

improvement and skill development

* Conduct surveys, research and study in the area of productivity
* Convert industrial enterprises into efficient, profitable and productive organizations by adopting productivity improvement activities continuously and systematically
* Assist the government in formulating productivity policy

(2) NPO's services and activities

PROFILE OF NPO SERVICES

* Basic concept of productivity
* Productivity measurement & analysis
* Total quality management (TQM)
* 5S practice
* KAIZEN practice
* Green productivity
* Quality control circle (QCC)
* ISO-9000
* Labour-management cooperation
* Value added analysis
* Industrial engineering (IE)
* Productivity improvement cell (PIC)
* Productivity gain-sharing
* Problem-solving & decision-making
* Benchmarking

ACTIVITIES

1. Conduct regular and special training courses on productivity for the purpose of promoting skill improvement of management personnel, supervisors, workers and trade union officials
2. Organize seminars, symposiums, workshops and discussion meetings on productivity issues at national, sector and firm levels
3. Collect and compile productivity related information and store them in a Data Bank for dissemination
4. Render guidance and consulting services to enterprises for improvement of productivity
5. Organize inter-firm comparison and business-clinic for members of management to enable them to compare their level of productivity and reap benefits from each other's experience
6. Encourage and assist enterprises to set up Productivity Improvement Cell (PIC) to transform the establishment into a profitable and productive organization

7. Undertake research and study on productivity and prepare research reports on various aspects
8. Organize productivity awareness campaigns through mass media

(3) NPO's organization

NPO activities cover the following sectors

(i) Jute industries
(ii) Textile industries
(iii) Chemical industries
(iv) Engineering industries
(v) Sugar & food industries
(vi) Small & cottage industries
(vii) Service industries
(viii) Agriculture sector

As shown in Figure 1.1-3, NPO has 66 staff members including one director, one joint director, six senior research officers, twelve research officers, one administrative officer, twelve statistical investigator and other supporting staff.

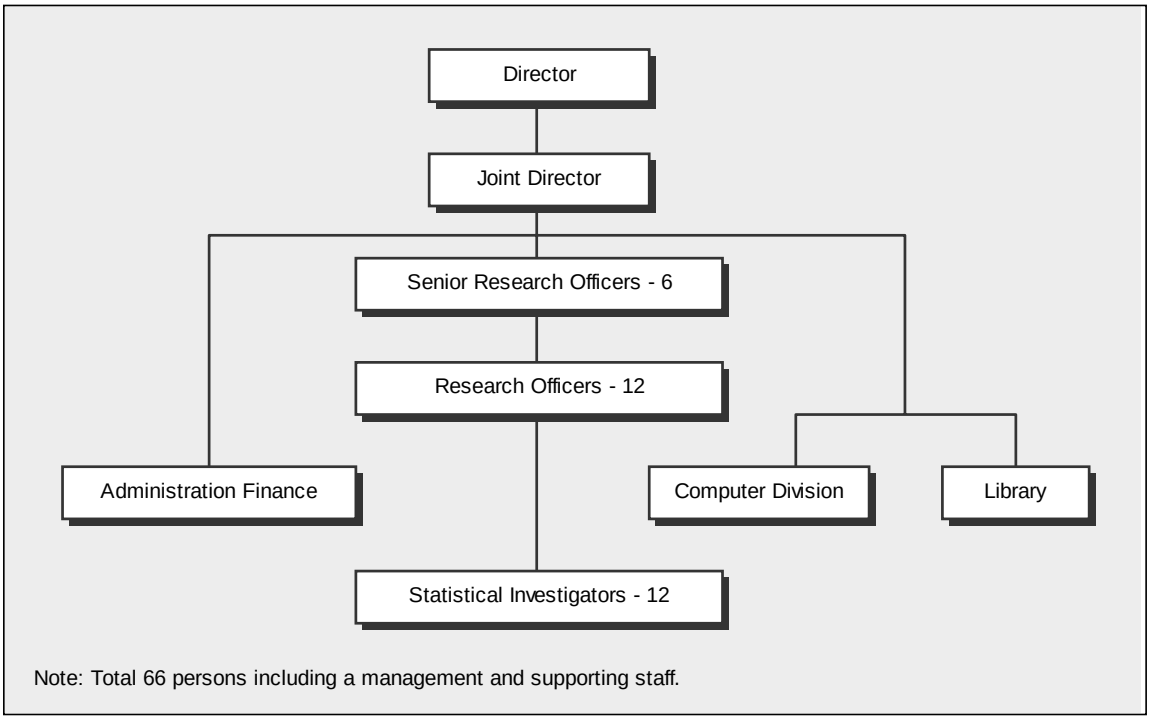

Figure 1.1-3 National Productivity Organisation (Organization Chart)

1.1.3.2 Organization for Project Implementation

(1) Team of instructors

The Pilot Project for improvement of jute production technology was conducted by a consulting team who visit the selected four mills. The consulting team consisted of the following members in Table 1.1-3.

Table 1.1-3 KAIZEN Working Group

KAIZEN Technical Support Team	JICA Study Team	Mr. Yasuo TAKEUCHI Sub-leader of the JICA Study Team, Pilot Project leader
		Mr. Yasuo UESUGI Expert in charge of production control technology
		Mr. Naoya NISHIGAKI Expert in charge of management methods / cost management
		Mr. Md. Shahe Alam Translator (Japanese and English/Bengali)
	NPO	(Team-Leader) Mrs. Awlia Khanam, Senior Research Officer
		Mr. MD. Abdul Musabbir, Research Officer
		Mr. MD. Nazrul Islam, Statistical Investigator
KAIZEN team		15-25 officers were assigned in each mill.

* At least 1 member of NPO staff accompanies the JICA Study Team at any time.

At the same time, the mill that received the consulting team organized a KAIZEN team. The Study Team had requested each company for formation of a KAIZEN team consisting of around 20 persons whose job types are shown in Table 1.1-5.

(2) Selected model jute mills

Companies that participated in the Pilot Project (KAIZEN implementation process) were selected from those that had attended at the workshop on June 24, 2007. At the workshop, the JICA Study Team outlined the Pilot Project and invited attendants to participate in the Project. A total of eight companies had made a formal application but the JICA Study Team had to narrow them down to four mills, shown in Table 1.1-4, for scheduling reasons.

The eight companies were evaluated according to a set of selection criteria. The primary factor was the geographical location (near Dhaka) to allow efficient itinerary in providing advisory service. Also taken into consideration were that the selected companies had their own spinning and weaving processes, that their levels of technology varied, and that their

management was willing to lead KAIZEN activities as confirmed by the JICA Study Team upon visit. As a result, the following four companies were selected and the Study Team signed an agreement with each company on July 5 2007, with regard to participation and cooperation relating to the Pilot Project.

Table 1.1-4 Participating Companies in the Pilot Project for Jute Products Industry

Company Name	Address		Main Products	Capacity	No. of Employees
Broad Burlap Industries Ltd.	Betka, Munshinganj	Mr. Kafil Choudhury (Executive Director)	Yarn, CBC	Spinning: 2144SPL, Loom:68 (wide loom for cbc) Production: 6-8t/day	550
Janata Jute Mills Ltd. (mill no.1)	Palash, Narsingdi	Mr. Mahamudul Huq (Deputy Managing Director)	Hessian Cloth, Sacking	Spinning: 4300, Loom:287 (conventional), Production: 20-30t/day	1734
Nabarun Jute Mills Ltd.	Kanchan, Pu Pang, Narayougang	Mr. T.D.Mitra (Director)	Hessian Cloth, Sacking, Yarn	Spinning: 3140, Loom:250 (conventional), Production: 20t/day	850-870
Pubali Jute Mills Ltd.	Gharasal, Narsingdi	Mr. Kamran T.Rahman	Hessian Cloth, Sacking	Spinning: 3400, Loom:220 (conventional), production: 18t/day	1220

* Production: Yarn Basis

(3) KAIZEN team in model jute mills

A KAIZEN team was organized in each mill as a counterpart to the consulting team assigning members by production process wise.

Table 1.1-5 「KAIZEN」 Team Members

Team Leader (Managerial position)		1 person
Spinning process:	Fore-spinning Process	2 persons
	Spinning and Twisting Processes	2 persons
	Maintenance (1 for Fore-spinning, 1 for Spinner and 1 for Winder)	3 persons
Weaving process:	Preparation Process	2 persons
	Weaving Process	2 persons
	Maintenance (1 for Preparation and 1 for Weaving Machine)	2 persons
Inspection		2 persons
Laboratory		2 persons
Process Management		2-3 persons
Costing		2 persons
Total Members		22-23 persons

1.1.4 Implementation Schedule

Figure 1.1-4 shows a timetable for implementation of the Pilot Project. As shown below, field surveys in Bangladesh and activities in Japan were carried out alternately. During the Pilot Project, a total of four field surveys were conducted. Activity schedule for each field survey is outlined as follows. Note that activity numbers and description are same as those contained in the conceptual design in the section 1.1.2.1.

(1) The 3rd field survey ----- Round (1)

(September 21, 2007 ~ November 11, 2007 <51 days>)

1-1 Organize a KAIZEN team in a mill.

1-2 Establish a KAIZEN system among the management of the mill, the JICA team and the KAIZEN team.

1-3 Make the start of the KAIZEN movement known to stakeholders and all employees of the mill.

1-4 The JICA team teaches the KAIZEN team Knowledge and techniques relating to KAIZEN activities.

1-5 The KAIZEN team begins collection of performance data of the mill.

(2) The 4th field survey ----- Round (2)

(January 11, 2008 ~ February 9, 2008 <30 days>)

2-1 The JICA team reviews the interim results of data collection activities and gives advice including revisions to the KAIZEN team.

2.2 Tabulate the performance data and identify production processes to be improved by KAIZEN activities.

2-3 Determine the data collection method to be done by the KAIZEN team until the subsequent visit by the JICA team to the mill.

(3) The 5th field survey ----- Round (3)

(May 1, 2008 ~ the end of May 2008 <30 days>)

3-1 Discuss and determine subjects, target figures for improvement and specific KAIZEN method.

3-2 A KAIZEN team conducts KAIZEN activities under guidance and advice of the JICA team.

4-1 Review the effects of KAIZEN activities and revise the methods if the target figures are not achieved.

4-2 Review and revise the KAIZEN methods necessary to achieve the target figures.

(4) 6th field survey ----- Round (4)

(August 1, 2008 ~ August 30, 2008 <30 days>)

5-1 Compare the performance data before- and after-KAIZEN and assess the effects of KAIZEN activities.

5-2 Announce the effects of KAIZEN activities to all stakeholders and employees of the mill and organize a formal permanent system to drive continuous KAIZEN activities.

5-3 Make the effects of KAIZEN activities known to the general public at a KAIZEN seminar.

5-4 Publish a report on the KAIZEN practice and its results for the benefit of the entire jute products industry in Bangladesh.

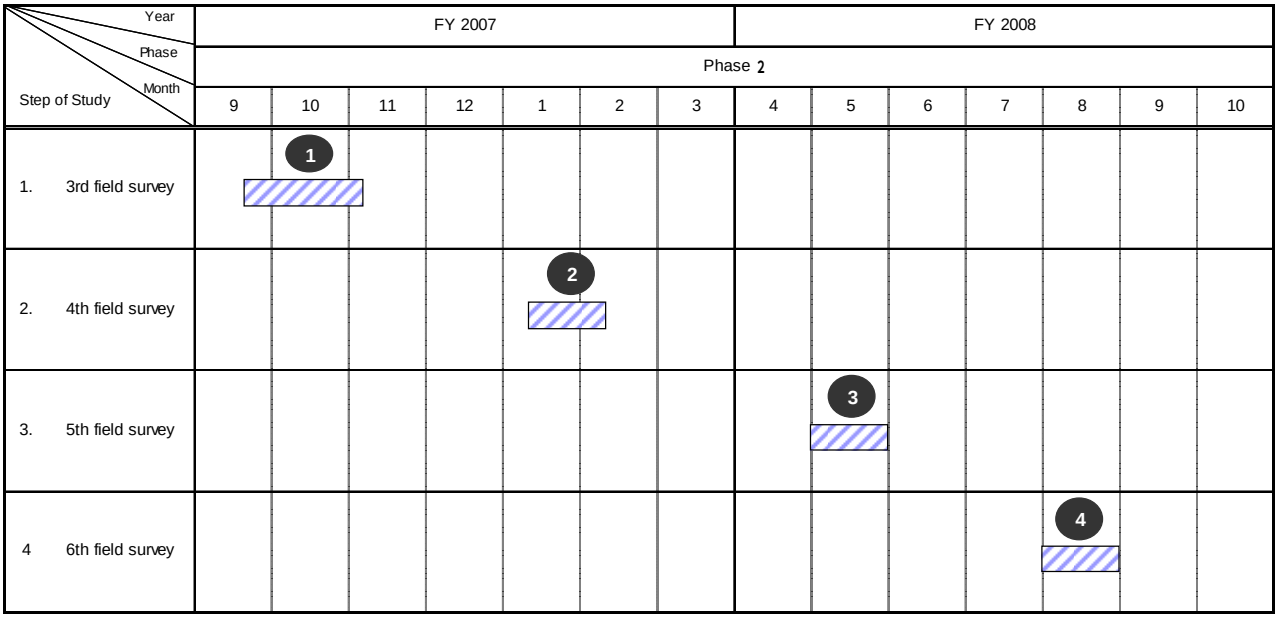

Figure 1.1-4 Work Schedule for Pilot Project for Jute Products Industry

1.2 Implementation of the Pilot Project

1.2.1 Flow of Activities in the Pilot Project

1.2.1.1 PDCA Cycle for the Pilot Project

KAIZEN activities or the Pilot Project were carried out using PDCA (Plan-Do-Check-Action) cycle that is designed as follows.

Step 1: Plan

A Determine KAIZEN target items.
B Collect relevant data and information to grasp the current state and situation.
C Analyze the relevant data.
D Develop specific KAIZEN actions.

Step 2: Do

A Carry out specific KAIZEN actions or measures.
B Collect data and information.

Step 3: Check

A Check if each action/measure has been implemented according to the prescribed procedures.
B Verify that expected results have been obtained.

Step 4: Action

A Take an action to prevent recurrence if a cause for a defect or trouble is identified.
B Correct a previous method or procedure that has been found problematic.
C Examine any issue requiring further improvement, as found in the course of the KAIZEN process.

The above four steps were repeated to ensure steady upgrading of technology. Also, the Pilot Project tried to cover the entire production process up to the final step, while providing effective training for mill workers. Figure 1.2-1 shows a typical production flow of the four model jute mills which have a spinning process and a weaving process.

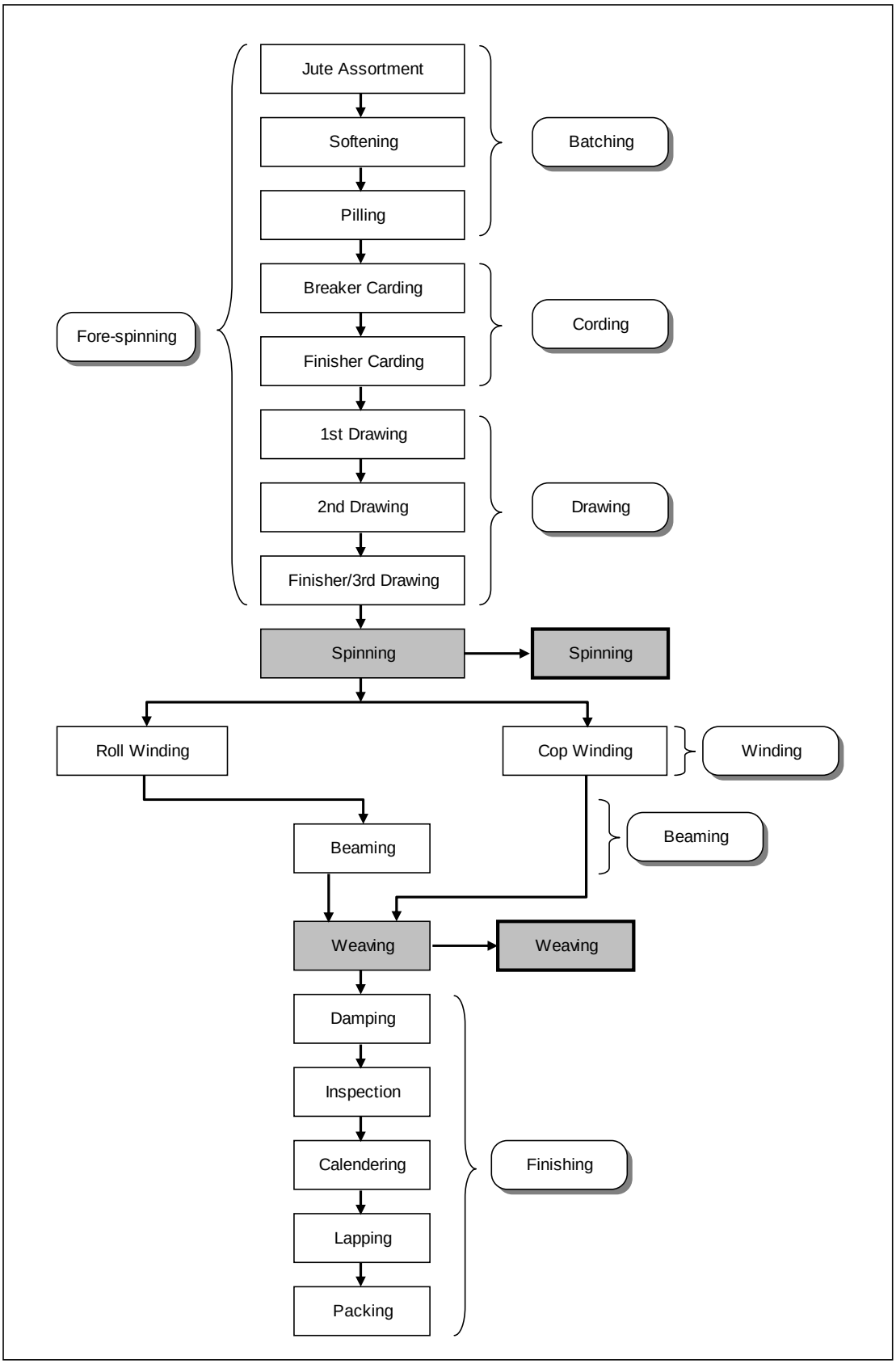

Figure 1.2-1 Typical Production Process of Jute Mills

1.2.1.2 Design of Mill Visits

KAIZEN activities were carried out during three mill visits. The general work flow from the first mill visit to the third mill visit is summarized in Figure 1.2-2. The following four points were important during the second and third visit activities.

(1) To assess, in quantitative terms (in the form of data collection), the results of corrective measures proposed during the previous visit.

(2) To set quantitative targets for the next round of the Project, while developing improvement measures to achieve them.

(3) To implement the improvement measures and identify a cause for difference between the target and the actual result, if any.

(4) To sustain the effect of the improvement results by establishing an adequate "job standard."

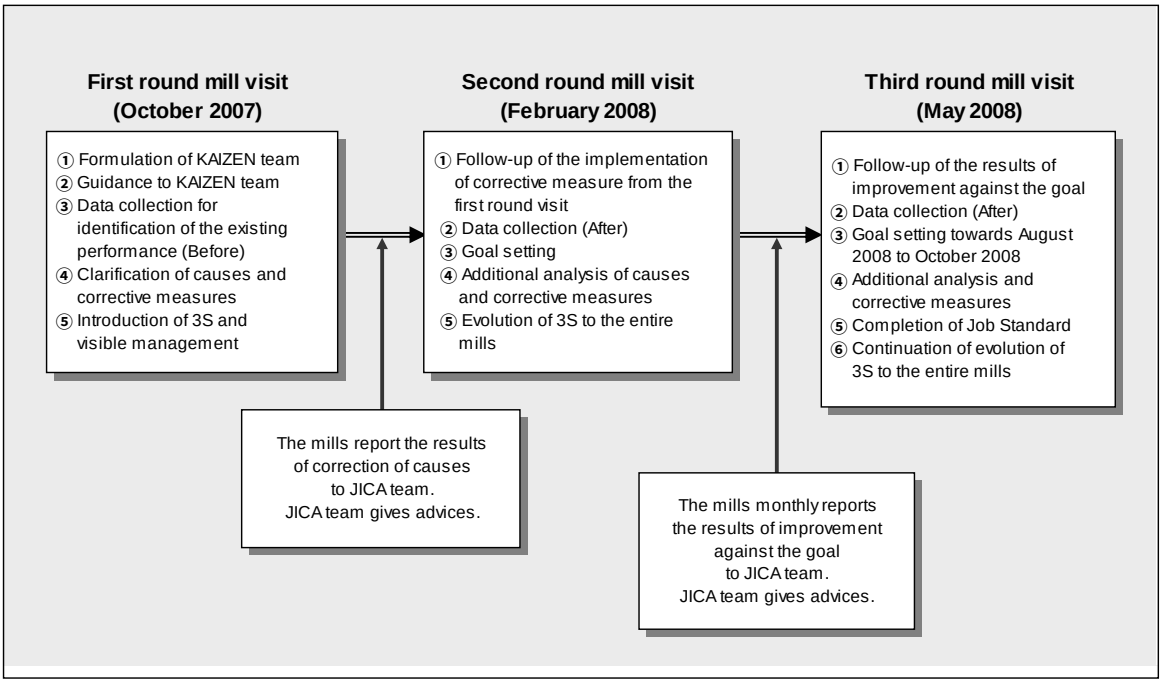

Figure 1.2-2 Three-Round Mill Visits

1.2.2 Timetable for Mill Visits During the Pilot Project

Every time when the JICA Study Team began the field survey, the Team visited the head office of each model mill to see its top management or owners. The JICA Study Team beforehand explained the timetable of mill visits and asked them to make necessary instruction to managers of their jute mills. The following is outline of KAIZEN activities made on site of jute mills for four times over one year.

1.2.2.1 The 3rd Field Survey --- 1st Round of Mill Visit

(1) Visits to head office and mills

Table 1.2-1 Visits to Head Offices and Jute Mills

Company	Date	Interviewee	Interviewer	Mill visit	Working group	Instructors
JANATA JUTE MILLS	2007/9/26 AM	CEO and top management, mill manager	JICA Study Team and NPO staff	2007/10/1~7 (6 working days)	Mill manager and KAIZEN team members	JICA Study Team and NPO staff
PUBALI JUTE MILLS	2007/9/26 PM	- ditto -	- ditto -	2007/10/8~11/8 (6 working days)	- ditto -	- ditto -
NABARUN JUTE MILLS	2007/9/27 AM	- ditto -	- ditto -	2007/10/21~27 (6 working days)	- ditto -	- ditto -
BROAD BURLAP INDUSTRIES	2007/9/27 PM	- ditto -	- ditto -	2007/10/28~11/3 (6 working days)	- ditto -	- ditto -

(2) Daily activities

Table 1.2-2 6-Day KAIZEN Activities (1st Round)

Day 1: Introduction

Day	Time	Activities	Organizer / Lecturer	Participants
Day 1	9:00-9:30	President to announce the Pilot Project kickoff. ★ Introduce KAIZEN Project ★ Request all members to cooperate for Pilot Project and achieve solid results.	President	• Executives of the mill • All members of the KAIZEN team
	9:30-12:30	• Introduction to the concept of KAIZEN • Production Control Technology of KAIZEN	Yasuo Uesugi, JICA Study Team	Same as above
	13:30-15:30	• Visual Management of KAIZEN (3S, QC Seven Tools, Charts)	Naoya Nishigaki, JICA Study Team	Same as above
	15:30-17:30	• Cost Management of KAIZEN	Naoya Nishigaki, JICA StudyTeam	Same as above
	(During the KAIZEN team member is lectured by Nishigaki) 13:30-17:00 Uesugi is to make an inspection of the mill with interpretations by the Director.			

Day 2-4: Data Collection in the Model Workplace

Uesugi team: Data Collection by Processes mainly focused on the Standard Products

Day	Time	Process	Participating member of the KAIZEN team
Day 2	AM	• Warehouse (Acceptance Inspection Standard and Grading of Material Quality) • Fore-Spinning (Spreading, Pilling and Carding)	• Expert of the Process • Maintenance Expert of the Process • Laboratory member
	PM	• Fore-Spinning (Drawing 1-3)	Same as above
Day 3	AM	• Spinning	Same as above
	PM	• Preparation (Twisting, Doubling and Warping)	Same as above
Day 4	AM	• Weaving	Same as above
	PM	• Sewing • Inspection • Packaging	Same as above

Nishigaki team: Focus on Maintenance and Repair Section as the model workplace. (Problems in production are specified through understanding the situations for Maintenance and Repair.)
Collection of Data on Cost Management

Day	Time	Activities	Participating member of the KAIZEN team
Day 2	All Day	• Collection of Data in Maintenance and Repair Section	• KAIZEN team members who are NOT participating in the activities of Uesugi team.
Day 3	All Day	• Experimental implementation of Visual Management in the Maintenance and Repair Section	Same as above
Day 4	All Day	• Collection of data on Cost Management	Same as above

Day 5: Organization of Collected Data and Summary Report to the Executives of the Mill

Day	Time	Activities	Participants
Day 5	AM-15:00	• Organization of collected data	• KAIZEN team members
	15:00-	• Summary Report to the executives of the mill	• Executives of the mill

Day 6: Organization of Collected Data and Summary Report to the Executives of the Mill

Day	Time	Activities	Organizer / Lecturer	Participants
Day 6	AM	• Draft KAIZEN implementation plan	• JICA StudyTeam	
	13:00-15:00	• KAIZEN implementation plan based on Production Control Technology	Yasuo Uesugi	• President • Executives of the mill • KAIZEN team members
	15:00-16:00	• Visual Management in Maintenance and Repair Section	Naoya Nishigaki	
	16:00-17:00	• Plan for Cost Management	Naoya Nishigaki	

1.2.2.2 The 4th Field Survey --- 2nd Round of Mill Visit

(1) Visits to head office and mills

Table 1.2-3 Visits to Head Offices and Jute Mills

Company	Date	Interviewee	Interviewer	Mill visit	Working group	Instructors
JANATA JUTE MILLS	2008/1/14	CEO and top management, mill manager	JICA Study Team and NPO staff	2008/1/15~19 (5 working days)	Mill manager and KAIZEN team members	JICA Study Team and NPO staff
PUBALI JUTE MILLS	2008/1/14	- ditto -	- ditto -	2008/1/21~26 (6 working days)	- ditto -	- ditto -
NABARUN JUTE MILLS	2008/1/14	- ditto -	- ditto -	2008/1/27~31 (5 working days)	- ditto -	- ditto -
BROAD BURLAP INDUSTRIES	2008/1/14	- ditto -	- ditto -	2008/2/2~6 (5 working days)	- ditto -	- ditto -

(2) Daily activities

Table 1.2-4 5-Day KAIZEN Activities (2nd Round)

Day	Time	Activities	
		Production Control Technology	Management Methods
Day 1	AM	Kick-off Meeting for the second round KAIZEN	
	PM	Review of performance from the second round	Diagnosis of 3S activities from the second round.
Day 2	All day	- Re-training on data collection - Machine inspection analysis -Job standards preparation	- Guidance of 3S to the working group of the production line - Application of 3S to production line
Day 3	All day		
Day 4	AM	Summarization of collected data	Review of activities
	PM	Setting-up of targets until the third round of KAIZEN	
Day 5	AM	Presentation of Findings and Plan for Action	
	PM	Wrap-up meeting with the management including the targets	

The second round factory visit followed the interim reports from each mills, which were responses to instructions of the JICA Study Team on the cause - countermeasure analysis made in the first round factory visit.

Most KAIZEN activities are repeats of the PDCA process gradually expanding target area and activities. The activities in the second round visits newly included “Job standard preparation” and “Setting-up targets until third round of KAIZEN.” Activities of 3S were expanded to the production lines though 3S had been adopted to just workshops in the first round factory visit.

1.2.2.3 The 5th Field Survey --- 3rd Round of Mill Visit

(1) Visits to head office and mills

Table 1.2-5 Visits to Head Offices and Jute Mills

Company	Date	Interviewee	Interviewer	Mill visit	Working group	Instructors
JANATA JUTE MILLS	2008/5/5	Top Management	JICA Study Team	2008/5/17~21 (5 working days)	Mill manager and KAIZEN team members	JICA Study Team and NPO staff
PUBALI JUTE MILLS	2008/5/6	Top Management Mill manager	- ditto -	2008/5/23~27 (5 working days)	- ditto -	- ditto -
NABARUN JUTE MILLS	2008/5/7 AM	Top Management	- ditto -	2008/5/11~15 (5 working days)	- ditto -	- ditto -
BROAD BURLAP INDUSTRIES	2008/5/7 PM	Top Management	- ditto -	2008/5/5~10 (5 working days)	- ditto -	- ditto -

(2) Daily activities

Table 1.2-6 5-Day KAIZEN Activities (3rd Round)

Day	Activity
1	- Check the progress that has been made thus far in implementation of countermeasures (with KAIZEN Team on a process-by-process basis)
2	- Collect data of such production processes as fore-spinning and warping processes where the data collected in the 1st and 2nd phases is not sufficient. - Mutually confirm and review implementation status of 3S activities.
3	- Collect data of post-implementation of countermeasures on a process-by process basis. - Draft an implementation plan for “Visual Management”.
4	- Suggest new countermeasures (by co-work of JICA Study Team and KAIZEN Team) - Tabulate the collected data - Implement “Visual Management”.
5	- Forenoon: Continuation of the same activities as done on Day 4. - Afternoon: Present outputs obtained in the 3rd phase in the presence of the managing director

1.2.2.4 The 6th Filed Survey --- 4th Round of Mill Visit for Finalization

The sixth field survey was the final round of KAIZEN for model jute mills though the actual KAIZEN activities had been completed in the 3rd round mill visit. The leader of the JICA Study Team visited head offices of model jute mills to interview the top management mainly about effects of KAIZEN. On the other hand, the KAIZEN members of the JICA Team visited four model jute mills in order to collect final performance data of production line and to assist the KAIZEN team of the model jute mills in documentation preparation for the jute Pilot Project wrap-up seminar that was held on August 20, 2008.

(1) Visits to head offices and mills

Table 1.2-7 Visits the Head Offices and Jute Mills (4th Round)

Company	Date	Interviewee	Interviewer	Mill visit	Working group	Instructors
JANATA JUTE MILLS	August 6, 2008	Managing Director,, Director	Inakazu, JICA Study Team leader	2008/8/1~6 (3 working days)	Mill manager and KAIZEN team members	JICA Study Team and NPO staff
PUBALI JUTE MILLS	August 7, 2008	Managing Director, Deputy MD	Inakazu, JICA Study Team leader	2008/8/11~12 (2 working days)	- ditto -	- ditto -
NABARUN JUTE MILLS	August 7, 2008	Advisor, Mill Manager	Inakazu, JICA Study Team leader	2008/8/13~14 (2 working days)	- ditto -	- ditto -
BROAD BURLAP INDUSTRIES	August 7, 2008	Managing Director Executive Director	Inakazu, JICA Study Team leader	2008/8/7~9 (3 working days)	- ditto -	- ditto -

(2) Special events for the 6th field survey

1) Jute Pilot Project wrap-up meeting

Date: August 20, 2008
Place: BISS Conference Hall
Time: 13:30 hours – 16:30 hours

Agenda:
* Background of the KAIZEN program
* What is KAIZEN Program? (by NPO)
* Performance of KAIZEN (by Four Model Mills)
* Comments from JICA Team (by JICA Study Team)

Participants:
Secretary of Ministry of Commerce
Ambassador of Japan to Bangladesh
Bangladesh officials : 22 persons
Japanese officials : 4 persons
Associations of jute products industry : 6 persons
Private companies : 31 persons

2) Round table meeting

At the end of the 6th field survey, a so-called round table meeting was held in the following manner in which the KAIZEN team members of four jute mills, and the instructors of the JICA Study Team and NPO staff participated:

Date: August 26, 2008
Place: Pubali Jute Mills (Factory site)
Time: 11 hours to 16:00 hours
* Factory observation (Pubali Jute Mills)
* Discussion meeting (12:00 hours – 14:15 hours)
* Lunch

Participants:
Pubali (3 persons of KAIZEN team)
Janata (- ditto -)
Nabarun (- ditto -)
Broad Burlap (2 persons of KAIZEN team)
NPO staff (2 persons)
JICA Study Team (2 persons)
Interpreter (1 person)

1.2.3 Description of Methodologies Used for the KAIZEN Activities

1.2.3.1 Motivation of Management and KAIZEN Team

(1) Initiative of Management

KAIZEN-like activities in Bangladesh manufacturing industry need to start with efforts to ensure the management's understanding of those activities. Bangladeshi management tend to leave production management to the mill manager not paying much attention to daily production activities in the top-down management system prevailing in the country. Since the KAIZEN activities involve the bottom-up management skills, management's firm commitment is indispensable to active leadership in implementation of KAIZEN activities. The JICA Study Team frequently met management of the four model jute mills for requesting full support of management for the KAIZEN activities..

(2) Motivation of KAIZEN team

A KAIZEN team was organized as a staff of the mill manager for the four model jute mills as shown in Figure 1.2-3 because the team can directly give their own views to the manager in the manner of the bottom-up management system.

The mill manager should lead each KAIZEN activity with a clear understanding on the objective and methodologies. Most of mill managers, not only in jute mills, tend to be responsible for daily production to meet orders without any clear plan or target for improvement or growth of their own mill: That is left to the job of the top management. They need to change their attitude. Most of members of the KAIZEN team consisted of the middle management of the mill, under whose instructions workers actually implemented the KAIZEN activities. The JICA Study Team motivated them to be enthusiastic for the KAIZEN activities by offering strong support from the management including provision of incentives for improvement of production performance.

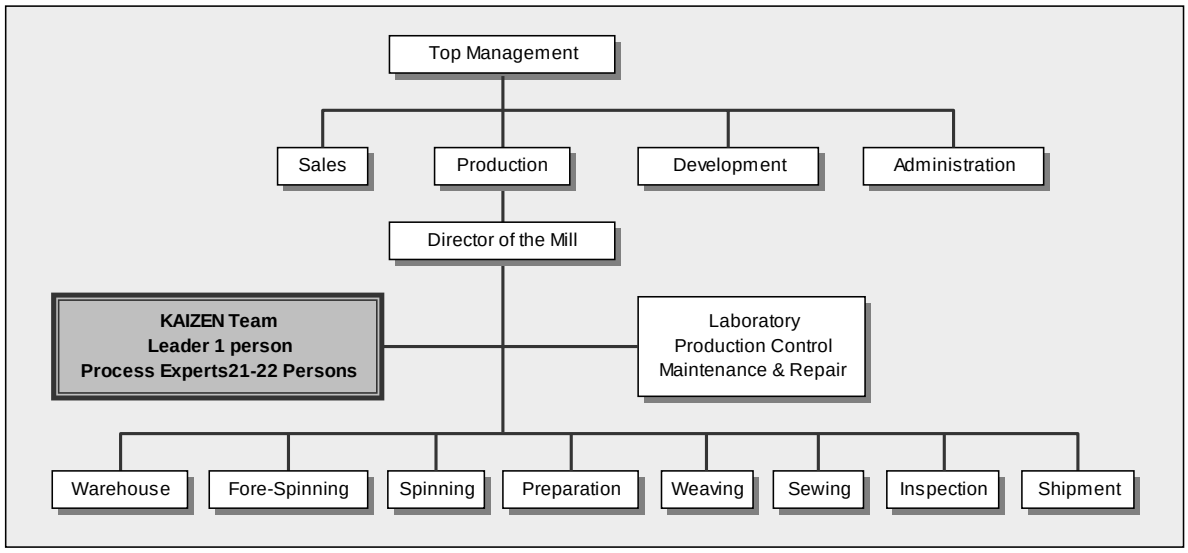

Figure 1.2-3 Positioning of the KAIZEN team

1.2.3.2 Data Collection

To understand the current state of production quantitatively, the following data were collected for each process and machine.

Spinning process: To count the rate of spindle stoppage by cause.
Weaving process: To count the rate of weaving machine stoppage by cause.

For both cases, the snap reading method was used.

(1) Snap Reading Method

The method is characterized as fixed point observation. Machine operation is observed for 30 – 60 minutes per each time, five to six times per day. The results were used as the basis of measuring the spindle stoppage rate and the weaving machine stoppage rate by cause. The fixed point observation method can be illustrated as shown Figure 1.2-4.

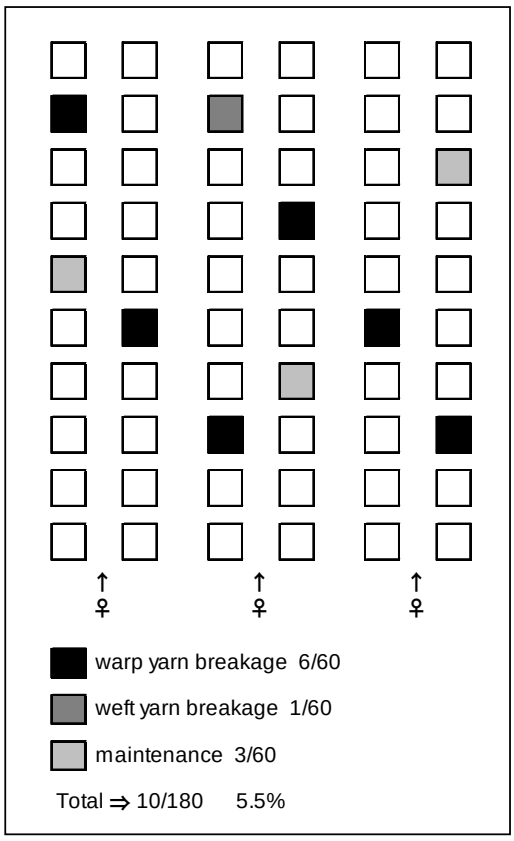

Figure 1.2-4 Snap Reading Method

(2) Measurement of the spindle stoppage rate in the spinning process by cause

Spindle stoppage per 100 SPL was measured by the snap reading method, which is described by using an actual sample data as shown in Table 1.2-8.

The purpose of this survey was to find out how many spinning machines/spindles were stopped at a time. Thus, it was important to quickly count all stopped machines/spindles by using the snap reading method.

1) Study the spinning machines in the model line ONLY.
2) Write down the machine numbers and walk through to find causes for stopped

machines/spindles.

3) Count the cause-specific number of stopped machines/spindles by adding bars in corresponding columns.
4) In case the observed cause is not listed, check the column marked " Others " and specify in the space provided at the bottom of the survey table.
5) Move on to other spinning machines until all machines are studied.
6) During the defined time period (2-3 hours), repeat the same survey every 15 minutes.

Table 1.2-8 Measurement of Ring Spinning Stoppage

Date:	Jan. 18, 2008	
Total # of M/C:	18	*Data Collected by: (A)
Total # of spindles:	1,820	
Yarn Kind:	Bright 8.5Lbs	

Times			Yarn breakage	Idle spindle - damaged spindle	Total	Maintenance	Total
1	Jan.18	(1st time)	181	13	**194**		
2	Jan.18	(2nd time)	198	15	**213**		
3	Jan.18	(3rd time)	194	13	**207**		
4	Jan.18	(4th time)	166	12	**178**		
5	Jan.18	(5th time)	193	12	**205**		
6	Jan.18	(6th time)	193	12	**205**		
Average			187.5	12.8	**200.3**		
			10.3%	0.7%	11.0%	6.9%	17.9%

(1st visit : 9.7, 6.1, total : 15.8%)

Rank	Times		Number of cases	Ratio	Cumulative Ratio
1	<1>	Yarn breakage	1,125	58.14%	**58.14%**
2	<2>	Idle spindle - no alivar	733	37.88%	**96.02%**
3	<3>	Idle spindle - damaged spindle	77	3.98%	**100.00%**
Average			1,835	100.00%	

Note: Causes such as thread breakage, no-sliver, and spindle failure should be indicated separately for maintenance stoppage.

(3) Measurement of weaving machine stoppage rate in the weaving process, by cause

The rate of stoppage of weaving machines in operation was measured by the snap reading method, which is described by using an actual example as shown in Table 1.2-9. The purpose of this survey was to find out how many weaving machines were stopped at a time. Therefore, it was important to quickly count all stopped machine by the snap reading method.

1) Study the weaving machine in the model line ONLY.
2) Stand at the end, between two rows of weaving machines that you are going to study.
3) Count in a glance the number of stopped machines out of the two rows.

4) Move to the next two rows and repeat in the same manner.
5) Move on until all rows of machines are studied.
6) During the defined time period (2-3 hours), repeat the same survey every 15 minutes.

Note: In case the weaving machines to be studied are not physically concentrated in a set of rows, you may walk through the site to count the number of stopped machines in stead of the snap reading method.

Table 1.2-9 Measurement of Weaving Machine Stoppage

1. In frequency

Total Number of Machines: 132 Fabric Kind:

Date: Jan. 16～17, 2008 All Day

Times			Number of stopped M/C	Stoppage ratio	First Visit
1	Jan.16	16:15pm - 16:40pm	41	31.06%	
2	Jan.16	16:45pm - 17:00pm	41	31.06%	
3	Jan.17	06:25am - 06:45am	43	32.58%	
4	Jan.17	06:55am - 07:10am	42	31.82%	
5	Jan.17	07:30am - 7:40am	42	31.82%	
6	Jan.17	10:45am - 11:00am	35	26.52%	
7	Jan.17	12:30pm - 12:45pm	46	34.85%	
8	Jan.17	15:45pm - 16:00pm	40	30.30%	
9	Jan.17	16:50pm - 17:05pm	37	28.03%	
			367	30.89%	30.18%

2. By cause

Total Number of Machines: 132 Fabric Kind:

Date: Jan. 16～17, 2008 All Day

Date: Jan. 16～17, 2008 All Day

Rank	Causes	Number of cases	Ratio	Cumulative Ratio	First Visit
1	(1) Warp yarn breakage	220	59.95%	59.95%	75.42%
2	(2) Weft yarn breakage	50	13.62%	73.57%	93.22%
3	(3) Warp beam supply	6	1.63%	75.20%	94.07%
4	(4) Weavers beam supply	11	3.00%	78.20%	94.92%
5	(5) Maintenance	3	0.82%	79.02%	95.76%
6	(6) Shuttle trouble	9	2.45%	81.47%	95.76%
7	(7) Others	68	18.53%	100.00%	100%
Total		367	100.00%		

1.2.3.3 Machine Inspection

Machines operated in each process were inspected by watching if its major parts and components were in normal operating condition or require repair. Based on inspection results, conditions of each machine were identified. Then, a failed or unserviceable machine was repaired or replaced. Visual inspection is conducted for each machine by assessing and marking the state of major parts by "○," "△," or "×." Any component marked by "△" or "×" was to be repaired or replaced. These steps are illustrated by taking the drawing process as an example.

The conditions of machines in the third round visit were much improved when compared with those in the first round visit. The followings were found during implementation of the Pilot Project.

1) The mill's own machine shop, which makes or repairs some parts, does not function well.
2) While miscellaneous parts are supplied by local producers (e.g., pins), most of major parts are imported from India, China or other countries. However, many parts do not conform to machine specifications. It has become apparent that mills cannot obtain appropriate spare parts for various reasons, such as the lack of communication between the mill and the head office's procurement division, and poor quality of local and imported parts.

Table 1.2-10 Results of Machine Inspection

1. At the first round mill visit

Inspection on 1st and 2nd Drawing M/C

(B)Md.Razul Karimo
©Md.Mareruzzaman

M/C NO : 1

Faller Bar	△				△				△				△				△				
Roller	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
Shut-down device	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
Crimper	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
Sliver Quality	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	

M/C NO : 2

Faller Bar	△				△				△				△				△				
Roller	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Shut-down device	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Crimper	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
Sliver Quality	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	

Judgment :	
Good :	○
Not so good :	△
Bad :	×
Stop(at once) :	S

2. At the third round mill visit

Date:8.5.08

Inspection on 1st & 2nd Drawing M/C

Name of Mill
YARN Kind :
Time:
Date Collection by:

1st Drawing

M/C NO : 1 M/C NO : 2

Faller Bar	△				○				○				○				○				
Roller	△	×	○	△	○	○	△	△	△	○	○	○	△	○	○	△	○	○	○	○	
Shut-down device	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Crimper	○	△	○	○	○	○	○	○	△	○	○	○	○	○	○	○	○	○	○	○	
Sliver Quality	○	△	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

2nd Drawing

M/C NO : 2

Faller Bar	△				△				○				○				S				
Roller	○	○	○	○	○	○	○	○	○	○	○	△	○	○	○	○					
Shut-down device	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
Crimper	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
Sliver Quality	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					

Judgment :			
Good :		○	
Not so good :		△	
Bad :		×	
Stop (at once) :		S	

3) The head office's budget allocation presents a major problem relating to the replacement of parts, because the head office does not understand its importance.

Under these circumstances, the problem relating to "local production of spare parts" was recognized as a problem that should be solved by national policy.

1.2.3.4 Identification of causes on the basis of data analysis (Example)

After data collection (process-based data collection and machine inspection) had been completed, data were analyzed and causes for impeding productivity improvement were identified to develop improvement measures. The following tables show examples of improvement measures taken for one of the four model mills. It was prepared during the first visit and lists very basic causes and corrective measures.

More than 50% of fabric defects were caused by yarn defects as shown in Table 1.2-11 that was the result of inspection on 13 sheets of 10-yard fabrics.

Table 1.2-11 Causes of Fabric Defects

Fabric Kind: 150/7oz/36/13×10 Dates: Oct. 29, 2007

Fablic Length: 10 yards Oct. 30, 2007

Number of Pieces: 13

Rank	Defects	Number of cases	Ratio	Cumulative Ratio
1	④ Yarn defect	841	35.91%	35.91%
2	① Warp yarn breakage	401	17.12%	53.03%
3	⑪ Snarl / Scob	259	11.06%	64.09%
4	⑬ Reed mark	137	5.85%	69.94%
5	② Weft yarn breakage	73	3.12%	73.06%
6	⑦ Double weft	60	2.56%	75.62%
7	⑤ Shotting bar	47	2.01%	77.63%
8	⑥ Double warp	37	1.58%	79.21%
9	⑩ Loops	26	1.11%	80.32%
10	③ Shuttle trouble	17	0.73%	81.04%
11	⑫ Bad selvedge	16	0.68%	81.73%
12	⑧ Gap	15	0.64%	82.37%
13	⑨ Pin mark	15	0.64%	83.01%
14	⑭ Others	398	16.99%	100.00%
Total		2,342	100.00%	

Table 1.2-12 shows causes of weaving machine stoppage taking 27 weaving machine as samples. Only a cause of warp yarn breakage shares 78% of the total number of stoppage,

indicating that upgrading of warp yarn in quality would solve most of trouble in the weaving process.

Table 1.2-12 Causes of Weaving Machine Stoppage

Total Number of Machines: 27

Rank	Causes for Stoppage	Number of cases	Ratio	Cumulative Ratio
1	(1) Warp yarn breakage	77	77.78%	77.78%
2	(2) Weft yarn breakage	7	7.07%	84.85%
3	(6) Maintenance	3	3.03%	87.88%
4	(5) Shuttle trouble	2	2.02%	89.90%
5	(3) Warp beam supply	0	0.00%	89.90%
6	(4) Weavers beam supply	0	0.00%	89.90%
7	(7) Others	10	10.10%	100.00%
Total		99	100.00%	

The data in Table 1.2-13 are based on the operating condition of a 600-spindle ring spinner. This indicates the thread breakage rate of over 50% mainly due to sliver's poor thread quality including uneven card webs, inclusion of jute roots, and remaining large neps. Coupled with "no-sliver" representing 40%, the two causes account for more than 90%. This means, removing or mitigating these causes would improve productivity by 20% - 30%.

Table 1.2-13 Causes of Troubles in Ring Spinning

Date: Oct. 30, 2007

Yarn Kind: 7 Lbs

Total # of Machines: 6 Total # of Spindles: 600

Rank	Causes	Number of cases	Ratio	Cumulative Ratio
1	<1> Yarn breakage	280	53.95%	53.95%
2	<2> Idle spindle - no sliver	236	45.47%	99.42%
3	<3> Idle spindle - damaged spindle	3	0.58%	100.00%
Total		519	100.00%	

Table 1.2-12, afore-shown has analyzed causes for weaving machine stoppage. Table 1.2-14 shows the results of causal analysis of Table 1.2-12 by tracing back to the beaming and sizing processes that function as the preparation stage for forming warps, which is a cause for machine stoppage. In the beaming process, 11,500 yarns were examined and 236 thread breakages were found. In the sizing process, two lots were checked to find 163

thread breakages occurred among 1,406 warps. The rate of breakage is 11.5%, or one out of ten trends.

Table 1.2-14 Thread Breakage in Beaming/Sizing

Date: Oct. 30, 2007

Data Collected by: (A) Mr. Mir Shamsul Huq

(B) Mr. Md. Shahadat Hossain

1) Beaming

Lot: 39 Total Length: 11,500 yds Number of Threads: 173

*	Time				Spool/Cheese change, No ending	Thread Breakage	Total
	from	-	to	Min.	(a)	(b)	
A	9:40	-	10:10	30		40	40
A	10:15	-	10:45	30		37	37
B	10:55	-	11:25	30	3	36	39
A	11:00	-	11:30	30		41	41
B	11:35	-	12:05	30		38	38
B	12:10	-	12:40	30		41	41
Total				180	3	233	236
Ratio					1.27%	98.73%	100.00%
per Minute					0.02	1.29	1.31
per Hour					1.00	77.67	78.67
per Thread					0.00	0.22	0.23

2) Sizing

Lot: 11(A), 19(B) Total Length: 935yrds(A), 875yds(B) Number of Threads: 1,406

*	Time				Spool/Cheese change, No ending	Thread Breakage	Total
	from	-	to	Min.	(a)	(b)	
A	11:30	-	12:00	30		42	42
A	12:05	-	12:35	30		47	47
B	9:30	-	10:00	30		38	38
A	10:10	-	10:40	30		36	36
Total				120	0	163	163
Ratio					0.00%	100.00%	100.00%
per Minute					0.00	1.36	1.36
per Hour					0.00	81.50	81.50
per Thread					0.00	0.03	0.03

1.2.3.5 Table Summarizing Corrective Measures by Process

The Table 1.2-15 below shows a sample of a table of causes and countermeasures for the fabric section in a model mill.

Table 1.2-15 Sample : Causes and Countermeasures fore Fabric Defects <1/2>

Revision 1: Meeting of Inspection, Weaving and Preparation Sections on Nov.2, 2007 (AM)

Revision 2: Mr. Abdul Awal, General Manager made correction on Nov.2, 2007(PM)

* Originally prepared by Mr. Md. Abdul Musabbir(NPO) based on interview with Mr. Ali Ahmed, Mr. Shamsul Huq & Mr. Md. Harun member of the KAIZEN team.

Defects	Causes	Countermeasures	Difficulty		
			Low	Med.	High
① Warp yarn breakage	i) Low quality of yarn	i) Regular and quality yarn supply from spinning			*
	ii) Bad beam	ii)Loose or tightness of beam must be ensured.		*	
	iii) Bad shuttle	iii) Timely changing of shuttle.	*		
	iv) Untyting knot or big knot of wrap yarn	iv) Beamer/weaver should be attention.	*		
	v) Bad or sharp dent of reed	v)Replacement of reed	*		
	vi) Irregular sheding	vi) Must be care by weaver and Sarder.	*		
	vii)Sharpness of mail eye.	vii)Replacement of mail eye.	*		
② Weft yarn breakage	i) Without knot or big knot	i) Accurate knot must be ensured.		*	
	ii) Carelessness of winders	ii) Proper attention should pay by cop winder.	*		
	iii) Bad cop	iii) Proper maintenance of cop machine.		*	
③ Shuttle trouble	i) Irregularity of box rail(alignment)	i) Box rail must be proper maintenance.	*		
	ii) Loose fitting of arm	ii)Proper fitting of arm by line Sarder.		*	
	iii) Looseness of bruss inside shuttle	iii)Replacement of bruss inside the shuttle timely.		*	
④ Yarn defect (including slub)	i) Low quality of Jute	i) Standard quality of Jute must be used.			*
	ii) Irregular delivery of carding machine.	ii) Replacement of staves/pins carding machine timely.		*	
	iii) Sliver irregular	iii) Proper feeding should be maintain in card line.		*	
	iv) Irregular combing of sliver in 1st, 2nd & 3rd drawing machine.	iv) Replacement of pins 1st to 3rd drawing timely & over flow of sliver in drawing machine must be controlled..		*	
	v) Defective pressing roller and appron in spinning machine.	v) Replacement of pressing rollers and appron properly and maintenance should be ensured.		*	
⑤ Shotting bar	i) Carelessness of weavers	i) Weaver should be careful.	*		
	ii) Defective of reset wheel and reset motion.	ii) Correctly fitting of reset wheel and reset motion.	*		

Table 1.2-15 Sample : Causes and Countermeasures fore Fabric Defects <2/2>

⑥ Double warp	i) Negligence of weaver.	i) Trained up of weavers to aviod bad parctice.	*		
⑦ Double weft	i) Defective cop	i)Cop winder should pay attention.		*	
⑧ Gap/Gaw	i) Knot less cop	i) Cop winder should pay attention	*		
	ii) Bad cop	ii) Cop machine should be maintain timely..	*		
	iii)Carelessness of weavers	iii)Weaver should pay attention.	*		
⑨ Pin Mark	i) Improper pin arrangement in pin roller	i)Proper pin should be used in pin roller properly.	*		
⑩ Loops	i)Defective shuttle eye,bruss, cleap etc.	i) Defective shuttle eye, bruss,cleap etc. should changed timely.	*		
	ii) Hard picking	ii) Carefulness of line Sander.	*		
	iii) Irregular tension of cop	iii) Carefullness of cop Winder.	*		
	iv) Less width instead of standard width.	iv) Standard reed space(RS) loom should be used standard width fabric.	*		
	v)Sharpnessless of lay race	v)Sharpness of lay race ensure.	*		
⑪ Snarl/Scob	i) High twist of cop.	i) Standard twist of cop yarn.	*		
	ii)Big eye of shuttle.	ii) Replacement of shuttle eye.	*		
	iii)Defective motion of shuttle.	iii) Proper attention should be given by line Sarder.	*		
	iv) Loose cop.	iv) Proper tension of cop and resplacement of cop cone timely.		*	
	v) Carelesses of weavers(are not careful about floating yarn).	v) To remove roots from sliver of yarn from back process.	*		
	vi)Big knot or less knot of cop	vi)Proper attention should be given by Cop Winders.	*		
	vii)Defective let of motion.	vii)Proper attention should be given by Weavers/Sarder.	*		
⑫ Bad selvedge	i) Due to defect shuttle eye.	i) Removal of bad shuttle eye.	*		
	ii) Due to loose yarn of cop(tension of yarn in corner loose)	ii) At side uniform tention of cop.	*		
	iii) Bad dent of reed at corner.	iii) Change of reed.	*		
	iv)Loose yarn of beam corner	iv) Defective flage should be change accurately.	*		
⑬ Reed mark	i) Adjustment of lease rod.	i) Proper adjustment of lease rod.	*		
	ii) Adjustment of back rail.	ii)Proprer adjustment of back rail.	*		
	iii) Bad dent of reed.	iii)Replacement of reed.	*		
	iv)Improper setting of camb	iv)Proper setting of camb.	*		

1.2.3.6 Development and maintenance of job standards

Development of job standards for each process was the last step of KAIZEN activity. Table 1.2-16 shows a sample job standard developed by the KAIZEN team of a model mill. Under the Pilot Project, the four model mills developed and documented job standards for each of their processes. The documented job standards were to be revised and updated to reflect the ongoing innovations and changes that take place on the shop floor. They will then represent each mill's important assets, i.e., wealth of technical expertise. The following shows an example of the job standard. If job standards of different mills are to be integrated for each process, they will constitute a general job standard that can be shared by other jute mills throughout the country. The job standard with illustrations shall be posted on a notice board process by process. Further, it also is useful that staff and workers repeat the job standard every morning before job start.

Table 1.2-16 Sample of Job Standard for Model Mill

Process	SPINNING MACHINE
I . Function of machine	Spinning is composed by the operation of three steps that carried out drafting , twisting and winding. 1, Finisher drawing sliver is drafted and twisted
II. Visual judgment of machine	a) Are the gear rotating smoothly? b) Are the M/c running with abnormal sound? c) Are the M/c Vibrates?
III. Correct working point	a) Motion of sliver to be straighted. b) Traverse length must be perfected. c) Gauge of flyer & dead spindle to be inspected. d) Same size of bobbin at one frame. e) Defective bobbins not to be used. f) Alignment of detector stop motion bracket to be perfected. g) Pressure of drawing pressing roller to be perfected. h) Standard doffing time must be maintained. i) Linex belt not to be loosed. k) Pressure plate must be perfected.
IV. Safety measures	a) Not to touch gearing of running M/C b) Not to touch flyer belt in running M/C c) When use hooks for pitching up must be carefully.
V . Maintenance work	a) Through clearing & lubrication of M/C (Daily). b) Inspection of felt bobs (Weekly). c) Checking of builder chain, bobbin rail, rail plat & pins, flyer, porceline tubes, wharve assembly tension disc, bearing, studs, bush bearing & bobbin carrier (every two weeks).

Date							
Check(Revision)							
Signature							

1.2.4 Overall Effects of KAIZEN Activities

1.2.4.1 Quantitative Effects for Model Jute Mills

After formulation of the KAIZEN team in each mill, the JICA Study Team conducted introductory lectures and guidance for data collection during the 1st round of mill visit. In the 2nd round of the KAIZEN activities, the KAIZEN team became to be able to collect reliable production data. Therefore, data obtained in the second field survey in January 2008 were called as the figures of "Before KAIZEN" in Table 1.2-18 and Table 1.2-19.

The four jute mills made big efforts to improve their performance in production aiming to achieve every-month target figures that were set by discussion between the JICA Study Team and the KAIZEN team of each mill. Table 1.2-18 shows the target figures of each mill and actual figure achieved during KAIZEN activities for the spinning process, and Table 1.2-19 does for the weaving process.

All the model jute mills have achieved their targets as summarized in Table 1.2-17 below:

Table 1.2-17 Summary of Improvement (%)

Company	Spinning		Weaving	
	M/C stoppage	Production	M/C stoppage	Production
A	38.8	18.4	27.7	13.0
B	24.2	13.6	11.1	15.1
C	53.8	6.2	19.8	9.8
D	65.9	5.6	35.5	15.7
Average	45.7	11.0	23.5	13.4

Note: Performance in six months from January 2008

In the average figures shown in Table 1.2-17, the spinning section of the model jute mills improved their production by 11% in terms of quantity mainly because of spinning stoppage reduction by 45.7%. The weaving section also increased their production by 13.4% in quantity mainly because of weaving machine stoppage reduction by 23.5%.

Table 1.2-18 -Spinning Process- KAIZEN Target and Actual Figures During Pilot Project (in 2008)

Company Name	Spindle Stoppage (The number of stopped spls per 100 spl)										Production (kg/100spl/day)									
	Yarn Count	Before. KAIZEN	After KAIZEN								Yarn Count	Before. KAIZEN	After KAIZEN							
		Jan.		Feb.	Mar.	Apr.	May	June	July	Oct.		Jan.		Feb.	Mar.	Apr.	May	June	July	Oct.
A	7.0 LBS	24.0	Target	20.7	15.9	14.3	15.5	15.0	14.5	12.5	7.0 LBS	320 kg (2 shift)	Target	325.0	331.0	338.0	377.5	379.0	380.5	385.0
			Actual	21.4	16.1	16.0	15.7	15.0	14.7				Actual	331.0	358.0	376.0	377.0	379.5	379.0	
			KAIZEN (%)	10.8	32.9	33.3	34.6	37.5	38.8	-			KAIZEN(%)	3.4	11.9	17.5	17.8	18.6	18.4	-
B	9.0 LBS	35.6	Target	32.1	29.0	26.5	25.6	24.5	23.5	22.0	9.0 LBS	324 kg (2 shift)	Target	335.0	345.0	351.0	356.0	365.0	368.0	374.0
			Actual	36.1	33.2	30.5	29.3	28.2	27.0				Actual	348.1	350.4	354.3	361.3	366.4	368.0	
			KAIZEN (%)	-1.4	6.7	14.3	17.7	20.8	24.2	-			KAIZEN(%)	7.4	8.1	9.4	11.5	13.1	13.6	-
C	9.0 LBS	17.3	Target	17.1	16.9	16.7	12.2	11.0	10.6	9.0	9.0 LBS	290 kg (2 shift)	Target	294.0	289.0	302.0	306.0	306.3	307.0	309.0
			Actual	13.3	9.3	7.3	10.6	8.3	8.0				Actual	294.3	298.3	301.3	306.4	306.8	308.0	
			KAIZEN (%)	23.1	46.2	57.8	38.7	52.0	53.8	-			KAIZEN(%)	1.5	2.9	3.9	5.7	5.8	6.2	-
D	8.5 LBS	17.9	Target	17.0	11.0	9.0	8.2	8.0	7.8	7.0	8.5 LBS	600 kg (3 shift)	Target	610.0	620.0	630.0	630.5	631.0	631.3	632.0
			Actual	9.5	9.5	9.0	8.2	6.3	6.1				Actual	612.0	620.0	630.0	630.5	632.0	633.5	
			KAIZEN (%)	46.9	46.9	49.7	54.2	64.8	65.9	-			KAIZEN(%)	2.0	3.3	5.0	5.1	5.3	5.6	-

(Note: $\text{KAIZEN (\%)} = \dfrac{(\text{After KAIZEN} - \text{Before KAIZEN})}{\text{Before KAIZEN}} \times 100$)

Table 1.2-19 -Weaving Process- KAIZEN Target and Actual Figures During Pilot Project (in 2008)

Company	Fabric	Weaving M/C Stoppage (%)								Production (kg/day/laom)							
		Before KAIZEN	After KAIZEN							Before KAIZEN	After KAIZEN						
		Jan.		Feb.	Mar.	Apr.	May	Jun.	Jul.	Oct.	Jan.		Feb.	Mar.	Apr.	May	Jun.	Jul.	Oct.
A	HESSIAN (40" width)	41.5	Target	37.5	32.5	27.5	33.5	32.0	30.5	26.0	83.0 kg	Target	84.0	86.0	88.0	92.0	93.0	94.0	97.0
			Actual	40.0	38.0	35.0	32.0	30.0	30.0			Actual	86.3	90.7	91.1	91.3	92.0	93.8	
			KAIZEN (%)	3.6	8.4	15.7	22.9	27.7	27.7	-		KAIZEN (%)	4.0	9.3	9.8	10.0	10.8	13.0	-
B	HESSIAN (40" width)	20.7	Target	19.1	18.5	18.3	18.0	17.8	17.7	17.4	37.2 kg	Target	38.0	38.5	39.0	39.0	39.3	39.5	39.8
			Actual	20.2	19.4	18.8	18.6	18.5	18.4			Actual	40.2	41.8	42.6	42.7	42.8	42.8	
			KAIZEN (%)	2.4	6.3	9.2	10.1	10.6	11.1	-		KAIZEN (%)	8.1	12.4	14.5	14.8	15.1	15.1	
C	HESSIAN (40" width)	43.0	Target	42.4	41.8	41.2	40.6	37.3	37.0	36.0	47.8 kg	Target	49.2	49.9	50.5	51.2	51.6	52.0	53.0
			Actual	42.8	41.4	39.7	37.6	35.9	34.5			Actual	49.1	50.1	50.6	51.5	52.0	52.5	
			KAIZEN (%)	0.5	3.7	7.7	12.6	16.5	19.8	-		KAIZEN (%)	2.7	4.8	5.9	7.7	8.8	9.8	-
D	HESSIAN (40" width)	31.0	Target	28.0	26.0	24.9	22.6	22.0	21.5	20.5	54.0 kg	Target	56.0	58.0	60.0	60.3	61.0	61.5	62.5
			Actual	26.8	26.0	24.9	22.6	21.1	20.0			Actual	57.9	58.3	60.3	60.3	62.3	62.5	
			KAIZEN (%)	13.5	16.1	19.7	27.1	31.9	35.5	-		KAIZEN (%)	7.2	8.0	11.7	11.7	15.4	15.7	-

(Note: $\text{KAIZEN (\%)} = \dfrac{(\text{After KAIZEN} - \text{Before KAIZEN})}{\text{Before KAIZEN}} \times 100$

1.2.4.2 Quality Improvement of Jute Yarn

Quantitative improvement of jute production that was achieved in this Pilot Project is attributed to reduction in thread breakage of jute yarn and decrease in the number of weaving machine stoppages. As discussed earlier, to make higher value added products (curtains, other materials for household goods and clothes that mix spun jute and other fabrics), it is imperative to produce fine jute yarns of uniform thickness, without any knot to join broken fibers. Yarn-production technology that has been improved through this Pilot Project is indispensable for jute products industry to produce high value-added Jute Diversified Products (JDPs).

1.2.4.3 KAIZEN Manual for Jute Mills

The instructor's group, the JICA Study Team members and the NPO staff, compiled a KAIZEN manual entitled "KAIZEN Manual for Jute Mills," table of contents of which is shown as Attachment 1.2-1 attached at the end of this Chapter. Since the manual was distributed to the Ministry of Commerce, the Export Promotion Bureau, the NPO, model jute mills and other relating organizations, it is expected that the KAIZEN method will be diffused to the hundreds of jute mills using the manual as a tool.

1.3 Terminal Evaluation of the Pilot Project

Upon completion of the Pilot Project, the terminal evaluation was conducted in accordance with the "JICA Guideline for Project Evaluation," as discussed below. The evaluation was based on the five criteria proposed by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), namely relevance, effectiveness, efficiency, impact, and sustainability.

(1) Investigation period: August 2 - 29, 2008 (sixth field survey)
(2) Investigation method: Interview and questionnaire surveys of target groups and related parties (individuals and entities) on the Bangladesh side, as well as literature and document review
(3) Data collection method: Review of ongoing and past project-related documents, results of questionnaire surveys conducted during the wrap-up seminar of the Project, and results of interview surveys of related parties, as well as examination and analysis by JICA Study Team members
(4) Evaluation method: PDM and the five evaluation criteria

1.3.1 Background Data and Information for Evaluation and Examination

(1) Project Design Matrix (PDM)

Attachment 1.3-1 attached at the end of this chapter presents the PDM for the Pilot Project, which is reproduced from the one contained in 1.1 of the current Pilot Project Completion Report. The PDM constitutes the basis of various evaluations and examinations which are described below.

(2) Examination of plan and actual performance of the Project (Performance Examination Table)

Attachment 1.3-2 attached at the end of this chapter summarizes the performance examination for the Pilot Project. The Table is used as the basis of evaluation of the project's performance. After examination of the project's performance, the project's implementation process was examined as well.

(3) Evaluation design (evaluation grid based on the five evaluation criteria)

Attachment 1.3-3 attached at the end of this chapter presents an evaluation grid for the Pilot Project, consisting of the five evaluation criteria. The grid also presents evaluation content and methodology.

(4) Questionnaire survey upon completion of the Pilot Project

Attachment 1.3-4 attached at the end of this chapter presents results of questionnaire survey conducted for the participants in the wrap-up seminar of the Pilot Project which was held in Dhaka on August 20, 2008. The results are generally referred in this report in relation to the evaluation and the examination of the Pilot Project.

1.3.2 Examination of Project Performance

As seen in the Performance Examination Table in Attachment 1.3-2, the Pilot Project had successfully produced all the Outputs according to the original plan. Moreover, the Outputs were produced from smaller Inputs than those specified in the original plan. The level of achievement of the Project Purpose and an outlook for the Overall Goal in terms of final accomplishment are discussed in the evaluation using the five criteria.

1.3.3 Examination of the Implementation Process

The implementation process of the Pilot Project was evaluated in terms of the following items that are considered to be the critical elements.

(1) Were activities conducted as planned?

As shown in the Performance Examination Table, all the activities were substantially conducted according to the original plan.

(2) Did the project receive high levels of recognition from model mills and the counterpart organization and personnel?

The four model mills reported their experience in the Project and major results from it at the wrap-up seminar of the Pilot Project held in Dhaka on August 20, 2008. From their reports, together with documents presented, it was clearly seen that all the model mills had good understanding of the Pilot Project and its intent. The counterpart organization (National Productivity Organisation (NPO) under the Ministry of Industries (MOI)) was actively engaged in the project implementation by sending staff members to the field advice activities at the model mills conducted by the JICA Study Team. In addition, these NPO staffs presented the contents and the implementation processes of the Pilot Project, which indicated that the level of their understanding and recognition of the Project were very high.

(3) Was the level of participation in the Project high within the model mills and the counterpart organization?

Each model mill organized a KAIZEN team that participated directly in the Project. Besides, the management of each model enterprise showed strong commitment to the project implementation partly because it was specified as one of the criteria to select the model enterprises. In addition, the counterpart NPO was closely involved in the project implementation as explained earlier.

(4) Were important assumptions and preconditions satisfied?

As specified in the Performance Examination Table, uncertainty was identified at the time of project completion, about the important assumptions from the Output to the Project Purpose and from the Project Purpose to the Overall Goal, namely securing of the raw material (jute). On the other hand, the important assumptions and the preconditions in relation to the previous stages were satisfied.

(5) Did the project management system work well?

As pointed out earlier, management of the model enterprises was highly appreciative to have been selected for participation in the Project, thereby assuming leadership for the project activities. Note that no specific comment on this matter was heard from the counterpart or other related organizations.

1.3.4 Evaluation Based on the Five Criteria

1.3.4.1 Relevance

"Relevance" examines whether the project and its implementation are justified and needed. In PDM, the Overall Goal and the Project Purpose are evaluated by this criterion. This Pilot Project was evaluated to have high relevance for the following reasons.

(1) KAIZEN activities taken up in the Project were designed to directly address and solve the core problem faced by the jute products industry

The Pilot Project aimed to improve productivity of jute mills in Bangladesh by introducing the KAIZEN techniques. Poor productivity was recognized by consensus as the industry's core problem at a problem analysis workshop participated by the related parties, which was held in Dhaka on June 24, 2007. Thus, the Project directly dealt with the key issue recognized by the parties relating to the industry. Note that the workshop was attended by a total of 48 persons, including representatives of the Ministry of Commerce

(MOC), EPB, related associations, public enterprises, private companies, Japan ODA Task Force, and the JICA Study Team.

(2) The Project met the needs of the target group

According to the results of the questionnaire survey, which was conducted at the wrap-up seminar of the Pilot Project (see Attachment 1.3-4 for the summary of the survey results), 96.9% of respondents believed that the Project Purpose and the Overall Goal were in accordance with the needs of private jute product companies in Bangladesh. Moreover, all the respondents representing the jute companies gave the affirmative answer.

(3) The Project promoted transfer of Japan's proprietary technology

As widely known, Japan is the birthplace of KAIZEN activities and techniques and has been accumulating outstanding expertise and experience. On the other hand, the above survey results indicate that 92.6% of respondents had no experience in implementing KAIZEN techniques. Note that all the respondents who have ever implemented KAIZEN activities were the representatives of the model enterprises, suggesting that KAIZEN activities and techniques were very new to Bangladesh and its industry.

(4) Fairness of the model mill selection process was questioned by some respondents

According to the above survey results, only 59.4% of respondents felt that the model mill selection process was "fair." The remaining respondents did not find the process to be fair by citing various reasons such as: "state-owned mills should have been targeted;" "spinning mills should have been targeted;" and "scale of model mills should have been more differentiated."

The model mills for the Pilot Project were selected from private jute mills having the spinning and weaving processes. From the short list of candidate mills that expressed the interest in the project participation (with their representatives participating in the workshop), four mills were finally selected according to geographical conditions suitable for visit (proximity to Dhaka). State enterprises were not included because their decision-making practice was identified as very slow, and thus, their participation would not be suitable for the short-term projects like this Pilot Project.

(5) The Project was consistent with government policies

Bangladesh's Export Policy (2006-2009) designates the jute industry as one of the nine Special Development Sectors. Meanwhile, draft of the "Jute Policy" that is under

formulation as of August 2008 (since the previous policy in 2002) addresses the poor productivity of jute mills. In addition, the industry's development strategy includes productivity improvement and modernization of jute mill facilities and machinery.

Besides, the "Japan's Country Assistance Program for Bangladesh (May 2006)" by the Ministry of Foreign Affairs of Japan gives the priority to the support for generating employment opportunities in rural area through fostering the industries related to rural development. Jute is the country's prominent cash crop and many farmers are engaged in jute cultivation. They account for nearly 90% of 3.5 million workers in the jute industry, which includes cultivation, processing, and distribution. Thus, the jute products industry contributes greatly to job creation in the rural sector, which is given of priority in the Assistance Program.

Thus, the Project was considered to be consistent with the government policies.

1.3.4.2 Effectiveness

"Effectiveness" measures the effects produced by a project. In PDM, the relationship between the Output and the Project Purpose is subject to the evaluation. Effectiveness of this Pilot Project was evaluated as sufficiently high for the following reasons.

(1) There is high possibility that the Project Purpose will be achieved if KAIZEN activities are carried out on a continuous basis

One of the Project Purposes of the Pilot Project was to increase the volume of production and the machine operating rate of the four model mills by 30%, in three years after the start of KAIZEN activities (by the end of 2010). Another purpose is to enable many of the jute mills in the country to improve productivity by introducing KAIZEN techniques in the next few years. As seen in the Performance Examination Table, productivity of the four model mills improved substantially. The following table shows the average rate of productivity and production improvement by mill and process. Note, however, that the rate of improvement will likely decline gradually unless the efforts are made to procure a sufficient quantity of spare parts to meet the needs at the mills.

Table 1.3-1 Productivity Improvement at the Four Model Mills (%) (January - July 2008)

Mill	Spinning		Weaving	
	Decrease in rate of thread breakage	Production increase	Decrease in machine shutdown rate	Production increase
A	38.8	18.4	27.7	13.0
B	24.2	13.6	11.1	15.1
C	53.8	6.2	19.8	9.8
D	65.9	5.6	35.5	15.7
Average	45.7	11.0	23.5	13.4

In the questionnaire survey conducted at the wrap-up seminar of the Pilot Project, 87.5% of respondents expected that the Project Purpose "will be achieved." Also, the same answer was given by the four model mills during the interview survey with the JICA Study Team. Furthermore, all the respondents representing jute mills at the seminar felt that the KAIZEN techniques developed under the Pilot Project could be applied to other jute mills in the country. Similarly, 81.3% of the respondents thought that the above seminar and publication of the KAIZEN Manual (Output 5) would contribute to future diffusion of the KAIZEN techniques in the country. In consideration of the above data, it is highly likely that the Project Purpose will be achieved in the near future.

(2) Outputs will contribute greatly to the achievement of the Project Purpose

All the model mills responded in the above interview survey that all Output 1-4 (PDCA relating to KAIZEN activities) contributed to productivity improvement at their mills. As pointed out earlier in the current Report, production data on all the mills showed an upward trend during the Pilot Project period. Also, more than 80% of respondents to the questionnaire survey conducted at the wrap-up seminar believed that Output 5 would contribute to pervasiveness of KAIZEN techniques among jute mills in the country. The above data point to high degree of contribution to the achievement of the Project Purpose by the Outputs produced in the Pilot Project.

(3) Other promoting and inhibiting factors

Upon completion of the Pilot Project, any significant effect of the important assumptions from the Output to the Project Purpose was not identified. In the future, however, all the important assumptions must be satisfied during a few years after the project completion if the Project Purpose is to be achieved. In addition to the important assumptions, there are the following promoting factors that are expected to help accomplish the Project Purpose: 1) the NPO will take responsibility for disseminating the KAIZEN techniques to jute mills throughout the country by providing appropriate guidance and advice;

2) many jute mills including state-owned jute mills will introduce the KAIZEN techniques under the NPO's guidance; and 3) production machinery and equipment of jute mills will be modernized. Also, one of the inhibiting factors other than the important assumptions is poor quality of machine spare parts, which would leads to poor productivity of production machines. This can set off productivity improvement achieved by KAIZEN activity.

1.3.4.3 Efficiency

"Efficiency" in the terminal evaluation examines the efficiency existing between the Inputs and Output in PDM. Judging from the Output produced, the Inputs under the Pilot Project have been utilized in an efficient manner.

(1) Adequacy of quantity, quality, timing, and method of Input

1) JICA Study Team experts showed adequate levels of expertise

According to interview surveys of the four model mills, three out of the four mills responded that experts of the JICA Study Team were appropriate in terms of the number, expertise, and timing and period of their assignment. The remaining one responded "not sure to answer." Then, the results of the interview survey conducted by the JICA Study Team in head offices of the model mills showed high evaluation of the JICA experts by management in terms of expertise and commitment. In particular, the JICA Study Team expert in "Quality/Production Management" has long experience in operation and management of textile mills, while the one in "Human Resource Development" is experienced in providing advisory service relating to KAIZEN techniques and 5S activity at many mills in and outside Japan. Thus, expertise of the JICA Study Team experts was highly suitable for the Pilot Project and its content.

2) The counterpart staff had appropriate capability

Under the Pilot Project, the NPO served as the counterpart organization. Its three staff members were directly engaged in the project implementation (two after the fourth field survey). As the NPO is responsible for promotion of productivity improvement activity for local companies, it was qualified to undertake the counterpart roles in the Project. In fact, the three staff members had sufficient expertise and skills to carry out necessary tasks in the Pilot Project. While the manpower assignment was reduced from three to two in the course of the Project, at least one NPO staff accompanied the JICA Study Team for every field advisory service at the model mill and they were actively involved in the project implementation.

3) The model mills provided appropriate logistics support

The model mills provided the JICA Study Team and NPO staffs with accommodation and meals (with charge), as planned. Also, they made a meeting room and other facility available as required.

(4) Other promoting and inhibiting factors

Important assumptions did not seem to have significant impacts on the implementation process from the Activity to the Output. A major promoting factor for the successful production of the Output and the effective use of the Inputs was the use of a Bengali/English interpreter. It helped facilitate communication between the JICA Study Team and jute mill workers who are not able to communicate in English, resulting in efficiency in the project activities.

1.3.4.4 Impact (Prospect)

"Impact" measures the project's long-term and strategic effects. In PDM, the Overall Goal and the Project Purpose are subject to the evaluation. Note that assessment of impact under the terminal evaluation is limited to "prospect." The prospective impact of the Pilot Project and possibility to achieve the Overall Goal are discussed as follows.

(1) Prospect for achievement of the Overall Goal is limited

Overall Goal of the Pilot Project is that "Export of jute products of Bangladesh will increase in terms of value and volume." According to the results of the questionnaire survey conducted at the wrap-up seminar of the Pilot Project, 86.7% of respondents believed that jute product exports would grow, both in value and volume, in the next few years if the Project Purpose was to be achieved and the expected important assumptions were to be satisfied. On the other hand, only four out of nine participants from the EPB, which is an export promotion agency of Bangladesh, gave the same answer in the said questionnaire. Also, there are some concerns about the important assumptions, as shown in the Performance Examination Table (Attachment 1.3-2).

The Pilot Project envisioned that jute mills in Bangladesh would improve productivity by introducing KAIZEN techniques, which would then lead to export increase (provided that conditions relating to the securing of production factors such as raw material, labor and electricity do not turn unfavorably to a large extent). In reality, however, productivity improvement is not the only one factor for driving export growth, and rather, the following factors would also exert the influence.

(2) Other promoting and inhibiting factors

As part of the questionnaire survey conducted at the wrap-up seminar of the Pilot Project, responses to the question on promoting/inhibiting factors for achievement of the Overall Goal of the Project are summarized in Attachment 1.3-4. Besides, learning from the Pilot Project and the research that the JICA Study Team had earlier conducted on jute industry suggests other promoting factors for influencing the achievement of the Overall Goal. These are such factors as: 1) increase in public recognition on jute as an environmentally friendly natural resource; 2) higher added value and diversification of jute products; and 3) modernization of production facilities and equipment. On the other hand, inhibiting factors include downturns of demand for jute in foreign markets and intensifying competition in the world marketplace.

(3) Impact on related organizations and policies

During the project implementation period, little impact was seen in relation to organizations and related policies other than the NPO and the model mills. At the wrap-up seminar of the Pilot Project, widespread recognition on the concept of KAIZEN was created among a large number of related parties including jute product companies. This is expected to create impacts on dissemination of KAIZEN in the future. The model mills cited, as positive impacts, improvement of production volume and productivity, improvement of the mill's housekeeping including cleanliness, changes in mindset, the reinforcement of teamwork, and the buildup of the continued KAIZEN framework (no negative impact was seen). For the NPO, undertaking the responsibility for continued dissemination of KAIZEN techniques was recognized as an impact. The same question was asked in the questionnaire survey at the wrap-up seminar, from which the several impacts were cited. (See the results of the questionnaire survey in Attachment 1.3-4 for reference.)

1.3.4.5 Sustainability (Prospect)

"Sustainability" deals with continuity of the Pilot Project after completion. In PDM, the Overall Goal, the Project Purpose, the Output and the Inputs are subject to the evaluation. Note that assessment of sustainability in the terminal evaluation is limited to "prospect." Sustainability of the Pilot Project was evaluated to be uncertain for the following reasons.

(1) The NPO intends to continue KAIZEN dissemination activities under certain conditions

The NPO has agreed to disseminate the KAIZEN techniques continuously and innovatively after the completion of the Pilot Project, pursuant to an agreement with the JICA

Study Team, dated September 30, 2007. While the NPO still holds such intention, it admits that securing the MOI's budget to finance dissemination activities is difficult, both at present and in future. The NPO therefore hopes that costs incurred in such dissemination activities, such as transportation, meals, and accommodation, are borne by individual mills, which are beneficiaries.

(2) Government support can be expected and related legal environment will likely be improved

Laws related to government support in jute industry are expected to be further business-friendlier in future, partly because the Ministry of Textile and Jute is currently formulating the new jute policy, which has not been revised since 2002. The new policy is expected to set forth implementation plans for various strategies and the roles of related organizations, probably improving the policy environment surrounding the jute industry.

(3) High applicability to other mills

In the questionnaire survey conducted at the wrap-up seminar of the Pilot Project, 90.6% of respondents thought that the KAIZEN techniques developed for the country's jute mills under the Project would be applicable to other mills in the country. Also, all responses admitted the applicability if the respondents are limited only to representatives of the jute companies. Meanwhile, the applicability is expected to improve further due to the KAIZEN Manual made by the JICA Study Team on the basis of experience and case studies from the Pilot Project.

(4) Other promoting and inhibiting factors

Executive officers and managers of the model mills cited the following promoting factors for sustaining the effects generated by the Pilot Project: 1) employees who participated in the Project will continue to be engaged in KAIZEN activity; and 2) Japanese experts will provide guidance and advice on a continuous basis. The JICA Study Team anticipates that, for the NPO to conduct dissemination activity for the KAIZEN techniques, difficulty in securing the necessary budget and the shortage of staff (only two persons capable of providing KAIZEN-related advisory service at present) will be major inhibiting factors. The same question was asked in the questionnaire survey at the wrap-up seminar, from which the several impacts were cited. (See the results of the questionnaire survey in Attachment 1.3-4 for reference.)

1.3.5 Conclusion, Recommendations, and Lessons Learned

1.3.5.1 Conclusion

(1) There is the strong need for KAIZEN activity and companies have capacity to adopt and manage change (relevance and impact)

The Pilot Project's concept matched the jute industry's demand, even in consideration of limiting factors, including the limited number of model mills, limited input, and a limited implementation period. This is because the Project addressed the issue of poor productivity, which was pointed out by the related parties as the core problem of the industry, by proposing a direct solution. In addition, the wrap-up seminar was attended by 31 persons representing jute companies, and those who learned KAIZEN techniques for the first time at the seminar expressed, in their response to the questionnaire survey, that they came to realize effectiveness of KAIZEN techniques and wanted to apply them to their own companies.

Meanwhile, the Pilot Project verified that the model mills were capable of implementing KAIZEN techniques. It is therefore concluded that KAIZEN activities can be handled by other jute mills. Furthermore, the Pilot Project saw clear signs of change in mindset among the management, mill managers and workers.

(2) The Pilot Project has been implemented according to the original plan and had successfully achieved the Project Purpose (effectiveness and efficiency)

The Project's Input and Activity were made without any change from the original plan. As a result, the Output was smoothly produced, and the Project Purpose – to improve productivity of the Bangladesh jute product industry through KAIZEN activity – was successfully achieved so far as the model mills were concerned.

(3) Outlook for achievement of the Overall Goal is uncertain (impact and relevance)

While the Overall Goal, "Export of jute products of Bangladesh will increase in terms of value and volume" would be achieved theoretically, there are uncertainties about the important assumptions (supply of raw materials, labor instability, electricity) as well as prospect for the sustainability of KAIZEN activity. Thus, the achievement of the Overall Goal is volatile and depends much on the important assumptions.

(4) There are several inhibiting factors between the Output and the Project Purpose (effectiveness and efficiency)

The Pilot Project has verified that KAIZEN activities taken up in the Project can be effective in productivity improvement of the jute industry. However, there are the critical important assumptions that lie between the Output and the Project Purpose, so that one should realize that the Project Purpose cannot be achieved only by KAIZEN activities. These important assumptions, if they go in a wrong direction, will impede productivity improvement, namely adequate renewal and maintenance of production equipment, labor management (low wage work drives workers from the jute industry), and power supply (frequent occurrence of power outage).

(5) Prospect for continuity of KAIZEN activity is not very bright (sustainability and impact)

Needless to say, KAIZEN activity cannot contribute to the achievement of either the Project Purpose or the Overall Goal unless the Pilot Project continues. Only when KAIZEN activity is implemented at many jute mills throughout the country, it will lead to the industry's productivity improvement, which would then contribute to export growth. Then, as similar KAIZEN initiatives are taken in other sectors, productivity of industry in the country as a whole will improve significantly. However, sustainability of the Project is not promised because the NPO, the proposed implementation body, has still to show firm commitment.

1.3.5.2 Recommendations

(1) Systematic implementation of KAIZEN activity in the entire jute industry

In Bangladesh, there are 18 jute mills operated under the state enterprise, BJMC, and 80 jute manufacturers that belong to BJMA (trade association), all of which have both spinning and weaving processes. In addition, 55 companies are registered with BJSA, trade association of jute product manufacturers that operate the spinning process only. These organizations are expected to lead organizational efforts to initiate KAIZEN activity and disseminate it throughout the country. Preferably, the efforts should be taken under agreement by the three organizations.

(2) Promotion of KAIZEN activity and recruitment of beneficiary companies

It is recommended to promote KAIZEN activity to jute companies widely and recruit companies that are interested in implementing it, by advertising it on publications of the abovementioned organizations and by holding seminars similar to the wrap-up seminar of the

Pilot Project. This promotional campaign should be led by the NPO by tapping experience from the Pilot Project and using the KAIZEN Manual as far as possible.

(3) Establishment of the KAIZEN activity support system and resources

It has been formally decided that KAIZEN activity initiated in the Pilot Project will continue to be promoted by the NPO, which has been established for industry's productivity improvement and is thus qualified to assume such role. One major obstacle as foreseen is the difficulty in securing the operating budget at the MOI. Anther problem is the shortage of NPO staff members who have gained experience in the Pilot Project (only three did in the form of OJT). The recruitment of additional KAIZEN advisers from other technical support organizations should be considered.

It is desirable to invite two or three experts in KAIZEN guidance and advisory service from Japan to conduct training for advisers (lecture and OJT). Formal request for Japanese organizations may be considered after the above (1) has been achieved.

(4) Need for cost sharing by beneficiary companies relating to implementation of KAIZEN activity

As mentioned earlier, the NPO has agreed to disseminate the KAIZEN techniques developed under the Pilot Project to jute mills throughout the country. However, it is difficult for the NPO to secure the MOI budget to cover necessary costs. In the Pilot Project, the JICA bore costs relating to NPO staff members, including daily allowance, transportation, accommodation, and meals. In the future, these costs should be borne by companies that benefit from KAIZEN activity. Thus, the recruitment of beneficiary companies should be made by announcing the need for cost sharing.

1.3.5.3 Lessons Learned

(1) The management's commitment as key success factor

In the Pilot Project, major activities were conducted at each mill under leadership of the mill manager and workers, who organized a project team. In practice, however, many decisions relating to the project implementation and KAIZEN activity must be made by the management at the head office. For instance, the management's approval was required to dispose of unused articles in the 3S activity. This means, if the management had not realized the need for project implementation, many activities would not have been put into practice.

In Bangladesh, companies and other organizations often require the management's approval on many day-to-day business decisions. Under this circumstance, the management's interest and commitment are essential for the project's success. To do so, it is important to let the management understand tangible benefits expected from the project.

(2) Importance of motivation to drive employees' awareness and attitude

The Pilot Project has revealed that KAIZEN activity helps drive employees' awareness and attitude. At a model mill, the management promised employees to distribute profits to be earned from the proposed KAIZEN activity. Thus, KAIZEN activity can cause the change in mindset of both management and workers. The effect of KAIZEN activity depends much on awareness and attitude of workers who are engaged in it. Also, it was a pleasant surprise to find that many workers at the model mills were committed to KAIZEN activity, as opposed to the impression obtained during the field tour prior to the start of the activity.

(3) Importance of quantitative analysis of problems and the sharing of the results

Under the Pilot Project, the KAIZEN team was able to collect relevant data, identify problems in quantitative terms, and share the results among team members. In the past, employees had presumably been aware of problems intuitively. On the other hand, the Pilot Project created a new experience where they were able to visualize problems by analyzing and sharing them on a quantitative basis. A clear understanding of a problem led to a clear solution. This indicates that quantitative analysis of problems and the sharing of the results are very important for companies and their employees to understand modern production management techniques.

Attachment 1.1-1 Cooperation Agreement with NPO for Project Implementation <1/2>

Agreement for Execution of the Pilot Project
under the Study on Potential Sub-Sector Growth for Export Diversification
in the People's Republic of Bangladesh (PSGED)
Between

UNICO International Corporation
and
National Productivity Organisation (NPO)

September 30, 2007

Both parties of UNICO International Corporation (hereinafter referred to as "UNICO") and National Productivity Organisation (hereinafter referred to as "NPO") herein agree to the following terms of conditions under which they collaborate in implementing the production process improvement (KAIZEN) project for jute mills in Bangladesh:

1. Principle

1.1. Upon request of Ministry of Commerce, Government of Bangladesh, Japan International Cooperation Agency (JICA) dispatches the JICA Study Team organized by UNICO to conduct the Study on Potential Sub-sector Growth for Export Diversification in the People's Republic of Bangladesh. In the course of the Study, JICA Study Team carries out a production process improvement (KAIZEN) project in 4 (four) private jute mills in Bangladesh, starting October 1, 2007 (hereinafter referred to as "Pilot Project").

Attachment 1.1-1 Cooperation Agreement with NPO for Project Implementation <2/2>

1.2 4 (four) mills where the Pilot Project is implemented are:

1) Janata Jute Mills Ltd.
7 Gulshan Avenue (7th floor), Gulshan 1, Dhaka 1212

2) Pubali Jute Mills Ltd.
Chand Mansion (6th floor), 66, Dulkusha, C/A , Dhaka 1000

3) Nabarun Jute Mills Ltd.
Ambon Building (10 & 11th floor), 99, Mohakhali, C/A, Dhaka 1212

4) Broad Burlap Industries Ltd.
9 Mahakhali, C/A, 8th floor, Dhaka 1212

1.3. NPO shall perform its roles as the implementing body of the Pilot Project.

2. Responsibilities of NPO

2.1. NPO shall dispatch 3 (three) experts who advise to and learn from the KAIZEN implementation conducted by the JICA Study Team. The appointed experts shall be:

1) (Team Leader) Mrs. Awlia Khanam, Senior Research Officer
2) Md. Abdul Musabbir, Research Officer
3) Md. Nazrul Islam, Statistical Investigator

2.2 At least 1 (one) of the experts shall accompany with the JICA Study Team at any time during the visit to the said target mills.

2.3 After the Pilot Project ends, NPO shall continuously and evolutionarily disseminate KAIZEN methods utilizing the lessons learned from the Pilot Project practices.

3. Compensation

3.1. Accommodation

3.1.1. UNICO shall directory pay for accommodation for experts dispatched from NPO during the visit to the mill.

3.1.2. The experts shall stay at the mill with the JICA Study Team unless otherwise agreed in advance.

3.2. Transportation

3.2.1. UNICO shall provide the dispatched experts with transportation.

3.2.2. Should NPO need a transportation that is not originally scheduled, UNICO shall provide him/her with a special transportation arrangement free of charge upon his/her request 24 hours in advance.

3.3. Daily allowance

3.3.1. UNICO shall pay 1,000 Taka per man-day regardless of hours devoted either to work or travel.

Attachment 1.2-1 KAIZEN Manual for Jute Mills

Table of Contents

Attachment 1.3-1 PDM (Project Design Matrix) <1/2>

Ver. No.: 0.2(E)

Date: June 30, 2008

Name of Project: Production Processes Improvement (KAIZEN) Project

Project Period: Oct. 1, 2007 - August 31, 2008 (11 months)

Target Area: Throughout Bangladesh

Target Group: Private jute mills in Bangladesh, which have spinning and weaving processes. Four mills are selected as experimental mills.

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Export of jute products of Bangladesh will increase in terms of value and volume.	* By the year 2009-10, export of jute products of Bangladesh will have increased 10% in terms of value and volume compared to 2006-07.	* National statistics.	
Project Purpose Productivity of jute mills in Bangladesh will be enhanced through KAIZEN activities.	* By the end of 2010, productivity will have increased by 30%, on a quantity basis, compared to that at the beginning of the Project, for the standard product (selected in the First Visit) in every model mill.	* Production control documents in the mill.	* Plentiful supply of raw jute will be secured. * Availability of raw jute, labor and energy will not deteriorate from the level in 2006-07.
	* By the end of 2010, the machine stoppage ratio (thread breakage ratio in case of spinning process) of the standard product will have improved 30%, on a reduction-rate basis, compared to that at the beginning of the Project, in every model mill.	* Performance data collected in the course of the Project.	* KAIZEN activities will sustainably spread to many jute mills. * Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.
	* By the end of the year 2009, additional 10 jute mills will have initiated KAIZEN activities, instructed by NPO.	* Report by NPO.	
Output 1. A KAIZEN team is organized in a mill and commences collection of performance data of the mill.	1. By the end of the 3rd Field Survey, the lists of KAIZEN team members and the results of first data collection will have been obtained from the four mills.	1. Submitted by each mill.	* Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.
2. Method of the performance data collection is reviewed and revised for continuation.	2-1. By the end of the 3rd Field Survey, a summary of first data collection will have been provided to each mill.	2-1. "Report of First Visit" submitted to each mill by the JICA Study Team.	* Power supply will not worsen from the level at the beginning of the Project.
	2-2. By the end of the 3rd Field Survey, revised blank check sheets will have been provided for further data collection.	2-2. Provided by the JICA Study Team.	* The quality of raw jute will not seriously degrade from the level at the beginning of the Project.
3. Subjects and method of KAIZEN are scrutinized upon the collected data and KAIZEN starts.	3. By the end of the 3rd Field Survey, the management and the KAIZEN team will have made a commitment to the subjects and methods of KAIZEN for each mill.	3. Seminars held at the end of the First Visit to each mill, with attendance of the management, the KAIZEN team, and the JICA Study Team.	* Business environment for jute mills in Bangladesh will not deteriorate to the extent which discourages the managements against any further challenge.
4. KAIZEN activities are continued with periodical review and necessary revisions.	4. By the end of the 5th Field Survey, 30% improvement in performance data compared to the beginning of the Project will have been observed for the first priority subject in each mill.	4. Performance data collected in the course of the Project.	
5. The results and effects of KAIZEN are summarized for released to public as good practices.	5. By the end of the 6th Field Survey, a report of KAIZEN practice in the four mills will have been compiled and distributed among stakeholders including media representatives and other jute mills.	5. Report booklets prepared by the JICA Study Team and an explanatory seminar with attendance of media representatives and other jute mills where the booklets will be distributed.	

Attachment 1.3-1 PDM (Project Design Matrix) <2/2>

Activities	Input[a]		
1-1. Organize a KAIZEN team in a mill. 1-2. Structure a KAIZEN system among the management of the mill, the JICA team and the KAIZEN team. 1-3. Make stakeholders and all employees of the mill aware of the KAIZEN movement. 1-4. The JICA team teaches the KAIZEN team activities of KAIZEN. 1-5. The KAIZEN team begins collection of performance data of the mill. 2-1. The JICA team reviews the midway results of the data collection and give necessary revisions to the KAIZEN team. 2-2. Preliminarily summarize the performance data and discuss production processes to be improved by KAIZEN activities. 2-3. Determine the method of data collection to be done by the KAIZEN team until the next visit of the JICA team to the mill. 3-1. Discuss and determine subjects, target figures for improvement and methods of KAIZEN. 3-2. A KAIZEN team implements KAIZEN activities by a guidance of the JICA team. 4-1. Review the effects of KAIZEN and revise methods if the target figures are not achieved. 4-2. Review and revise method of KAIZEN so as to achieve the target figures. 5-1. Compare the performance data Before- and After-KAIZEN and assess the effects of KAIZEN. 5-2. Announce the effects of KAIZEN to all stakeholders and employees of the mill and organize a permanent system to continue KAIZEN. 5-3. Release the effects of KAIZEN to the public at a KAIZEN seminar. 5-4. Publish a report of the KAIZEN practice for the benefit of the jute products industry in Bangladesh.	Japan **Human resources** Project Leader & Expert [Production control technology] 4.5M/M Expert [Management methods] 4.5M/M Project Coordinator 4.5M/M Japanese-Bengali Translator 4.5M/M **Equipments and supplies** Measuring tools and other equipments JPY 450,000 Papers and other supplies JPY 20,000 **Travel expenses** Rental cars JPY 730,000 Fee for accommodation and meals JPY 920,000 Daily allowances to NPO Experts JPY 310,000	Bangladesh **Human resources** KAIZEN methods Experts (NPO) 9M/M **Facilities** A conference/lecture room at each mill Accommodation for the JICA Study Team at each mill Meal service for the JICA Study Team at each mill	* Four experimental mills remain to be active participants in the Project and agree to disclose necessary data. * Experts from NPO who are trained through participating in the Project will continue to be dispatched for the Project. **Pre-Conditions** * Four experimental mills participate in the Project as previously arranged. * NPO dispatches experts to cooperate with JICA Study Team.

a. Assumptions for calculation of Inputs

Japan - Human resources

Mr. Uesugi, Mr. Nishigaki and the Translator (Mr. Alam) for the 3rd, 4th, 5th and 6th Field Surveys.
Project Coordinator M/M may need to be adjusted to reflect the actual assignment.

Japan - Equipments and supplies

Derived from the cost estimates for Pilot Projects by Mr. Sugiyama. Rounded up.

Japan - Travel expenses

Number of days the JICA Study Team will stay at mills is estimated to total 76 (28+16+16+16).
Number of persons staying at mills is estimated to average 6 (JICA team 4+NPO 2).
Rental car: JPY9,582/day × total days(76). Rounded up.
Accommodation & meals: JPY2,000/man-day×total man-day(76×6=456). Rounded up.
Daily Allowances to NPO experts: JPY2,000/man-day×total man-day(76×2=152). Rounded up.

Bangladesh - Human resources

Number of persons participating on site is estimated to average 2 (same as above).

Attachment 1.3-2 Performance Examination Table <1/2>

Date: September 1, 2008

Name of Project : Production Processes Improvement (KAIZEN) Project

Project Period : October. 1, 2007 - August 31, 2008 (11 months)

Target Area : Throughout Bangladesh

Target Group : Private jute mills in Bangladesh, which have spinning and weaving processes. Four mills are selected as experimental mills.

Narrative Summary	Objectively Verifiable Indicators	Performance	Important Assumptions	Current State of Important Assumptions
Overall Goal				
Export of jute products of Bangladesh will increase in terms of value and volume.	* By the year 2009-10, export of jute products of Bangladesh will have increased 10% in terms of value and volume compared to 2006-07.			
Project Purpose			**Project Purpose → Overall Goal**	
Productivity of jute mills in Bangladesh will be enhanced through KAIZEN activities.	* By the end of 2010, productivity will have increased by 30%, on a quantity basis, compared to that at the beginning of the Project, for the standard product (selected in the First Visit) in every model mill.	* Compared to target figures in January 2008, average improvement rate of spinning production per 100 spindles of the 4 model mills was 11.0% at the end of the Project, while that of weaving production per machine was 13.0% in the same period. (If other production factors being equal to those in January 2008, the improvement rate shown above involves the productivity improvement rate as well. Note the improvement rate is computed by comparing to the target figures in January 2008 because the figures actually reflect the situation of the pre-implementation period of the Project - The same condition is applied to the statements below)	* Plentiful supply of raw jute will be secured. * Availability of raw jute, labor and energy will not deteriorate from the level in 2006-07.	* It has been understood that, depending upon weather conditions and commodity prices, farmers would rather cultivate rice and maize than jute. At the time of the Project completion, cultivation of rice, staple food of Bangladeshi, was encouraged due to huge cyclone occurred during the Project period. * At the time of the Project completion, there were some opinions that jute product industry were facing difficulty in procuring raw jute.
	* By the end of 2010, the machine stoppage ratio (thread breakage ratio in case of spinning process) of the standard product will have improved 30%, on a reduction-rate basis, compared to that at the beginning of the Project, in every model mill.	* Compared to target figures in January 2008, the average improvement rate, on a reduction-rate basis, of spinning machine stoppage in 4 model mills was 45.6% at the end of the Project, while that of weaving machine stoppage rate was 23.5% in the same period.	* KAIZEN activities will sustainably spread to many jute mills.	Sustainability of KAIZEN activities for other jute mills largely depends upon financial supports to NPO.
	* By the end of the year 2009, additional 10 jute mills will have initiated KAIZEN activities, instructed by NPO.	*	* Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.	At the time of the Project completion, there was no evidence that machinery condition and parts availability has been improved nor seriously deteriorated from the level at the beginning of the Project.
Outputs			**Outputs → Project Purpose**	
1. A KAIZEN team is organized in a mill and commences collection of performance data of the mill.	1. By the end of the 3rd Field Survey, the lists of KAIZEN team members and the results of first data collection will have been obtained from the four mills.	1. In the Third Field Survey, a KAIZEN Team was organized in each model mill, which is constituted by about 15 officers from the different divisions of spinning and weaving processes and inspection line. A list of each Team and result of the first data collection were submitted from each model mill.	* Machinery condition and parts availability will not seriously deteriorate from the level at the beginning of the Project.	* At the time of the Project completion, there was no evidence that machinery condition and parts availability has been improved nor seriously deteriorated from the level at the beginning of the Project.
2. Method of the performance data collection is reviewed and revised for continuation.	2-1. By the end of the 3rd Field Survey, a summary of first data collection will have been provided to each mill.	2-1. In the Third Field Survey, a summary report, including summery of the first data collection, was provided to each model mill.	* Power supply will not worsen from the level at the beginning of the Project.	* At the time of the Project completion, there was no evidence that power supply has been improved nor worsen from the level at the beginning of the Project.
	2-2. By the end of the 3rd Field Survey, revised blank check sheets will have been provided for further data collection.	2-2. In the Third Field Survey, instruction was given to each mill to continue collecting the data until the Fourth Field Survey and blank format for the data collection was given to each mill.	* The quality of raw jute will not seriously degrade from the level at the beginning of the Project.	* At the time of the Project completion, there was no evidence that the quality of raw jute has been improved nor seriously degraded from the level at the beginning of the Project.
3. Subjects and method of KAIZEN are scrutinized upon the collected data and KAIZEN starts.	3. By the end of the 3rd Field Survey, the management and the KAIZEN team will have made a commitment to the subjects and methods of KAIZEN for each mill.	3. In the Third Field Survey, "Causes and Countermeasures" for fabric defects was tabulated by the KAIZEN Team and KAIZEN Technical Support Team (constituted by the JICA Study Team and the NPO) in each mill. Instruction was given to each mill to implement the identified countermeasures by the Fourth Field Survey and report the results to the JICA Study Team. The managements accepted the same.	* Business environment for jute mills in Bangladesh will not deteriorate to the extent which discourages the managements against any further challenge.	* At the time of the Project completion, business environment of, at least, four model jute mills does not deteriorate to the extent which discourages the managements against any further challenge.
			Activities → Outputs	
4. KAIZEN activities are continued with periodical review and necessary revisions.	4. By the end of the 5th Field Survey, 30% improvement in performance data compared to the beginning of the Project will have been observed for the first priority subject in each mill.	4-1. From the Fourth Field Survey onward, KAIZEN (including analyzing the actual result against the target figures) were continued with periodical review and necessary revisions. 4-2. Compared to target figures in January 2008, average improvement rate of spinning production per 100 spindles of the 4 model mills was 11.0% at the end of the Project, while that of weaving production per machine was 13.0% in the same period. Besides, the average improvement rate on a reduction-rate basis, of spinning machine stoppage in 4 model mills was 45.6% at the end of the Project, while that of weaving machine stoppage rate was 23.5% in the same period.	* Four experimental mills remain to be active participants in the Project and agree to disclose necessary data. * Experts from NPO who are trained through participating in the Project will continue to be dispatched for the Project.	* Four experimental mills remained to be active participants and agreed to disclose necessary data throughout the Project period. * NPO has continued assigning the same experts (2-3 experts) throughout the Project period.
5. The results and effects of KAIZEN are summarized for released to public as good practices.	5. By the end of the 6th Field Survey, a report of KAIZEN practice in the four mills will have been compiled and distributed among stakeholders including media representatives and other jute mills.	5. In August 2008, the "KAIZEN Manual" was drawn up by the JICA Study Team, which was distributed to the stakeholders of the Project.		
			Precondition	**Current States of Precondition**
			* Four experimental mills participate in the Project as previously arranged. * NPO dispatches experts to cooperate with JICA Study Team.	* Four experimental mills participated in the Project as previously arranged. * NPO has dispatched experts to cooperate with JICA Study Team.

Attachment 1.3-2 Performance Examination Table <2/2>

Activities	Performance (Activities)	Inputs (Plan)	Inputs (Actual)	
1-1. Organize a KAIZEN team in a mill.	1-1. In the Third Field Survey, each model mill organized KAIZEN Team constituted by around 15 mill officers.	Japan Human resources Project Leader & Expert [Production control technology] 4.5M/M Expert [Management methods] 4.5M/M Project Coordinator 4.5M/M Japanese-Bengali Translator 4.5M/M Equipments and supplies Measuring tools and other equipments JPY 450,000 Papers and other supplies JPY 20,000 Travel expenses Rental cars JPY 730,000 Fee for accommodation and meals JPY 920,000 Daily allowances to NPO Experts JPY 310,000 Bangladesh Human resources KAIZEN methods Experts (NPO) 9M/M Facilities A conference/lecture room at each mill Accommodation for the JICA Study Team at each mill	Japan Human resources Project Leader & Expert [Production control technology] 4.7M/M Expert [Management methods] 4.47M/M Project Coordinator 1.44M/M English-Bengali Translator 4.47M/M Equipments and supplies Measuring tools and other equipments JPY 251,311 Papers and other supplies JPY 20,000 Travel expenses Rental cars JPY 642,120 Fee for accommodation and meals JPY 200,000 Daily allowances to NPO Experts JPY 164,000 Bangladesh Human resources KAIZEN methods Experts (NPO) 5.5M/M Facilities A conference/lecture room at each mill Accommodation for the JICA Study Team at each mill	
1-2. Structure a KAIZEN system among the management of the mill, the JICA team and the KAIZEN team.	1-2. In the Third Field Survey, KAIZEN Working Group was structured in each model mill which is composed of KAIZEN Team and KAIZEN Technical Support Team. In addition, at the pre-implementation meeting with the JICA Study Team, management officers of each mill ensured that they would take initiative and offer wide cooperation for the KAIZEN activities.			
1-3. Make stakeholders and all employees of the mill aware of the KAIZEN movement.	1-3. In the Third Field Survey, the JICA Study Team, on the first day of its visit to each mill, held the kick-off meeting and KAIZEN lecture with the KAIZEN Team and the management officers. Besides, the JICA Study Team provided Project-related persons with KAIZEN Guideline, which had been created by it.			
1-4. The JICA team teaches the KAIZEN team activities of KAIZEN.	1-4. In the Third Field Survey, the JICA Study Team, on the first day of its visit to each mill, instructed the KAIZEN Team as to what would be undertaken in the Pilot Project.			
1-5. The KAIZEN team begins collection of performance data of the mill.	1-5. In the Third Field Survey, the KAIZEN Team in each mill started collection of performance data during the visit of the JICA Study Team.			
2-1. The JICA team reviews the midway results of the data collection and give necessary revisions to the KAIZEN team.	2-1. In the Third and Fourth Field Surveys, the KAIZEN Team in each mill revised the methods of data collection based upon the advice from the JICA Study Team.			
2-2. Preliminarily summarize the performance data and discuss production processes to be improved by KAIZEN activities.	2-2. The JICA Study Team and the KAIZEN Team in each mill had discussion on the problems found through the data collection.			
2-3. Determine the method of data collection to be done by the KAIZEN team until the next visit of the JICA team to the mill.	2-3. In the Third Field Survey, the JICA Study Team, during its visit to each mill, instructed the KAIZEN Team to continue the data collection and set the target figures for those data.			
3-1. Discuss and determine subjects, target figures for improvement and methods of KAIZEN.	3-1. In the Third Field Survey, the KAIZEN Team in each mill tabulated the "Causes and Countermeasures" for fabric defects based upon the collected data. The JICA Study Team summarized in writing the advices for implementation of these countermeasures.			
3-2. A KAIZEN team implements KAIZEN activities by a guidance of the JICA team.	3-2. Between the Third Field Survey and the Fourth Field Survey, the KAIZEN Team in each mill implemented the countermeasures and reported progress made in the implementation to the JICA Study Team.			
4-1. Review the effects of KAIZEN and revise methods if the target figures are not achieved.	4-1. In the Fourth and Fifth Field Surveys, the JICA Study Team and the KAIZEN Team in each mill analyzed actual results of KAIZEN (actual result figures against the target figures) and revised the methods where necessary.			
4-2. Review and revise method of KAIZEN so as to achieve the target figures.	4-2. In the Fourth and Fifth Field Surveys, the JICA Study Team and the KAIZEN Team in each mill analyzed actual results of KAIZEN (actual result figures against the target figures) and revised the methods where necessary.			
5-1. Compare the performance data Before- and After-KAIZEN and assess the effects of KAIZEN.	5-1. From the Fourth Field Survey onward, the JICA Study Team and the KAIZEN Team in each mill assessed the effects of KAIZEN by evaluating the results (actual result figures against the target figures).			
5-2. Announce the effects of KAIZEN to all stakeholders and employees of the mill and organize a permanent system to continue KAIZEN.	5-2. In the seminar held on August 20, 2008 in Dhaka, each model mill made a presentation on effects of the KAIZEN activities and announced a permanent system to continue the KAIZEN.			
5-3. Release the effects of KAIZEN to the public at a KAIZEN seminar.	5-3. In the seminar held on August 20, 2008 in Dhaka, each model mill made a presentation on its experience obtained from the KAIZEN.			
5-4. Publish a report of the KAIZEN practice for the benefit of the jute products industry in Bangladesh.	5-4. In August 2008, the JICA Study Team compiled the KAIZEN Manual based upon the case study in each model mill and distributed to stakeholders of the Project.			

Attachment 1.3-3 Evaluation Grid Table (Jute Products Industry) <1/2>

Five Criteria	Evaluation Question		Basis for Judgment	Data Needed	Data Source	Data Collection Methods
	Major Items	Minor Items				
Relevance	Did the Project deal with the significant problem(s) that the jute product industry of Bangladesh is facing?		Participatory problem analysis	Problem tree	Stakeholders in jute product industry	PCM Problem Analysis at the Pilot Project workshop held in June 2007 in Dhaka
	Were project purpose and overall goals in accordance with the needs of private jute product companies in Bangladesh?		Analysis on questionnaire survey result	Recognition of target group,	Private jute product companies	Questionnaire survey at the wrap-up seminar on Pilot Project
	Are the purposes of the Project in line with the development policies of Bangladesh?	Are the project purpose and overall goals in line with the Export Policy of Bangladesh?	Consistency with the policy	Export Policy	Ministry of Commerce (MoC)	Review on policy
	Are the purposes of the Project consistent with foreign aid policy of Japan?	Are the project purpose and overall goal consistent with the priority sectors and goals of the Japan's Country Assistance Program for Bangladesh?	Consistency with priority sectors and goals	Japan's Country Assistance Program for Bangladesh	Ministry of Foreign Affairs of Japan	Review on program
	Was the selection of the model mills appropriate?	Are production processes in model mills appropriate for the Project implementation?	Scrutiny on model mills' information	Company information	Model mills JICA Study Team	Review on materials Review on Project reports
		Were the model mills selected fairly out of the target group?	Legitimacy of selection process, Analysis on questionnaire survey result	Selection process, Recognition of target group	JICA Study Team, Private jute product companies	Review on materials, Questionnaire survey at the wrap-up seminar on Pilot Project
	Does Japan have a comparative advantage in technology?	Does Japan have a comparative advantage in KAIZEN technologies over Bangladesh?	Japan's experience of KAIZEN technologies, Analysis on questionnaire survey result	Experience of target group	Private jute product companies	Questionnaire survey at the wrap-up seminar on Pilot Project
Effective-ness	Was the project purpose achieved (or will it be achieved)?		Comparative examination of plan and performance, Analysis on questionnaire survey result, Comparative examination of productivity of model mills in before- and after- the Project implementation	Performance evaluation table Recognition of target group Production data of model mills	Performance evaluation table, Private jute product companies Model mills	Preparation of performance evaluation table, Questionnaire survey at the wrap-up seminar on Pilot Project, Review on production data of model mills
	Is the output contributing to achieving the project purpose?	Are the data collected by KAIZEN system in each model mill contributing to the enhancement of productivity?	Perspectives of JICA experts, Analysis on interview result, Comparative examination of productivity of model mills in before- and after- the Project implementation	Recognition of JICA experts, Recognition of model mills Production data of model mills	JICA Study Team, Model mills	Review on Project reports, Interview, Review on production data of model mills
		Are reviews and revisions on data collection methods which have been made in the Project contributing to the productivity enhancement of model mills?	Perspectives of JICA experts, Analysis on interview result, Comparative examination of productivity of model mills in before- and after- the Project implementation	Recognition of JICA experts, Recognition of model mills Production data of model mills	JICA Study Team, Model mills	Review on Project reports, Interview, Review on production data of model mills
		Are the KAIZEN activities whose subjects and methods were established by the collected data in the Project are contributing to productivity enhancement of model mills?	Perspectives of JICA experts, Analysis on interview result, Comparative examination of productivity of model mills in before- and after- the Project implementation	Recognition of JICA experts, Recognition of model mills Production data of model mills	JICA Study Team, Model mills	Review on Project reports, Interview, Review on production data of model mills
		Are the KAIZEN activities that have been periodically reviewed and revised in the Project are contributing to productivity enhancement of model mills?	Perspectives of JICA experts, Analysis on interview result, Comparative examination of productivity of model mills in before- and after- the Project implementation	Recognition of JICA experts, Recognition of model mills Production data of model mills	JICA Study Team, Model mills	Review on Project reports, Interview, Review on production data of model mills
		Is publication of KAIZEN case studies of the Project contributing to the nationwide dissemination of the KAIZEN in jute mills in Bangladesh?	Analysis on questionnaire survey result, Perspectives of JICA experts	Recognition of target group, Recognition of JICA Experts	Private jute product companies, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
		What are the factors other than the output that have contributed (are contributing) to achieving the project purpose?	Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	Have the important assumptions from the output to the project purpose exerted any influence?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	What are the inhibiting and promoting factors for the achievement of the project purpose?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts

Attachment 1.3-3 Evaluation Grid Table (Jute Products Industry) <2/2>

Five Criteria	Evaluation Question		Basis for Judgment	Data Needed	Data Source	Data Collection Methods
	Major Items	Minor Items				
Efficiency	Was the output achieved?	Has the KAIZEN system been organized in model mills and has it commenced collection of performance data?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has method of the performance data collection been reviewed and revised for continuation of KAIZEN?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Have subjects and method of KAIZEN been scrutinized upon the collected data and thereby has KAIZEN started?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Have KAIZEN activities been continued with periodical review and necessary revisions?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Have the results and effects of KAIZEN been summarized for released to public as good practices?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
	Seen from the achieved output, were the quality, quantity and timing of the inputs appropriate?	Were the number of dispatched JICA experts, their fields of expertise and the timing of the dispatch appropriate?	Scrutiny on CV of JICA Experts, Analysis on interview result,	CV of JICA Experts Recognition of counterpart, Recognition of model mills	JICA Study Team, NPO, Model mills	Review on CV of JICA Experts, Interview
		Were the number of counterpart personnel involved in the Project and their capability appropriate?	Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
		Have model mills offered logistical supports to the Project as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
	Have the important assumptions from the activities to the output exerted any influence?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	What are the inhibiting and promoting factors for producing the output and for the efficient utilization of inputs?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
Impact (Prospect)	Looking at the input and output performance and at the activity status, are there prospects that the overall goal will be produced as an effect of the Project?	Are there prospects that jute product exports from Bangladesh will increase as planned after the Project completes?	Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	EPB, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	What are the inhibiting and promoting factors for the achievement of the overall goal?		Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of target group, Recognition of concerned agencies, Recognition of JICA Experts	Private jute product companies, EPB, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Do the overall goal and the project purpose have causal relationship?		Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of target group, Recognition of concerned agencies, Recognition of JICA Experts	Private jute product companies, EPB, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Are the important assumptions from the project purpose to the overall goal still correct at the present point of time? Is it likely for the important assumptions to be verified?		Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	EPB, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Were there (Will there be) any positive and negative impacts beside the overall goal?	Influence on the concerned organizations	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	EPB, BJRI, BJMC, JDPC, BADC, Model mills	Questionnaire survey at the wrap-up seminar on Pilot Project
		Influence on the establishment of policies	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	MoC, EPB, Ministry of Industries, Ministry of Textile and Jute (MoTJ)	Review on policies, Interview
		Others	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	Others	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project
Sustaina-bility (Prospects)	Will the concerned government agencies extend their support to the nationwide dissemination of KAIZEN?		Analysis on interview result, Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	MoC, MoTJ,EPB, JICA Study Team	Interview, Perspectives of JICA experts
	Will the regulations and legal systems related to export of jute product be prepared and become friendlier than now?		Analysis on interview result, Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	MoC, MoTJ,EPB, JICA Study Team	Interview, Perspectives of JICA experts
	Will NPO undertake the roles in disseminating the KAIZEN in jute mills nationwide after the Project completes? (Is it capable to do so?)		Analysis on interview result	Recognition of counterpart, Budget of NPO	NPO	Interview
	Would the KAIZEN method that has been developed in the Project be applicable to implementation in other jute mills in Bangladesh?		Analysis on interview result, Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of model mills, Recognition of target group, Recognition of JICA Experts	Model mills, Private jute product companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	What are the inhibiting and promoting factors for the sustainable effects of the Project?		Analysis on interview result, Analysis on questionnaire survey result Perspectives of JICA experts	Recognition of model mills, Recognition of target group, Recognition of JICA Experts	Model mills, Private jute product companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Considering the above-raised aspects as a whole, is the probability of the sustainability high or low?		Judgment by JICA Study Team	Recognition of counterpart, Recognition of target group, Recognition of JICA Experts	NPO, Private jute product companies, Model mills, JICA Study Team	Perspectives of JICA experts

Attachment 1.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Jute Products Industry) <1/4>

Date: August 20, 2008, Attendance 75 persons

Q1	The purpose of this Project is that "Productivity of jute mills in Bangladesh will be enhanced through KAIZEN activities." In addition, the overall goal, which is expected to be achieved within about 5 years after the completion of the Project, is that "Export of jute products of Bangladesh will increase in terms of value and volume." Do you think that the purpose and goal were in accordance with the needs of private jute product industry in Bangladesh?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Yes	16	100.0%
	No	0	0.0%
	Not sure to answer	0	0.0%
	Total	16	100.0%
Government and others	Yes	15	93.8%
	No	0	0.0%
	Not sure to answer	1	6.3%
	Total	16	100.0%
All	Yes	31	96.9%
	No	0	0.0%
	Not sure to answer	1	3.1%
	Total	32	100.0%

Q2	Have you ever implemented "KAIZEN" in your mill? And have you heard of "KAIZEN" before?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Implemented before	2	14.3%
	Never implemented but have heard of KAIZEN	7	50.0%
	Never implemented nor heard of KAIZEN	5	35.7%
	Total	14	100.0%
Government and others	Implemented before	0	0.0%
	Never implemented but have heard of KAIZEN	7	53.8%
	Never implemented nor heard of KAIZEN	6	46.2%
	Total	13	100.0%
All	Implemented before	2	7.4%
	Never implemented but have heard of KAIZEN	14	51.9%
	Never implemented nor heard of KAIZEN	11	40.7%
	Total	27	100.0%

Q3	This Project selected 4 model jute mills for participation. Requirements of participation were that the jute mill should be private and should have both spinning and weaving processes. The JICA Study Team distributed the application form to the participants in the workshop in June 2007 where framework of the current Project was explained. Due to limitation in the allocated man-months of JICA experts, the JICA Study Team selected only 4 jute mills whose scale and production level differ from one another in order to pilot the KAIZEN in different situations. Do you think that this application/selection process for the model jute mills was fair?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Yes	11	68.8%
	No	1	6.3%
	Not sure to answer	4	25.0%
	Total	16	100.0%
Government and others	Yes	8	50.0%
	No	2	12.5%
	Not sure to answer	6	37.5%
	Total	16	100.0%
All	Yes	19	59.4%
	No	3	9.4%
	Not sure to answer	10	31.3%
	Total	32	100.0%

Attachment 1.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Jute Products Industry) <2/4>

Q3-1	**For those who answered "No" in question 3,** what should the application and selection process have been like? Please describe below.
Respondent	Description
All	Public mills should have been targeted
	Spinning mills should have been targeted
	Scale of model mills should have been more differentiated (All the model mills are large in scale)
	Two conventional jute mills and two spinning mills should have been selected

Q4	Do you think that the purpose of the Project, "Productivity of jute mills in Bangladesh will be enhanced through KAIZEN activities," was achieved (or will be achieved)?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Achieved	3	18.8%
	Will be achieved	13	81.3%
	Was not achieved and will not be achieved	0	0.0%
	Total	16	100.0%
Government and others	Achieved	1	6.3%
	Will be achieved	15	93.8%
	Was not achieved and will not be achieved	0	0.0%
	Total	16	100.0%
All	Achieved	4	12.5%
	Will be achieved	28	87.5%
	Was not achieved and will not be achieved	0	0.0%
	Total	32	100.0%

Q5	Do you think that today's seminar and publication of the manual/report based upon the case study of KAIZEN implementation of the 4 model jute mills will contribute to nationwide dissemination of KAIZEN in jute mills in Bangladesh?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Yes	15	93.8%
	No	0	0.0%
	Not sure to answer	1	6.3%
	Total	16	100.0%
Government and others	Yes	11	68.8%
	No	0	0.0%
	Not sure to answer	5	31.3%
	Total	16	100.0%
All	Yes	26	81.3%
	No	0	0.0%
	Not sure to answer	6	18.8%
	Total	32	100.0%

Attachment 1.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Jute Products Industry) <3/4>

Q6	What do you think will be the contributing factor and constraining (inhibitory) factor for the increase in export of jute products from Bangladesh in near future (during about 5 years after the Project completes)? Please describe below

	Description
Contributing Factor	Incentive plan/program by NPO
	Improvement of productivity and quality
	Organization effectiveness that KAIZEN brings
	Proper jute policy for the awareness of Bangladeshi jute industry
	Work environment for the better production
	Sufficient domestic raw jute supply
	Value-added chain
	Foremen should be inspired
	Modernization of machines
	Technological innovation
	Proper rewarding system
	Proper and able leadership
	Quality assurance
	Sustainable farming conditions
	Growing awareness of eco-friendly nature
Constraining Factor	Unstable number of workers due to declining price of jute/jute product
	Declining world demand and shrinking world market
	Lack of finance
	Lack of high quality jute
	Negative government policy for jute export
	Old machines
	Harsh competition in the world market
	Outdated methods of production
	Unwillingness to accept any sort of change (Traditional mindset)
	Lack of publicity about potential of jute sector
	Lack of market promotion

Q7	Suppose 3 assumptions: 1) "Productivity of jute mills in Bangladesh were to be enhanced through KAIZEN activities; 2) "Plentiful supply of raw jute were to be secured by the jute mills;" and 3) "Availability of raw jute, labor and energy for the jute mills were not to deteriorate from the level in 2006-07." If these 3 assumptions were correct, then do you think it would be correct to say that value and volume of jute product export would increase in near future (during about 5 years after the Project completes)?

Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Yes	15	100.0%
	No	0	0.0%
	Not sure to answer	0	0.0%
	Total	15	100.0%
Government and others	Yes	11	73.3%
	No	0	0.0%
	Not sure to answer	4	26.7%
	Total	15	100.0%
All	Yes	26	86.7%
	No	0	0.0%
	Not sure to answer	4	13.3%
	Total	30	100.0%

Attachment 1.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Jute Products Industry) <4/4>

Q8	Has the Project had (or will the Project have) any impact (both positive and negative) on your company (organization)? Please describe below.
	Description
Positive Impact	KAIZEN has set up framework of continuous improvement (model mill)
	Productivity and quality were enhanced (model mill)
	Participatory approaches may be started if top management understand them (government)
	Change in traditional system (government)
Negative Impact	May require some additional fund (government)

Q9	Do you think that the KAIZEN methods developed by this Project would be applicable to implementation in other jute mills of Bangladesh?		
Respondent	Answer	Number of Answers	Ratio to Total
Jute Mill	Yes	16	100.0%
	No	0	0.0%
	Not sure to answer	0	0.0%
	Total	16	100.0%
Government and others	Yes	13	81.3%
	No	0	0.0%
	Not sure to answer	3	18.8%
	Total	16	100.0%
All	Yes	29	90.6%
	No	0	0.0%
	Not sure to answer	3	9.4%
	Total	32	100.0%

Q9-1	**For those who answered "No" in question 9**, why do you think so? Please describe below.

Q10	What do you think will be the contributing factor and constraining (inhibitory) factor for sustainability of the effect that has (will have) been generated by this Project? Please describe below.
	Description
Contributing Factor	NPO sees if KAIZEN can be arranged in other mills
	Visible effectiveness of KAIZEN
	Follow-up
	Jute industry follows KAIZEN model continuously and correctly
	KAIZEN creates better working environment
	Regular follow-up of job standards
	Improvement in productivity
	Circulation of KAIZEN methods through documentary
	NPO works without any bureaucratic red tapes
	Reinforced awareness of KAIZEN
	Evaluation/feedback/monitoring system
	Sharing of experience
	Availability of proper experts
	Updated management approach that needs to be continued for 3-5 years
Constraining Factor	Lack of finance
	Negative attitudes of top management
	Old habits and management technique
	Absence of KAIZEN experts
	NPO faces various problems by various agencies including governmental agencies and donors
	Absence of master project (positioned above the experimental project)
	Absence of continuous technology transfer
	Lack of motivation among stakeholders

Chapter 2　Computer Software Industry

Chapter 2 Computer Software Industry

2.1 Design of the Pilot Project

2.1.1 Design Concept

(1) Establishment of an effective approach to export markets in non-English speaking countries

The computer software industry in Bangladesh made exports valuing US$13 million in 2004/5, which doubled in 2005/6. Value of the exports was slightly over 3% of those made by the jute industry. In consideration of the small domestic demand, it is difficult for the industry to grow continuously unless it explores foreign markets. At present, the industry's exports are mainly destined to the USA while those to English-speaking countries in Europe (mainly the United Kingdom and Scandinavian countries) are growing rapidly. In the U.S. market, however, the industry feels difficulty in expanding the sales as it is under strong competitive pressure from Indian software companies that have already established the leadership position there. In the meantime, presence of the computer software industry of Bangladesh in non-English speaking countries is still very weak, while these countries also provide large market opportunity. Therefore, the industry needs to seek market opportunity in non-English speaking countries, including Japan (the second largest market in the world), the Middle East, Latin American countries (Spanish), France, Italy, Poland and Korea, among others.

(2) Creation of a self-sustaining system to explore markets on a continuous basis

The interviews with the industry association, the Bangladesh Association of Software and Information Services (BASIS), indicate that it strongly wants to explore the Japanese market. However, the BASIS, at the same time, feels that the Bangladeshi software industry faces difficulty to gain access to Japanese market in comparison to the USA and Europe. At present, there are some software companies established in Japan (including those established by Bangladeshi entrepreneurs residing in Japan), whereas the BASIS does not make organizational efforts to communicate them in a systematic manner. On the other hand, the JICA Study Team concluded that both the BASIS and its member companies have failed to leverage support by donor organizations. Therefore, there is necessity for the Bangladeshi software industry to build a voluntary system to plan and implement the promotional efforts.

In consideration of these circumstances, it was decided to set the theme of the Pilot Project for the establishment of the software export system by mobilizing the BASIS's

self-help efforts. In this conjunction, it was proposed to deploy market development activities in Japan as a sample case for non-English speaking countries and regions.

(3) Efforts to avoid duplication with support activities by other donor organizations

Denmark provides business-matching support for Bangladeshi companies with Danish partners through DANIDA's B2B program. The program covers the software industry and is used by various Bangladeshi software companies. The program's primary objective is to promote joint ventures and alliance between Bangladeshi and Danish companies, rather than to promote exports from Bangladesh. Meanwhile, the CIDA operated the similar scheme called LEIC, which supported business-matching between Bangladeshi companies and companies all over the world. However, the LEIC was a pilot project for the period of 2 years and it terminated in December 2008. Both programs bear costs in connection with establishing the business partnership as grant-in-aid. Unlike these programs, the Pilot Project under the current Study was designed not to provide the financial support, but to offer the technical support with a view to expanding software exports from Bangladesh.

2.1.2 Scope of the Project

2.1.2.1 Summary of the Project

Conceptual design of the Pilot Project for computer software industry was made as follows.

Name of Project: The Project for Establishing the Institutional Mechanism for Export Marketing of Computer Software Industry in Bangladesh (Sample Market: Japan)
Target Area: Bangladesh and Japan
Target Group: Computer Software Companies in Bangladesh
Implementing Agency: Bangladesh Association of Software and Information Services (BASIS)
(Supporting Agencies) JICA Study Team and EPB

Overall Goal: Computer Software export from Bangladesh will increase
Project Purpose: Computer Software Industry in Bangladesh will acquire institutional capabilities that can be applied to many international markets especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs the Japanese market as the sample)

Output

1. Brochures of the companies that intend to exploit international markets will be drawn

up.

2. Comprehensive brochure for the Computer Software industry in Bangladesh will be drawn up.
3. Database of Computer Software companies of Bangladesh will be established (for business reference of Japanese buyers).
4. Market needs of the potential-partner Japanese companies will be comprehended and criteria for partner qualification (of Japanese companies) will be established.
5. Institutional system for the Bridge SE (System Engineer) that intermediates Bangladeshi and Japanese markets will be structured.
6. A seminar for advertisement and popularization of Computer Software industry of Bangladesh will take place in Japan.
7. A system for business matchmaking between Bangladeshi and Japanese companies through intermediation of the Bridge SE will be established.

Activities

1-1 Recruit and select Computer Software companies that are interested in exploiting Japanese market.

1-2 Draw up brand-new brochures for their own companies with support from the JICA Study Team.

1-3 Finalize those brochures both in English and Japanese for export marketing.

2-1 Collect data and information of Computer Software industry in Bangladesh.

2-2 Draw up the brochure for Computer Software industry in Bangladesh.

3-1 Select articles to be presented in the database of Bangladeshi Computer Software Companies where potential buyers can conduct business search.

3-2 Create the database through collected data and information as well as by referring to Output 1 and 2.

4-1 Conduct a questionnaire survey on Japanese Computer Software companies by which those interested in business with Bangladeshi companies can be extracted (The questionnaire is to be conducted in Japan by the JICA Study Team).

4-2 Organize information on the Japanese companies collected by the questionnaire for business reference of Bangladeshi suppliers.

5-1 Recruit Japan-based Bangladesh companies (or subsidiaries), Bangladeshi ICT businessmen in Japan in order to constitute the Bridge SE system (by the JICA Study Team).

5-2 Establish the Bridge SE system that intermediate business between Bangladesh and Japan.

6-1 Identify the seminar venue (in Japan) and select/invite Japanese companies.

6-2 Hold the seminar.

7-1 Identify needs of both Bangladeshi and Japanese markets and bridge the gap between the identified needs.

7-2 Establish the system where information on demand/supply in the both markets can widely be shared.

7-3 BASIS establishes the system where it introduces potential business partners to the interested Japanese companies.

2.1.2.2 Project Description

(1) Market structure of demand side

The detailed scheme of the Pilot Project is described below by reference to Figure 2.1-1. The objective of the Pilot Project was to promote software exports of Bangladesh to non-English speaking countries. Japan was selected as a sample of non-English speaking countries. Thus, the right-hand side of the Figure, i.e., "ABROAD," represents Japan. This constitutes a market where there are end users of computer software as well as suppliers called system integrator (SI) venders.

In the Japanese market, SI venders are mostly Japanese companies which fulfill orders made by end users by using their in-house engineers, subcontractors in Japan, outsourcing to foreign companies, or combination of any. Overseas outsourcing aims primarily for cost reduction. The largest outsourcing destination country for Japanese companies at present is China, followed by India, while Viet Nam and the Philippines are emerging rapidly. On the other hand, presence and capability of the computer software industry in Bangladesh are seldom known in the Japanese market.

The Pilot Project aimed to expand the country's software exports by promoting recognition of the Bangladeshi software industry by Japanese SI venders that have little knowledge at present. The Project did not expect any direct contract between Japanese end users and Bangladeshi software companies without any intermediary in between

.

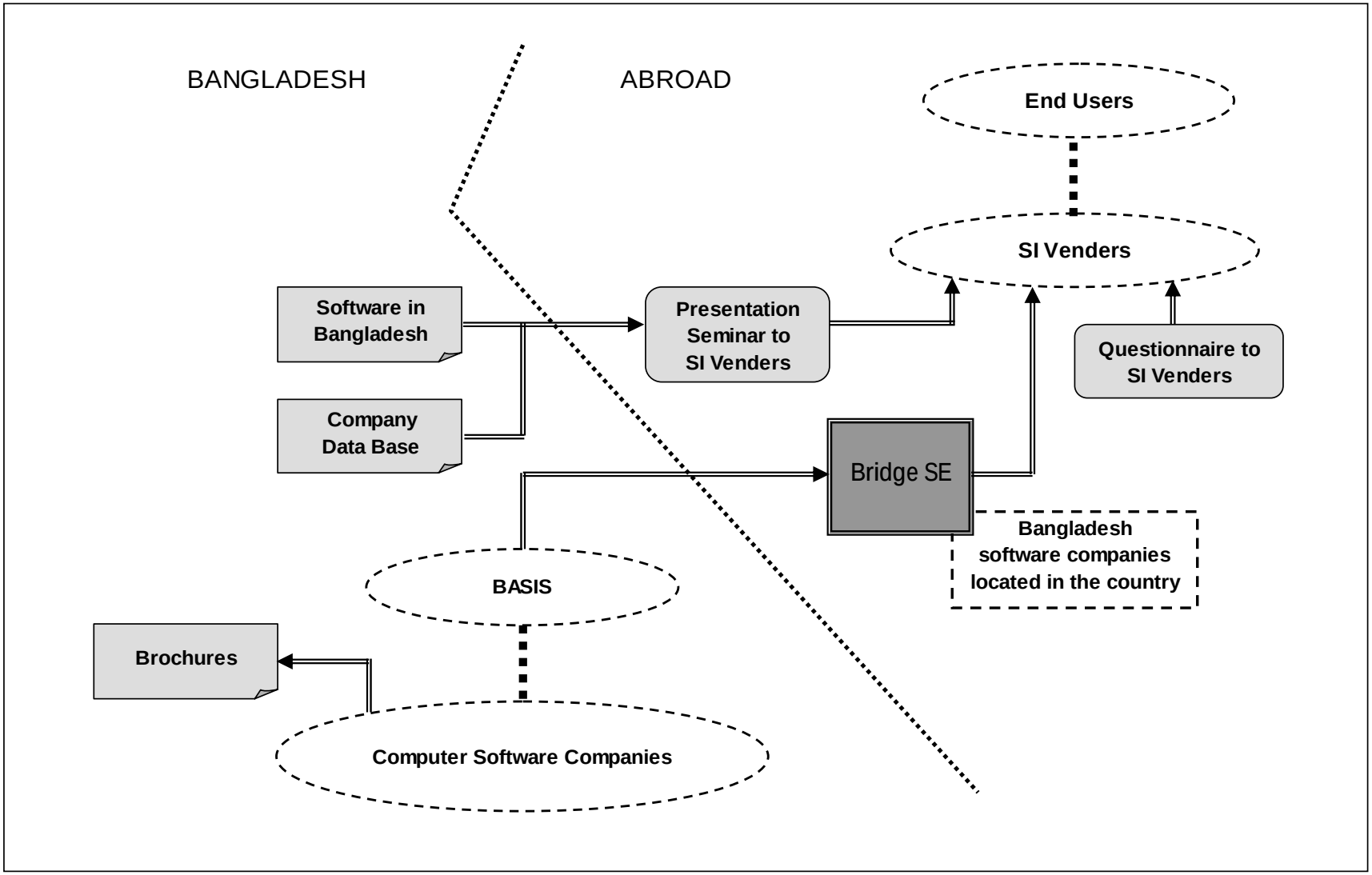

Figure 2.1-1 Schematic Concept of Pilot Project

(2) Supply side

The supply side involves the Bangladeshi software industry, representing the left-hand (BANGLADESH) side in Figure 2.1-1. In the industry, there are currently more than 400 companies that are formally registered, of which approximately 260 belong to the Bangladesh Association of Software and Information Services (BASIS).

Software companies in Bangladesh serve various industries including banks, telecom companies, multinational companies (MNCs), and the government projects (including the projects under support of donor organizations). They conduct business mostly in the fields of customized software development and maintenance. For large projects, there are some cases where they jointly work with a foreign company and serve as its subcontractor. On the other hand, they tend to be export-oriented as domestic business is considered to be low value added.

(3) Building of the bridging function

At present, the Japanese software market and the Bangladeshi software industry are not commercially linked, with a few exceptions. As such, the primary objective of the Pilot Project was to bridge the Bangladeshi software industry with the potential Japanese market.

In Figure 2.1-1, “Bridge SE” is indicated in the central area by the dark back. Bridge SE was to be located in Japan to promote and receive orders from Japanese companies, outsource them to Bangladeshi companies, and deliver completed software to Japanese customers. One of the problems relating to this contractual relationship is that the Bridge SE needs to communicate, negotiate and contract with Japanese customers (SI venders) in Japanese, while it has to use English (or Bengali) for outsourcing to and supervision of Bangladeshi software companies. Also, the Bridge SE must have expert knowledge on a broad range of software services. For these reasons, the Pilot Project viewed the building of the bridging function as the most important issue.

(4) Organization of the supplier group and marketing in the Japanese market

The Pilot Project was planned to conduct the following activities:

1) To organize member companies of BASIS, which are interested in the Pilot Project;
2) To develop marketing tools for the Japanese market;
   - A booklet introducing the Bangladeshi software industry in the Japanese language
   - A brochure on member companies in the Japanese language
   - A detailed database on member companies in the Japanese language

3) To conduct a marketing campaign for Japanese companies, including telemarketing and questionnaire survey, in order to spur interests in the Bangladeshi software industry;
4) To hold an orientation seminar for Japanese companies that are interested in the Bangladeshi software industry; and
5) Bridge SE is expected to perform its function to achieve continuous development of the Pilot Project. (Note that this activity is out of scope of the Pilot Project.)

Table 2.1-1 presents the Project Design Matrix (PDM) on the basis of conceptual design for the Pilot Project. This Pilot Project had been implemented according to this PDM.

2.1.3 Organization for Project Implementation

2.1.3.1 Bangladesh Association of Software and Information Services (BASIS)

The counterpart of the current Study is formally the Ministry of Commerce, and practically the Export Promotion Bureau (EPB). For this Pilot Project, the JICA Study Team requested the BASIS to undertake the roles of counterpart whereby both parties signed a cooperation agreement on July 8, 2007 (Refer to Attachment 2.1-1 at the end of this chapter). Also, member companies of the BASIS, which participated in the Pilot Project, were considered to be the members of the working group. During the Pilot Project, the JICA Study Team was responsible for the overall project management and the BASIS for project implementation with EPB's support. After completion of the Pilot Project, the BASIS was expected to become primary contact with the Bridge SE system in Japan.

BASIS's executive officers are mutually elected from its members every two years. It consists of six standing committees, each of which is headed by the director. All executive officers of the BASIS are owners/managers of the member companies. BASIS has 7 full-time employees (administrative and secretary) as of August 2008. Table 2.1-2 shows the organization of the BASIS in 2006-7 during which the Pilot Project began.

Table 2.1-1 Project Design Matrix (PDM) <1/2>

Ver. No.: 0.2 (E) (revised as originally planned)

Date: June 30, 2008

Name of Project: Project for Establishing the Institutional Mechanism for Export Marketing of Software and ITES Industry in Bangladesh (Sample Market: Japan)

Project Period: Oct. 1, 2007 - August 31, 2008 (11 months)

Target Area: Bangladesh and Japan

Target Group: Computer Software Companies in Bangladesh

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Computer Software export from Bangladesh will increase	* By the year 2009-10, export of Software/ITES from Bangladesh will have increased by 10% in terms of value compared to 2006-07.	* Balance of Payment statistics by the Bangladesh Bank. Bangladesh Export Statistics by the Export Promotion Bureau	
Project Purpose Computer Software Industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs	* By the end of the Project, at least one (1) software business will be intermediated by and through the Bridge SE System.	* Business contract document(s).	* Software demand in Japan and the world will not shrink significantly below the level at the beginning of the Project. * Power and telecommunication infrastructure will not deteriorate to the level where software development cannot be processed. * Preferential treatment on software industry in Bangladesh will continue.
Output 1. Brochures of the companies that intend to exploit international markets will be drawn up.	1. By the end of the 4th Field Survey, two thousand (2,000) copies of company brochures (1,000 for English and 1,000 for Japanese) will have been printed.	1. Concerned printed matter.	* Bangladesh will continue to comply with the WTO/GATT rules on trade in service.
2. Comprehensive brochure for the Computer Software industry in Bangladesh will be drawn up.	2. By the end of the 4th Field Survey, two thousand (2,000) copies of the introductory brochure for the software/ITES industry in Bangladesh (1,000 for English and 1,000 for Japanese) will have been printed.	2. Concerned printed matter.	
3. Database of Computer Software companies of Bangladesh will be established (for business reference of Japanese buyers).	3. By the end of the 5th Field Survey, the database of the participating companies will have been created.	3 Concerned database	
4. Market needs of the potential-partner Japanese companies will be comprehended and criteria for partner qualification (of Japanese companies) will be established.	4. By the end of March, 2008, questionnaire will have been sent out to one thousand (1,000) potential Japanese clients.	4. List of companies to which questionnaire is sent out	
5. Institutional system for the Bridge SE (System Engineer) that intermediates Bangladeshi and Japanese markets will be structured.	5. By the end of March, 2008, the Bridge SE System will have been established in Japan.	5. Registration document(s).	
6. A seminar for advertisement and popularization of Computer Software industry of Bangladesh will take place in Japan.	6. In May, 2008, at least 50 participants will be present at the seminar for advertisement and popularization of Software / ITES industry of Bangladesh.	6. Attendance list.	
7. A system for business match-making between Bangladeshi and Japanese companies through intermediation of the Bridge SE will be established.	7-1. By the end of the 3rd Field Survey, Bangladeshi software/ITES supplier will have been organized for Japanese market.	7-1. List of participating companies in the Project	
	7-2. During the Project period, relationship is to be established between Bridge SE System and BASIS through the intermediation of JICA Study Team.	7-2. Performance of JICA Study Team	
	7-3. After achieving the Output 4, the Bridge SE System will start sales activities for the Bangladeshi participating companies.	7-3. Report from Bridge SE System	

Table 2.1-1 Project Design Matrix (PDM) <2/2>

Activities	Input		
1-1. Recruit and select Computer Software companies that are interested in exploiting Japanese market. 1-2. Draw up brand-new brochures for their own companies with support from the JICA Study team. 1-3. Finalize those brochures both in English and Japanese for export marketing. 2-1. Collect data and information of Computer Software industry in Bangladesh. 2-2. Draw up the brochure for Computer Software industry in Bangladesh. 3-1. Select articles to be presented in the database of Bangladeshi Computer Software Companies where potential buyers can conduct business search. 3-2. Create the database through collected data and information as well as by referring to Output 1 and 2. 4-1. Conduct a questionnaire survey on Japanese Computer Software companies by which those interested in business with Bangladeshi companies can be extracted (The questionnaire is to be conducted in Japan by the JICA Study team). 4-2. Organize information on the Japanese companies collected by the questionnaire for business reference of Bangladeshi suppliers. 5-1. Recruit Japan-based Bangladesh companies (or subsidiaries), Bangladeshi ICT businessmen in Japan in order to constitute the Bridge SE system (by the JICA Study Team). 5-2. Establish the Bridge SE system that intermediate business between Bangladesh and Japan. 6-1. Identify the seminar venue (in Japan) and select/invite Japanese companies. 6-2. Hold the seminar. 7-1. Identify needs of both Bangladeshi and Japanese markets and bridge the gap between the identified needs. 7-2. Establish the system where information on demand/supply in the both markets can widely be shared. 7-3. BASIS establishes the system where it introduces potential business partners to the interested Japanese companies.	Japan **Human resources** Expert (Distribution/Market Analysis) 4.47M/M Expert (Product Development/Marketing) 4.47M/M **Equipments and supplies** Printing of industry brochure JPY 344,000 Translation of company and industry brochures JPY 1,330,000 Database translation JPY 800,000 Questionnaire survey JPY 40,000 Seminar JPY To be budgetized	Bangladesh **Human resources** BASIS secretariat 9M/M **Supplies** Printing of company brochures Database web development Bridge SE System establishment (by Bangladehi residing in Japan)	* Participating companies draw up their company brochures in English. * Participating companies pay for printing their brochures. * Appropriate promoter(s) and Bridge SEs are existent in Japan for the establishment of the Bridge SE System. **Precondition** * The sufficient number of companies (at least 20 companies) applies for participation in the Project

Table 2.1-2 Organization of BASIS

BASIS Executive Council 2006-2007

1. Sarwar Alam	- President
2. Rafiqul Islam	- Senior Vice President
3. Ahmed Hasan	- Vice President
4. Shoeb Ahmed Masud	- Secretary General
5. Shameem Ahsan	- Joint Secretary General
6. AKM Fahim Mashroor	- Treasurer
7. M Shoeb Chowdhury	- Director
8. Shafquat Haider	- Director
9. TIM Nurul Kabir	- Director

BASIS Standing Committees

* Standing Committee on Access to Finance
* Standing Committee on International Market Development
* Standing Committee on Domestic Market Development
* Standing Committee on ICT for Development
* Standing Committee on Policy Affairs & Intellectual Property Rights
* Standing Committee on Human Resources Development & HR Policy

BASIS is a national association of software/ITES companies in Bangladesh, which was established in 1997. Its membership totals around 260 companies, which generate most revenues of the IT industry in Bangladesh. BASIS carries the following objectives:

- To expand the market (both domestic and overseas);
- To support member companies for their deployment to the international market;
- To reinforce its organizational capability to help member companies improve their international competitiveness;
- To recommend policies supportive for software/ITES business to the government; and
- To foster competent human resources in the software/ITES industry;

To achieve these objectives, the BASIS holds annual software development exhibitions "BASIS SoftExpo," assists member companies that participate in international trade shows, arranges alliance programs with foreign companies, and makes policy recommendation to the government on the improvement of the legal and other systems affecting the software/ITES industry.

2.1.3.2 Organization for Project Implementation

The JICA Study Team assigned two experts to the Pilot Project, and the sub-leader oversaw the project implementation in Bangladesh, whereas the leader conducted coordination activities in Japan. The conceptual image of the Project implementation organization is shown below.

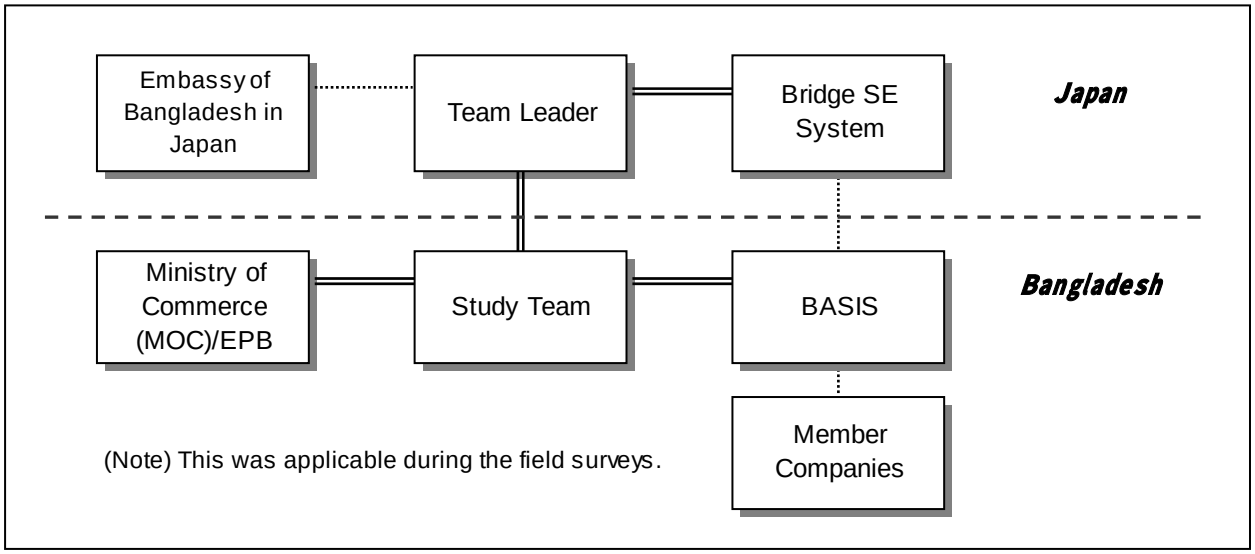

Figure 2.1-2 Implementation Organization for the Pilot Project

2.1.4 Implementation Schedule

Figure 2.1-3 shows a timetable of the Pilot Project. As seen from the timetable, the JICA Study Team had conducted a total of four field surveys in Bangladesh for the implementation of the Pilot Project. At the same time, the Pilot Project attached a high value to the home work in Japan, and hence, period of the home work of the Project was relatively long.

The following describes the implementation schedule of the activities that had been undertaken in the Pilot Project, by time-series of the Study implementation. Note that the activity numbers and descriptions are the same as those contained in the conceptual design in the clause 2.1.2.1.

---

(1) The 3rd field survey (September 17, 2007 - November 3, 2007)

1-1 Recruit and select Computer Software companies that are interested in exploiting Japanese market.

1-2 Draw up brand-new brochures for their own companies with support from the JICA Study Team.
2-1 Collect data and information of Computer Software industry in Bangladesh.
3-1 Select articles to be presented in the database of Bangladeshi Computer Software Companies where potential buyers can conduct business search.

(2) The 3rd home work

5-1 Recruit Japan-based Bangladesh companies (or subsidiaries), Bangladeshi ICT businessmen in Japan in order to constitute the Bridge SE system (by the JICA Study Team).

(3) The 4th field survey (January 18, 2008 - February 9, 2008)

1-3 Finalize those brochures both in English and Japanese for export marketing.
2-2 Draw up the brochure for Computer Software industry in Bangladesh.

(4) The 4th home work

4-1 Conduct a questionnaire survey on Japanese Computer Software companies by which those interested in business with Bangladeshi companies can be extracted (The questionnaire is to be conducted in Japan by the JICA Study Team).
5-2 Establish the Bridge SE system that intermediate business between Bangladesh and Japan.

(5) The 5th home work

4-2 Organize information on the Japanese companies collected by the questionnaire for business reference of Bangladeshi suppliers.
6-1 Identify the seminar venue (in Japan) and select/invite Japanese companies.
6-2 Hold the seminar.

(6) The 5th field survey (May 16, 2008 - June 4, 2008)

7-1 Identify needs of both Bangladeshi and Japanese markets and bridge the gap between the identified needs. (Note that this activity was taken up throughout the Project period but information of needs of Japanese companies was best shared here).
7-2 Establish the system where information on demand/supply in the both markets can widely be shared. (Note that this activity was taken up throughout the Project period but

information of demand/supply in Japanese offshore market was best shared the most here).

(7) The Sixth home work

3-2 Create the database through collected data and information as well as by referring to Output 1 and 2.

(8) The 6th filed survey (August 1, 2008 - August 30, 2008)

7-3 BASIS establishes the system where it introduces potential business partners to the interested Japanese companies.

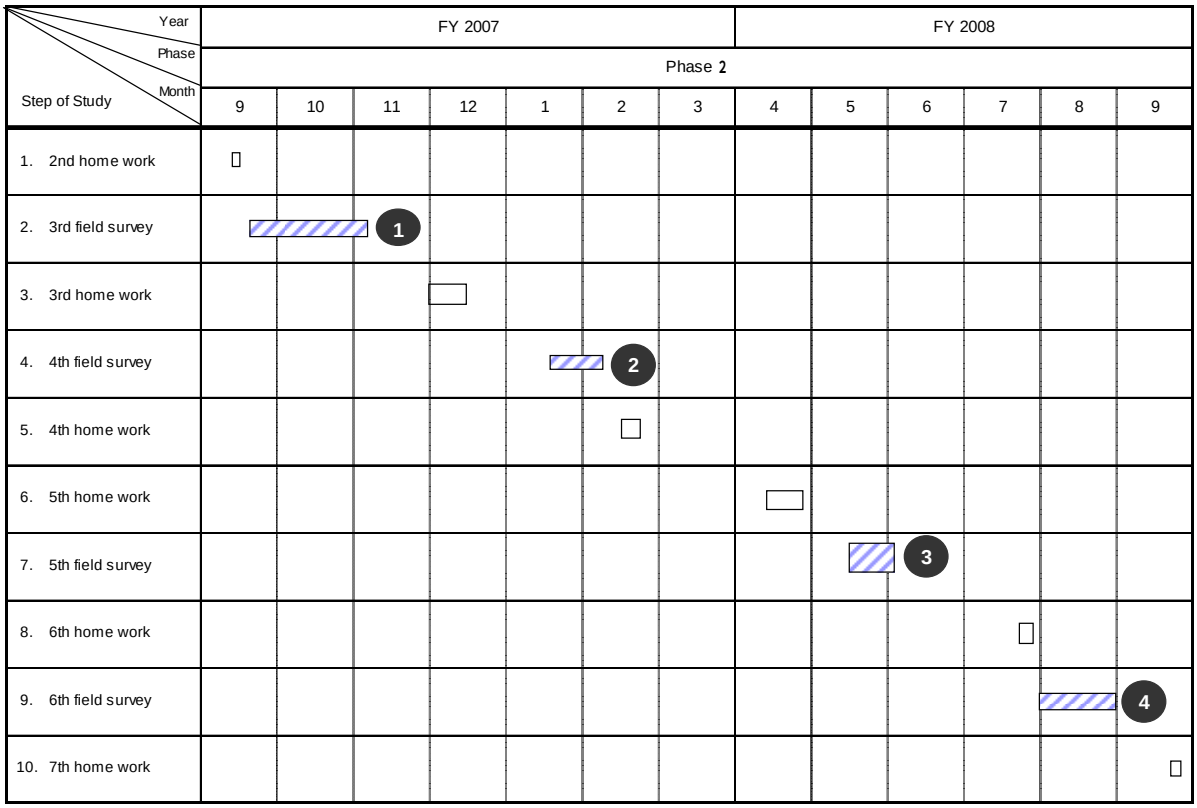

Figure 2.1-3 Work Schedule for Pilot Project in Computer Software Industry

2.2 Implementation of the Pilot Project

Implementation of the Pilot Project started during the Third Field Survey (from September 17, 2007 to November 3, 2007) and completed in the Sixth Field Survey (from August 1, 2008 to August 30, 2008). The current section presents details of the activities that were carried out during the project implementation period, by Output shown in Table 2.1-1 (PDM). The JICA Study Team, in association with the BASIS, had duly performed these activities, which produced every Output as planned.

2.2.1 Output 1: Brochures of Participating Companies

According to the PDM, the Output 1 is that "Brochures of the companies that intend to exploit international markets will be drawn up." Since this Pilot Project had taken Japan as a sample market, "international markets" here involves the Japanese market. The Pilot Project produced this Output by undertaking the activities described below.

2.2.1.1 Third Field Survey (September 17, 2007 - November 3, 2007)

(1) Recruitment of participating companies

The JICA Study Team and the BASIS recruited companies to participate in the Pilot Project from the BASIS member companies by means of application. As a result, a total of 42 companies applied for the participation. Since all of the applied companies met the requirements, the JICA Study Team and the BASIS did not reject any company from the participation. It should be noted, however, that the number of the participating companies was reduced to 38 by the Fourth Field Survey and finally to 37 by the Sixth Field Survey. Three companies gave up on their participation because of their financial situations. In addition, since one company actually belonged to the same group of the other participating company, the company decided to stop its participation. Further, the rest one company withdrew from the participation for the reason that it came to disagree with the way in which the Pilot Project worked. Table 2.2-1 is a list of the 37 participating companies at the time of the Project completion.

Most of these participating companies conduct software development as their main business, while 6 companies can be categorized as ITES companies, including CAD, graphic design and online job portal management companies. Although many of those companies have never done business with Japan, 7 companies have either branch office, liaison office, or partner in Japan.

Table 2.2-1 Participating Companies (at the end of Pilot Project)

Sl. No.	Company Name	Address
1	Adaptive Enterprise Limited	5/6 Gaznabi Road, Block B, Mohammadpur,Dhaka-1207
2	ATI limited	ATI Center,H-1,R-9/A, Sector-7, Uttara,Dhaka-1230
3	Bangladesh Internet Press Ltd (BIPL)	BTMC Building (3rd Floor),7-9 kawran Bazar, Dhaka-1215
4	Bdjobs.com Ltd	Bdjobs.com Ltd. ,8th floor(West), BSRS Bhaban, 12 Karwan Bazar,Dhaka
5	BJIT Limited	H.N-22,R.N-12,Baridara,Dhaka-1212
6	Business Automation Ltd.	BSRS Bhaban, Level-9 East,12 Kawran Bazar, Dhaka-1215,
7	Compulink International Ltd.	5/13 Lalmatia, Block - D, Mohammadpur, Dhaka – 1207
8	Computer Ease Ltd.	1/9 Block A, Lalmatia, Mohammadpur,Dhaka-1207
9	CSL Software Resources Limited	Building-2, Roas-11,(New),Dhanmondi,Mirpur Road,Dhaka-1209
10	Databiz Inc	41/5-A Purana Paltan (1st floor),Dhaka-1000
11	Datasoft System (BD) Ltd.	73-D, New Airport Roed, Manipuripara,Tejgan,Dhaka-1215
12	Daud Information Technology	H-41,R-5,Dhanmondi,Dhaka-1205
13	dEVnET limited	Service site & Head Office:H-2,Road-16,Sector,3,Uttara,Dahaka-1230
14	Dohatec New Media	Doha House, 43 Purana Paltan Line, Dhaka - 1000
15	eGeneration Ltd	BSRS bhaban, Level-6, East,12 Kawran Bazar, Dhaka-1215,
16	Epsilon	66 Dilkusha C/A, Chand Mansion (6th floor),Dhaka,Bangladesh
17	Genesis Systems Ltd.	Concord Tower, suite#804,113 Kazi Nazrul Islam Avenue, Dhaka-1000
18	Grameen Solution	Grameen Bank Tower, 12th Floor, Mirpur-2,Dhaka
19	Habib Intelligent Software Developer	H.N-7(1st floor), R.N-13, Dhanmondi, Dhaka-1205
20	Invogue Software Ltd.	Suite-404,138 Gulshan Avenue, Dhaka-1212
21	LEADS Corporation Limited	Adamjee Court Annexe 2, 5th Floor,119-120 Motijheel C/A, Dhaka-1000
22	Mazumder IT limited(MITL)	167/A, Shantinagar,4th Floor, Dhaka-1217
23	Newage Infotech Services Ltd.	42-I Indira Road, Dhaka-1215,Bangladesh
24	PanthoSoft Limited	9A(1st Floor),Road -28(old),Dhanmondi, Dhaka-1209
25	Pyxisnet Ltd.	H-67/A(3rd Floor),R-4,Block_C,Banani-1213
26	Sigma Technologies Ltd.	Syed Grand Centre(10th floor), plot-89, R.N-28,Sector-7,Uttara, Daka-1230
27	Sikraft Solutions Ltd	137/D/1 Jahanara Gardens, Green Road,Dhaka-1205
28	Southtech Limited	Dhaka Square, Plot 1,Road-13, Sector-1, Uttara MT, Dhaka-1230
29	Spectrum Engineering Consortium Ltd.	69/1 ,Panthapath, Chandrashila Suvastu Tower, 7th Floor, Suite-C, Dhaka-1215, Bangladesh
30	Spinnovation Limited	Building-445(2nd Floor), R-31,New DOHS ,Dhaka
31	Star Computer Systems Ltd	Fattah Plaza (7th -8th floor),70, Green Road, Dhaka-1205
32	STM Software Limited	196 Green Road (Gr. Floor) Dhaka - 1205
33	Systec Digital	H.N-17,R.N-5,sector-7,Uttara,Dhaka-1230
34	Technohaven Co.Ltd.	Fattah Plaza 9th Floor,70 Green Road,Dhaka-1205
35	The computers Ltd	Dhaka Metro Scout Bhaban (1F),54 inner Circular Road, Dhaka-1000(Head Office)
36	Tradexcel Graphics Ltd.	H.N-11A(4th floor),R.N-130,Gulshan-1,Dhaka-1212
37	Upload Yourself Systems Ltd.	H.N-289,R.N-19/B,New DOHS Mohakhali, Dhaka-1206

(2) Distribution of data entry form

The JICA Study Team, via the BASIS, circulated a data entry form through e-mail to all the participating companies in order to develop the brochures for these companies. The data

entry form was linked to the brochure format which had earlier been created by the JICA Study Team. Each data in the form corresponded to the respective section of the brochure format. All the participating companies submitted the data by this form in English by the period of the Third Home Work.

2.2.1.2 Third Home Work

(1) Confirmation of final draft

The JICA Study Team translated English texts of the brochure in the data entry form provided by the participating companies into Japanese. Besides, the JICA Study Team finalized contents and format of these brochures for printing. The JICA Study Team sent, through the BASIS, the final draft of brochure (English page) to all the participating companies for final proofread and confirmation for printing. In response, all the participating companies confirmed the draft and approved of printing.

2.2.1.3 Fourth Field Survey (January 18, 2008 - February 9, 2008)

(1) Printing of brochures

Firstly, the JICA Study Team suggested editing those brochures into one booklet which would work as a directory of the participating companies. Then, 2,500 copies of the brochures were printed at the expense of the participating companies. A total of 2,000 copies out of 2,500 were printed as the booklet of 76 pages (excluding covers, preface and contents) that would work as the company directory. The rest 500 were printed as one-paper leaflet for each participating company. In both versions, each paper was printed in 4 colors on both sides; obverse side in Japanese and reverse side in English.

2.2.2 Output 2: Brochure for Software/ITES Industry of Bangladesh

As per the PDM, the Output 2 of this Pilot Project is that “Comprehensive brochure for the Computer Software industry in Bangladesh will be drawn up.” The Pilot Project generated this Output by performing the following activities.

2.2.2.1 Third Field Survey (September 17, 2007 - November 3, 2007)

(1) Data collection and framework development

The JICA Study Team and the BASIS discussed to develop compositions and framework of the brochures to introduce software/ITES industry of Bangladesh. BASIS provided the JICA Study Team with the industrial data from its own information resources.

In addition, the BASIS drew up the first draft of the brochure in English, which would be supplemented with the information that the JICA Study Team had collected over the course of the Study. Table 2.2-2 shows the contents of the brochure.

Table 2.2-2 Contents of Industry Brochure

Title: "Software/ITES Industry of Bangladesh"
1. Introduction – History of Software Development in Bangladesh
2. Current State of Software and ITES Industries in Bangladesh
3. Export of Software and ITES from Bangladesh
4. Competence of Software and ITES Industries in Bangladesh
5. Supply of Workforce to Software and ITES Industries in Bangladesh
6. Cost Comparison for Software/ITES Business among Asian Countries
7. Software Industry by Bangladeshis in Japan
8. Organization of business intermediate service in Japan
9. Structure in Bangladeshi side

2.2.2.2 Third Home Work

(1) Confirmation of final draft

The JICA Study Team prepared the final draft of the brochure in Japanese based upon the data and the first draft provided by the BASIS, and information that had been collected through the current Study. This final draft was translated into English by the professional translation firm. The JICA Study Team sent this final draft (English section) to the BASIS for final proofread and confirmation for printing. BASIS, in response, confirmed the draft and approved of printing.

2.2.2.3 Fourth Field Survey (January 18, 2008 - February 9, 2008)

(1) Printing of brochure

A total of 1,200 copies of the brochure were printed. As for this brochure, the Japanese edition of 13 pages (excluding covers, preface and contents) and the English summary edition of 9 pages (excluding covers, preface and contents) were bound together

into one booklet. The Japanese edition comes first followed by the English summary edition. The brochure was printed in 4 colors on both sides.

2.2.3 Output 3: Database of Participating Companies

PDM shows that the Output 3 of this Pilot Project is that "Database of Computer Software companies of Bangladesh will be established (for business reference of Japanese buyers)." The Pilot Project produced this Output through the following activities.

2.2.3.1 Third Field Survey (September 17, 2007 - November 3, 2007)

(1) Questionnaire survey for participating companies

The JICA Study Team, with logistical support from the BASIS, delivered questionnaires through e-mail to all the participating companies in order to obtain the detail information of theirs. The questionnaires were the fill-in type created in MS Excel format, which were to be utilized as the database with minimal modification. The questionnaires were composed of two sections: 1) information to be utilized for database of the participating companies; and 2) information to be utilized for database of the projects undertaken by the participating companies in the past. The section 1) contained a corporate survey sheet (for technical background), an industry information survey sheet (for industrial expertise) and infrastructure and miscellaneous information survey sheet (for company's infrastructure and miscellaneous information). The section 2) was constituted by a project survey sheet for the details of the maximum of 5 projects that each participating company has implemented in the past. Submission of the data was not compulsory as it might contain confidential data that were not for external reference. Besides, all the data, except for the company's basics such as company name and contact information, were set as optional to answer.

(2) Interview survey with participating companies

The JICA Study Team, with logistical support of the BASIS, conducted face-to-face interviews with all the participating companies. This interview survey attempted to comprehend capabilities, creditworthiness, atmosphere, and business motivation of each company, which supplement the data provided through the questionnaire survey for the database development. This interview survey was rather qualitative than quantitative in its nature of analysis, as opposed to the questionnaire survey that attempted to collect mostly technical data of companies for database development. The JICA Study Team decided to conduct these face-to-face interviews in order to verify accuracy of the information given by the companies to the questionnaire survey. In addition, it attempted to know managerial ability, managerial motivation, and managerial aspiration of the participating companies,

which were not able to be understood without actually meeting the management officers of each company.

2.2.3.2 Fourth Field Survey (January 18, 2008 – February 9, 2008)

(1) Preparation of website development for company/project database

BASIS in association with the JICA Study Team prepared the Request for Proposal (RFP) dated February 4, 2008 for website development for the Pilot Project. Proposed specification of the website in the RFP is summarized in Table 2.2-3. Note that website development had not been planned for any of Output nor Activities in this Pilot Project but it was tried for more effective use of the company/project database. BASIS had received technical and financial proposals from two companies in response to the RFP. BASIS also made a request to the EPB in writing for budgetary support for the website development.

This proposed bilingual website (in English and Japanese) was to come with the databases of the participating companies and their projects undertaken in the past. The website would also feature information about the current Study and the Pilot Project and link to homepages of all the participating companies. Two brochures (Output 1 and Output 2) would be able to be browsed in this website. It would also carry the search engine whereby company data and project data can be filtered and browsed from the databases. The JICA Study Team suggested that the website be managed and maintained by the BASIS by taking advantage of administrative management features in the website.

Table 2.2-3 Draft Specification of Website

- **Tools**
  - **CMS: (JOOMLA, or XOOPS in Plan)**
  - **OSS base**
- **DB tables and schemes**
  - **All DB fields specified in the project survey sheet and company survey sheet will be subject for DB table**
- **Content, and Company and project data**
  - **collected in survey sheets previously will be applied to the Web site DB**
- **Draft of Specifications & Features**

<Main Home Page>

- Language selection Button (Japanese / English)
- About the project (Program Explanations, BD Industry brief)
- Objectives of the Program
- C/P, Sponsor / Implementing body Information and links
- List of Participating companies
- General Search feature by key words (Entire Web site) on each web pg.
- Project Search feature by key words (cross companies)
- NEWS
- Contact

<Participating Company Home Pages>

- Project List of each participating companies
- General Key search box
- Advanced Project Search fields
  - Subject DB Fields: Each DB fields provided in the project survey sheet
- General Key search box
- Advanced Search fields
- Company Search Feature
- Link to each company's URL

- **Draft of Specifications & Features**

<General Features>

- News feature
- Email group feature
- BLOG Feature
- Forum Feature

<Administrative management features>

- User Group management features
  - ID /PW management
  - Issuance of ID
  - Management of ID
  - PW Management
- Authentications features
- NEWS feature
- Email group management feature
- BLOG management Feature
- Forum management Feature

2.2.3.3 Fifth Field Survey (May 16, 2008 – June 4, 2008)

(1) Preparation of website development for company/project database

Neither the JICA Study Team nor the BASIS had been able to obtain budgetary allocation for the website development by this point. In response, the JICA Study Team wrote the letter to the Ministry of Commerce for the purpose of supporting the request letter that had been sent by the BASIS to the EPB in the Fourth Field Survey.

(2) Non disclosure notice

The JICA Study Team, in the workshop with the participating companies on May 26 2008, requested the participating companies to notify the BASIS if they disagree with disclosure of any of the data provided through the questionnaire survey for the database development. Later, the BASIS circulated the notice to all the participating companies in order to notify that if any company disagrees with the disclosure of previously provided data, the company should claim the BASIS by June 30, 2008. In addition, the BASIS, in the same notice, requested the participating companies which had not yet submitted the data for database development, to submit the data by June 30, 2008. Submission of the data was optional at this time as well.

2.2.3.4 Sixth Home Work

(1) Database creation

By this point of time, the JICA Study Team had received data for the company database from the 34 participating companies and those for the project database from the 31 participating companies (129 projects in total). Meanwhile, in response to the notice from the BASIS mentioned above, two companies requested not to disclose some of the data provided through the questionnaire survey and one company requested not to disclose any data. Accordingly, the JICA Study Team compiled the company database for 33 companies and project database for 30 companies (128 projects in total). Besides, the JICA Study Team translated all the data into Japanese.

2.2.3.5 Sixth Field Survey (August 1, 2008 – August 30, 2008)

(1) Submission of database

The JICA Study Team submitted to the BASIS a CD that contained the company database and project database prepared both in Japanese and English. In the meantime, the EPB officially regretted that it would not be able to allocate any budget for the website

development. As such, the website development (which was out of scope of the Pilot Project) was not completed during the Project period, and thus, it is now up to the BASIS how the database will be utilized on website in future.

2.2.4 Output 4: Market needs of Japanese Companies

As per the PDM, the Output 4 of this Pilot Project is that "Market needs of the potential-partner Japanese companies will be comprehended and criteria for partner qualification (of Japanese companies) will be established." The Pilot Project produced this Output through the following activities.

2.2.4.1 Fourth Home Work and Fifth Home Work

(1) Database marketing

A direct marketing activity called "database marketing" started on February 12, 2008. The JICA Study Team outsourced this activity to a professional marketing firm called "acquisition Co., Ltd" whose headquarter is registered and located in Tokyo, Japan. Database marketing is a method of the direct marketing in which marketing phone-calls are made out to potential clients that have been listed up from the company database. Then, the responses of these potential clients to the inbound calls are accumulated into the result database. Here, target companies were set as follows:

1) Number of target companies: 1,006;
2) Target area: Tokyo metropolitan area and Chiba, Kanagawa and Saitama prefectures;
3) Target industry: Software development and IT-enabled services (or ITES);
4) Target scale of companies (in the number of employees): 50 to 500;
5) Target scale of companies (in annual revenue): More than US$ 1 million; and
6) Certified partner companies of multinational IT companies (for these companies, target conditions of 4) and 5) were not applied).

Purposes of this database marketing were:

1) to obtain information of key person (appropriate contact point) in each company;
2) to distribute the needs-identification questionnaire survey more widely and effectively;
3) to disseminate information about the seminar on Bangladeshi software/ITES industry that was to be held in May 2008 in Tokyo; and

4) to make appointments with potential clients in order for salespersons of the Bridge SE System (BIK Japan) to be able to perform effective sales activities.

As a result of this database marketing, appointments were made with 9 companies for the Bridge SE System to visit, while a total of 552 companies agreed to receive the needs-identification questionnaire. Figure 2.2-1 summarizes the result of the database marketing.

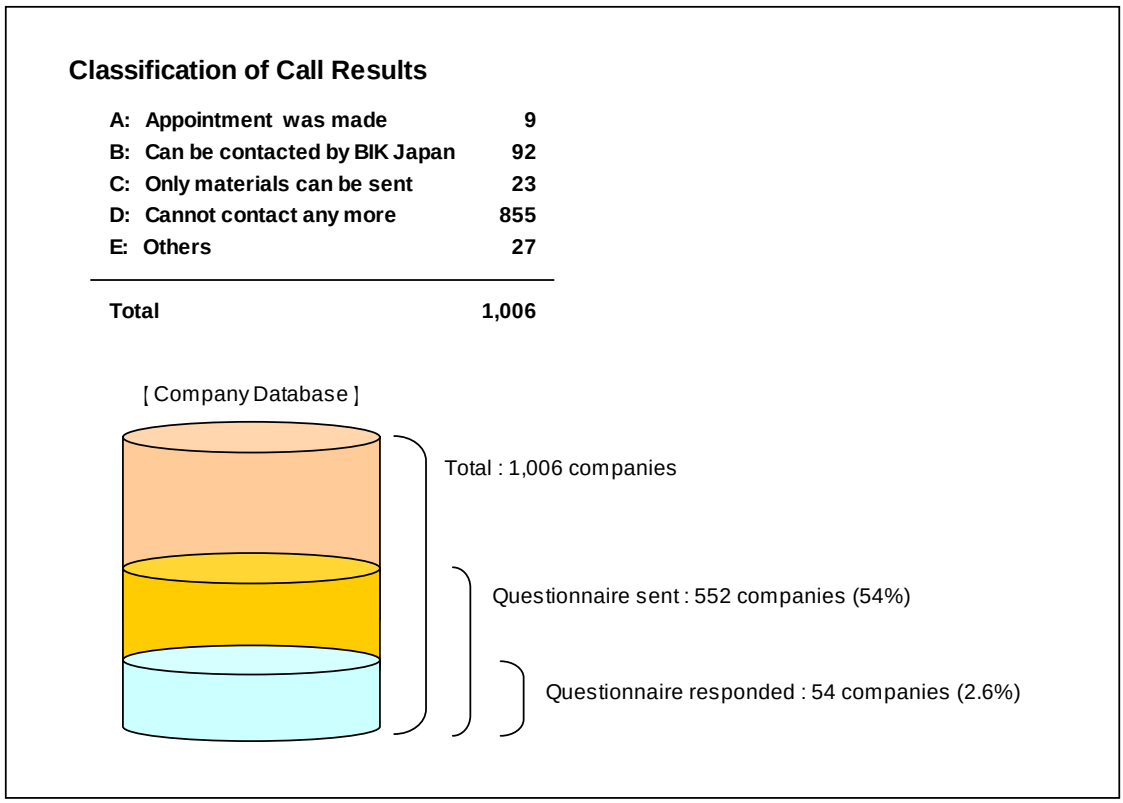

Figure 2.2-1 Result of Database Marketing

(2) Needs-identification questionnaire survey for Japanese companies

The JICA Study Team distributed the questionnaire to 552 Japanese companies which had earlier agreed to receive it in the database marketing activity explained above. The questionnaire was composed of 5 sections, which were:

1) Current states of software/ITES industry in Bangladesh;
2) Human resources of software/ITES industry in Bangladesh;
3) Offshore outsourcing to Bangladesh;
4) Bridge SE System; and
5) Seminar for popularization of software/ITES industry in Bangladesh.

Each section came with brief explanation corresponding to the subject of the respective section whereby the questionnaire carried educational nature. The questionnaire attempted to comprehend experiences, knowledge, interests and needs of the Japanese companies in regards to the subject of each section.

A total of 54 companies responded to the questionnaire. Some of the questions and answers directly related to offshore development business with Bangladesh are summarized in Table 2.2-4, while Attachment 2.2-1 at the end of the chapter tabulates all the result of the questionnaire survey. As seen from the Table, about 89% of the respondents do not know about supply of software/ITES in Bangladesh, whereas some 87% of the respondents are not interested in offshore outsourcing to Bangladesh. Meanwhile, the respondents attach a high value to low development cost, risk diversification and future potentials in regards to offshore development in Bangladesh, while they have concerns over language problem and quality issues about it.

(3) Questionnaire survey at seminar in Tokyo

JICA Study Team also conducted a brief questionnaire survey at the seminar held on May 12, 2008 in Tokyo (Output 6) (Note that details of the seminar will be explained later). Table 2.2-5 presents result of this questionnaire survey. As seen from the Table, larger share of the respondents knows about and shows interests in software/ITES industry of Bangladesh in comparison with the respondents of the needs-identification questionnaire survey described above.

Table 2.2-4 Result of Questionnaire Survey (Excerpts)

Valid Answer: 54

Q1-1 How much do you know about software/ITES industry in Bangladesh?			
1	I know it very well	0	0.0%
2	I know it a little	6	11.1%
3	I do not know it well	23	42.6%
4	I do not know even existence of software/ITES suppliers in Bangladesh	25	46.3%
	Total Valid Answer	54	100.0%
Q3-8 Are you interested in offshore development/outsourcing of software development and IT services to Bangladesh?			
1	Yes, and we want to establish business channel	2	3.8%
2	Yes, but we cannot see possibility to do business at this point	5	9.4%
3	No at present, but we may have interests in future	29	54.7%
4	No, we are not interested now, nor will we be in future	17	32.1%
	Total Valid Answer	53	100.0%
Q3-9 What would be the reason for your company to offshore/outsource to Bangladesh? (Multiple answers allowed)			
1	Low development cost	21	36.2%
2	Risk diversification by offshoring/outsourcing to various countries	14	24.1%
3	Future potentials	14	24.1%
4	High technology/skills, high quality	6	10.3%
5	Others	3	5.2%
	Total Valid Answer	58	100.0%
Q3-14 What would be the most significant concerns if your company were to offshore/outsource software development and IT services to Bangladesh? (Multiple answers allowed)			
1	Language communication gap	37	15.6%
2	Quality	35	14.8%
3	Failure in communication about specification	28	11.8%
4	Leak-out of secret information	25	10.5%
5	Gap in culture and business practice	23	9.7%
6	Delivery time	20	8.4%
7	Diplomatic/geopolitical risks	17	7.2%
8	Undeveloped infrastructure of Bangladeshi companies	16	6.8%
9	Unstable management of Bangladeshi companies	11	4.6%
10	Low technology/skills	10	4.2%
11	Difference in development process	10	4.2%
12	Others	5	2.1%
	Total Valid Answer	237	100.0%

Table 2.2-5 Result of Questionnaire Survey at Seminar in Tokyo

Valid Answer：57

Q1. How much have you known about Bangladeshi software/ITES industry before you attend this seminar?	Answer	Ratio to Total
1. I have known it very well	5	8.8%
2. I have known it a little	17	29.8%
3. I have not known it well	24	42.1%
4. I have not known even existence of software/ITES suppliers in Bangladesh	11	19.3%
Total Valid Answer	57	100.0%
Q2. Did you get interested in doing business with Bangladeshi software/ITES companies after this seminar?	Answer	Ratio to Total
1. Yes, I got interested very much (I would like to consider doing business)	10	17.5%
2. Yes, I got interested (I will continue to collect information))	35	61.4%
3. Yes, I got interested, but will not consider any business for now	12	21.1%
4. No, I did not get interested at all	0	0.0%
Total Valid Answer	57	100.0%
Q3. What do you think about future potential of Bangladeshi software/ITES industry as a new offshoring destination?	Answer	Ratio to Total
1. Potential is large	12	21.1%
2. Potential is fair	33	57.9%
3. There is potential, but it is smaller than other new offshore destinations like Viet Nam and Sri Lanka	8	14.0%
4. There is no potential	4	7.0%
Total Valid Answer	57	100.0%
Q4. What form of business would you consider in the first stage, if you were to do business with Bangladeshi software/ITES companies? (Multiple answers allowed)	Answer	Ratio to Total
1. Offshore development (Direct order)	8	12.5%
2. Offshore development through intermediaries like BIK Japan	31	48.4%
3. Onsite development, employment of engineers, engineer placement	19	29.7%
4. Joint venture, strategic alliance	6	9.4%
Total Valid Answer	64	100.0%
Q5 There are some Bangladeshi companies willing to offer trial development for free of charge. Are you interested in ordering such trial program?	Answer	Ratio to Total
1. Yes	36	67.9%
2. No	17	32.1%
Total Valid Answer	53	100.0%
Q6 Can the BIK Japan contact you later on? (Multiple answers allowed)	Answer	Ratio to Total
1. Contact by phone is OK	14	21.9%
2. Contact by e-mail is OK	33	51.6%
3. I will contact the BIK Japan when necessary	8	12.5%
4. Only presentation materials can be accepted	8	12.5%
5. No more contact in any way	1	1.6%
Total Valid Answer	64	100.0%

2.2.4.2 Fifth Field Survey (May 16, 2008 – June 4, 2008)

(1) Information sharing with participating companies

The JICA Study Team, in the workshop with the participating companies on May 26, 2008, presented the results of the database marketing and both the questionnaire surveys described above. In addition, result reports of the questionnaire surveys (Attachment 2.2-1 and Table 2.2-5) were distributed to all the participating companies through the BASIS.

2.2.5 Output 5: Establishment of Bridge SE System

According to the PDM, the Output 5 of this Pilot Project is that "Institutional system for the Bridge SE (System Engineer) that intermediates Bangladeshi and Japanese markets will be structured." The Bridge SE System was institutionalized in Japan through the following activities.

2.2.5.1 Third Home Work

(1) Finalizing the conceptual framework

The JICA Study Team devised conceptual framework of the Bridge SE System as shown in Figure 2.2-2. As seen in the Figure, the Bridge SE System mediates software/ITES business between Japan and Bangladesh, particularly offshore outsourcing of software development to Bangladesh. Personnel in this System should be fluent in both Japanese and English and should have high technological level of software/ITES business. At the same time, they should be competent at business management and marketing activities. Besides, this System must ensure transparency and fairness in supplier selection process.

There are several types of organizations in Japan that meet some of these requirements. However, there is no organization that meets all of those requirements. For example, software companies of Bangladeshis located in Japan (shown as A in Figure 2.2-2) are able to conduct business both in Japanese and English, while they may not possess high managerial skills and software technology compared to their Japanese counterparts. At the same time, if these Bangladeshi companies had vested interests in particular participating companies, it would be difficult to ensure transparent and fair process in supplier selection. On the other hand, most of Japanese software companies (shown as B in Figure 2.2-2) are not capable of doing business in English, while they may not be obliged to transmit business orders to the Bangladeshi participating companies only.

If fairness/transparency and language skills were the most important factors, then the Embassy of Bangladesh in Japan (shown as D in Figure 2.2-2) would be the best option. However, the Embassy is not likely to possess the personnel who are familiar with software business.

Other options would be the establishment of new entity, such as creation of association (shown as C in Figure 2.2-2) or partnership of Bangladeshi and Japanese software companies (shown as E in Figure 2.2-2). Notwithstanding, there would still be challenges to ensure transparency and fairness in supplier selection process.

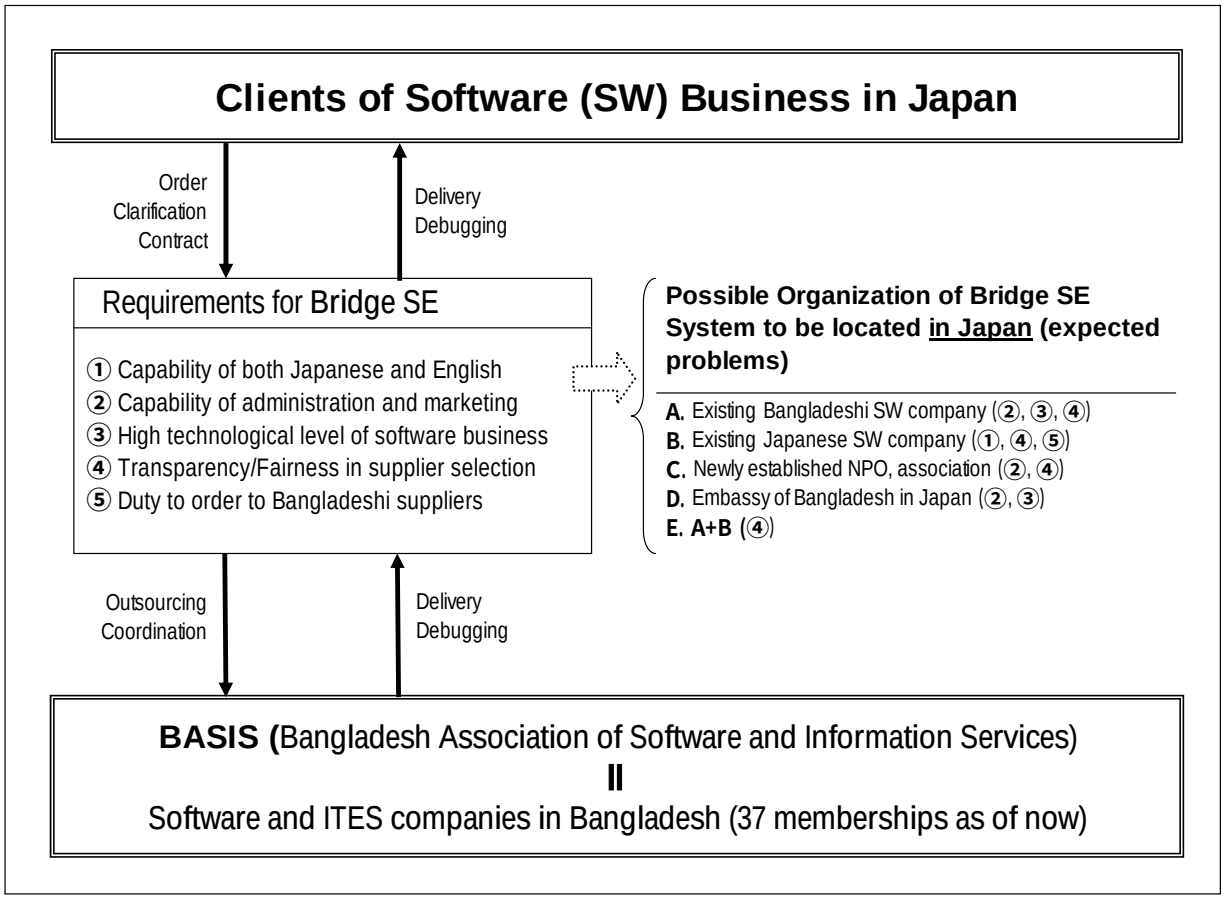

Figure 2.2-2 Structure of Bridge SE System

(2) Commencement of establishing Bridge SE System

Having recognized that there is no perfectly suited organization to undertake this Bridge SE function, the JICA Study Team proposed the Bangladeshis who own software/IT companies in Japan to collaboratively establish the System. This corresponds to C established by A in the Figure shown above. The JICA Study Team also suggested that the

organizational form of the System under registration be the Common Facility Cooperatives which is juristically established under the "Law on Cooperatives of Small and Medium Enterprises" of Japan. This is largely because one of the important characteristics of the Common Facility Cooperatives is that the voting right is equally distributed to all members regardless of share of investment in it. By this, a degree of fairness in business flows in and through the Bridge SE System was expected to be enhanced.

There were four Bangladeshi software/IT companies in Japan that agreed to take initiative in establishing the Bridge SE System as the Common Facility Cooperatives and the process of registration started during the Third Home Work. They decided the name of the organization, as "BIK Japan (Bangladesh IT Kyodo Kumiai Japan)" ("Kyodo Kumiai" means cooperatives in Japanese).

2.2.5.2 Fifth Home Work

(1) Final formation of BIK Japan

In April 2008, one of the 4 founders of the BIK Japan withdrew from the membership due to divergence of opinion as to how the BIK Japan operates. The BIK Japan was enforced to stop the registration process for the Common Facility Cooperatives because there need to be at least four members in order to establish the Common Facility Cooperatives. As a result, the BIK Japan decided to continue its operation by 3 member companies not as the Common Facility Cooperatives, but as a voluntary group. Table 2.2-6 introduces general information of the BIK Japan and Table 2.2-7 shows the 3 member companies of it.

(2) Alliance with Japanese company

In May 2008, the BIK Japan allied with a Japanese company which specializes in sales process outsourcing for software business. They allied together in such a way that the BIK Japan outsources most of its sales activities to the said Japanese company but pay sales visits to the potential customers together.

Table 2.2-6 General Information of BIK Japan

Item	Contact Information
Organization Name	BIK Japan
Address	2-18-2, Kitashinagawa, Shinagawa-ku, Tokyo 140-0001, Japan
Tel.	03-3458-8836
Fax.	03-3458-8839

Table 2.2-7 Member Companies of BIK Japan

Company Name	Representative	Address	Tel Fax URL	Services
(1) ICON Inc.	Mr. Kazi Enamul Hoque Chairman	2-7-16 Suehiro, Ichikawa-shi, Chiba	Tel. +81-47-395-7273 Fax. +81-47-332-2209 URL: www.iconkk.jp	Financial services, HR placement, offshore development, and outsourcing of project services.
(2) ITA Limited	Mr. Sarker A. Bashar President	2-18-2 Kitashinagawa, Shinagawa-ku, Schloss KY Kitashinagawa 501, Tokyo	Tel. +81-3-3458-7657 Fax. +81-3-3458-8839 URL: www.ita.co.jp	Software engineering, system building, network solution and human resource development. They conduct offshore development in Bangladesh.
(3) Mega Corporation	Mr. Anisul Haque President & CEO	San Ai Bldg., (2nd Floor), 4-13-28, Isehara, Isehara City, Kanagawa 259-1131, Japan	Tel. 046-392-3649 Fax. 046-396-6231 URL: www.mega-corpo.com	IT engineering, IT consulting, software development, outsourcing, etc are its main services. It has offices in Delhi and Dhaka specially for Japanese IT language training. There are 33 employees at present.

2.2.6 Output 6: Seminar

According to the PDM, the Output 6 of this Pilot Project is that "A seminar for advertisement and popularization of Computer Software industry of Bangladesh will take place in Japan." The Pilot Project produced this Output by conducting the following activities.

2.2.6.1 Fifth Home Work

(1) Preparation for seminar

In April 2008, the JICA Study Team decided the venue for the seminar to introduce software/ITES industry of Bangladesh. The venue can accommodate the maximum of 132 persons in classroom style arrangement. In the same month, the JICA Study Team sent out around 2,000 invitations to the seminar, out of which 89 invitees applied for the participation.

(2) Holding of seminar

On May 12, 2008, the seminar entitled "Current States and Capability of Software/ITES Industry in Bangladesh" was held in Tokyo. The seminar was co-organized by the JICA, the BIK Japan and the UNICO International Corporation (JICA Study Team). In addition, the Embassy of Bangladesh in Japan officially supported the seminar. The seminar was attended by His Excellency, Mr. Ashraf-ud-Doula, Ambassador of Bangladesh as a chief guest, while Mr. Seiichi Nagatsuka, Vice President of the JICA, was the special guest. Also, an Assistant Director of the EPB and the former President (2006-7) of the BASIS were present at the seminar as the guest speakers. Table 2.2-8 shows the program of the seminar.

As many as 89 audiences from 71 Japanese companies (and some Bangladeshi and other foreign companies based in Japan) attended the seminar. The organizers distributed the directory for the participating companies (Output 1) and brochure to introduce software/ITES industry of Bangladesh (Output 2) as handouts. Meanwhile, as many as 15 persons from the 13 Bangladeshi software companies, all of which are the participating companies in the Pilot Project, came over to this seminar where they made brief presentations to introduce their own companies. Table 2.2-9 presents a list of the participating companies that attended the seminar.

(3) Result of seminar

As described in 2.2.4.1, the JICA Study Team conducted a questionnaire survey targeting the audiences at the seminar (Refer to Table 2.2-5 for result of the questionnaire survey). Based upon the result of the questionnaire survey and a list of the attendances, the JICA Study Team and the BIK Japan classified the attendances by order of priority to make a business contact; From A (highest priority) to C (lowest priority), and Z (business competitor, no possibility for business materialization and others). This classification was made for the purpose that the BIK Japan could prioritize the sales leads for its effective and efficient sales operation. The following summarizes result of this exercise:

1) Rank A: 33 companies;
2) Rank B: 9 companies;
3) Rank C: 12 companies; and
4) Rank Z: 17 companies.

Table 2.2-8 Program of Seminar

Date & Time: May 12, 2008 13:30-17:30
Venue: Bellesalle Kudan, Chiyoda-ku, Tokyo, Japan
Organized by: Japan International Cooperation Agency (JICA)
BIK Japan
UNICO International Corporation
Supported by: Embassy of the People's Republic of Bangladesh in Japan

13:00～	**受付開始** *Reception*	
13:30～13:45	**開会挨拶** *Opening Address*	**・アシュラフ・ウッド・ドウラ 駐日バングラデシュ国特命全権大使** *H.E. Mr. Ashraf-ud-Doula, Ambassador of the People's Republic of Bangladesh in Japan* **・永塚 誠一 独立行政法人国際協力機構（JICA）理事** *- Mr. Seiichi Nagatsuka, Vice President, JICA*
13:45～14:00	**主催者キックオフ** *Kick-off Remarks*	**【バングラデシュからの供給と日本市場のビジネス・ブリッジング】** **・稲員 祥三（JICA調査団長）** *"Software Business Bridging between Bangladesh and Japan"* *- Mr. Shozo Inakazu, Leader, JICA Study Team*
14:00～14:45	**調査報告** *Study Report*	**【バングラデシュのソフトウェア/ITES産業の現状と可能性】** **・安井 衛（JICA調査団専門家）** *"Current State and Capability of Software/ITES Industry of Bangladesh"* *- Mr. Mamoru Yasui, Expert, JICA Study Team*
14:45～15:00	**休憩** *Short Break*	
15:00～15:20	**現地からのメッセージ** *Message from Bangladesh*	**【バングラデシュのソフトウェア供給体制の現状と支援策】** **・ラフィクル・イスラム・ロウリー（バングラデシュ・ソフトウェア・情報サービス協会2007年度会長）** **・モハマド・イスラム・ハリム（バングラデシュ輸出振興局課長補佐）** *"Software/ITES Supply and Government Support to Software/ITES Industry in Bangladesh"* *- Mr. Rafiqul Islam Rowly, President (2007), Bangladesh Association of Software & Information Services (BASIS)* *- Mr. Mohammad Abdul Halim, Assistant Director, Export Promotion Bureau (EPB)*
15:20～16:05	**ブリッジSE組織について** *Bridge SE System*	**【日本におけるブリッジSE組織の構築とサービス】** **・サルカル アブル バシャル（BIK Japan理事）** *"Establishment of Bridge SE System in Japan and its Services"* *- Mr. Sarker A. Bashar, Board Member, BIK Japan*
16:05～17:10	**現地オフショア開発パートナーの紹介** *Introduction of Offshore Development Partners in Bangladesh*	
17:10～17:30	**質疑応答** *Q & A*	
使用言語：日本語（要約英語） *Language: Japanese (Summery in English)*		

Table 2.2-9 Attendances from Participating Companies at the Seminar

	Company Name
1	DataSoft Systems Bangladesh Limited
2	Dohatec New Media
3	Epsilon Consulting & Development Services
4	Habib Intelligent Software Developer (Hisoft)
5	LEADS Corporation Limited
6	Mazumder IT Ltd.
7	PyxisNet Ltd
8	STM Software Limited
9	Systech Digital
10	Tradexcel Graphics Ltd.
11	BJIT
12	BdJobs.Com Limited
13	CSL Software Resources Limited

2.2.7 Output 7: Match-making Mechanism through Bridge SE System

As per the PDM, the Output 7 of the Pilot Project is that "A system for business matchmaking between Bangladeshi and Japanese companies through intermediation of the Bridge SE will be established." The activities to produce this Output were actually overlapping with some of the activities that produced other Outputs. The following explains how the Pilot Project produced the Output 7.

2.2.7.1 Third Field Survey (September 17, 2007 - November 3, 2007)

(1) Organization of supplier group

As described in 2.2.1.1, a total of 42 companies participated in the Pilot Project (the number was reduced to 37 by the end of the Project). These participating companies were regarded as the supplier group aiming for the Japanese market under the Pilot Project with the BASIS managing and coordinating it. Only the participating companies are eligible for receiving business orders that would be procured by the Bridge SE System through the activities conducted in the Pilot Project. Organized approach was necessary because the range of software/ITES business is so wide that the individual approach would not be able to handle many projects. Bridge SE System would act as a representative for marketing, sales and other related activities in Japan for these participating companies.

(2) Seminar for participating companies

The JICA Study Team in association with the BASIS held a seminar on October 23, 2007 which aimed at providing the participating companies with detail work flows and schedule of the Pilot Project. The seminar offered all the participating companies to meet together for the first time, thereby embarking on the organized approach to the Japanese offshore market. Representatives from the 36 participating companies were present at this seminar. Table 2.2-10 shows the agenda of this seminar.

Table 2.2-10 Agenda of the Seminar

Date: October 23, 2007 Time: 2:30-4:50	**Venue: EPB Conference Room**
2:00 - 2:30	**Reception** **Opening Addresses** **Mr. Rafiqul Islam Rowly.** Senior Vice President. Bangladesh Association of Software and Information Services **Mr. Yasuo Takeuchi.** Sub Team Leader. JICA Study Team.
2:30 - 2:40	Opening and speech by **Mr. Rafiqul Islam Rowly.** Senior Vice President. Bangladesh Association of Software and Information Services
2:40 - 3:00	Opening speech by **Mr. Yasuo Takeuchi.** Sub Team Leader. JICA Study Team.
3:00 - 3:10	Presentation by **Mr. Shameem Ahsan.** Joint Secretary General. Bangladesh Association of Software and Information Services
3:10 - 3:25	**-Short Break -**
3:25 - 4:10	Presentation by **Mr. Mamoru Yasui,** Expert, JICA Study Team
4:10 - 4:40	Open Discussion
4:40 - 4:50	Wrap-up of the seminar and closing by **Mr. Faridul Hassan, Director General of EPB**

2.2.7.2 Fourth Field Survey (January 18, 2008 – February 9, 2008)

(1) Introducing Bridge SE System to participating companies

The JICA Study Team, in association with the BASIS, held a workshop on February 7, 2008 where progress that had been made in the Pilot Project thitherto was presented to the participating companies. Representatives from the 29 participating companies were present at the workshop. Agenda of the workshop is shown in Table 2.2-11.

As seen in the agenda, a representative from the Bridge SE System, or the BIK Japan, was supposed to attend this workshop where it would have presented its functional roles and responsibilities to the participating companies. However, the representative was not able to

make it to the workshop after all. The JICA Study Team, on behalf of the BIK Japan, made brief explanation on the organizational structure and functional roles of it, based upon the brief PowerPoint presentation which had been prepared by the BIK Japan.

The participating companies raised many questions about the BIK Japan, many of which could not be answered in the workshop. The JICA Study Team ensured to convey all those queries to the BIK Japan after the Fourth Field Survey. The queries about the BIK Japan raised by the participants at the workshop are summarized in Table 2.2-12.

Table 2.2-11 Agenda of Workshop

Workshop for
Participating Companies in the Pilot Project in the Software/ITES industries of Bangladesh

Date: February 7, 2008
Time: 15:00-17:00
Venue: BASIS Conference Room

15:00-15:10: Introduction (BASIS President)
15:10-16:00: Status Report of entire PP processes and activities by expected outputs (JICA Study Team)
- **A) Output1: Company Brochures**
- **B) Output2: Industry Brochures**
- **C) Output3: Web site development**
- **D) Output4: DB Marketing in Japan**
- **E) Output5: Bridge SE System Development**
- **F) Output6: Seminar in Japan**
  Invitation to SODEC (Software Development Expo) in Japan

16:00-16:30 Presentation by BIK Japan (Bridge SE system) (*cancelled and made by JICA Study Team on behalf)
16:30-17:00 Question and open discussion

Table 2.2-12 Queries Raised at Workshop for BIK Japan

- What do member companies of the BIK Japan do? What are names of those companies in the first place? What is their business nature and business field?
- Is the BIK Japan a closed organization? Will they act separately? What is the nature of the organization?
- Are they capable of handling the businesses that we are dealing with here?
- How are they going to be paid? How much are they going to charge the Bangladesh suppliers for intermediaries?
- How is the BIK Japan going to work? What is its business flow going to be like? (There need to be the details).
- How is the BIK Japan going to ensure transparency and fairness in its business distribution? (There need be the details).
- How are we able to put forward any opinions and viewpoints about the BIK Japan without meeting and hearing of it? (They should have been present at the workshop)
- Had the BASIS communicated the BIK Japan beforehand and approved the responsibilities of it by accepting its capabilities and trustworthiness? (BASIS should have done these things well before, and only thereafter, the BIK could have been introduced to the participating companies for the consensus amongst all the stakeholders)
- The BASIS should collect all queries from all the participating companies about the BIK Japan and send them to the BIK Japan.
- Will the BIK Japan be able to make only the participating companies a beneficiary of this Pilot Project? (Will the business orders be really distributed only to the participating companies?)

2.2.7.3 Fourth Home Work and Fifth Home Work

(1) Establishment of cooperative relationship between BASIS and BIK Japan

The JICA Study Team had a meeting with members of the BIK Japan on February 15, 2008 where it conveyed to the members the queries raised at the workshop described in Table 2.2-12. Thereafter, the JICA Study Team arranged a telephone meeting between the BASIS and the BIK Japan on February 21, 2008 where both the parties communicated for the first time. In this telephone-meeting, the BIK Japan clarified those queries and explained its functional roles and responsibilities in detail to the BASIS. Here, the BIK Japan and the BASIS agreed to exchange memorandum of understanding on the operations of the BIK Japan and involvement of it with the Pilot Project. However, the memorandum in writing was not actually exchanged during the Project period.

Besides, one of the founders of the BIK Japan visited Dhaka in the early part of March 2008 where he had a meeting with the BASIS as well as a workshop with the participating

companies. According to the BASIS, the concepts behind the BIK was well shared with the participating companies in the workshop and the BASIS technically gained approval from the participating companies of going ahead with the BIK Japan.

Furthermore, two representatives from the BASIS visited Japan in May 2008 for the primary purpose of attending the seminar mentioned in 2.2.6.1. The JICA Study Team arranged the meeting between the BASIS and the BIK Japan where both the parties discussed as to what their future relationships were supposed to be.

(2) Sales activities by BIK Japan for the participating companies

After obtaining the result of the database marketing described in 2.2.4-1, the BIK Japan embarked on sales activities targeting the 9 Japanese companies where the appointments were made through the database marketing. BIK Japan's sales activities with potential clients which were identified through the activities in the Pilot Project are meant only for the participating companies in Bangladesh. However, there was no positive response which brought in immediate business opportunities by these sales visits.

In addition, as explained earlier, the BIK Japan allied with the Japanese sales process outsourcing company. They started sales activities by taking advantage of a list of attendances at the seminar held on May 12, 2008 in Tokyo (Output 6). According to the information provided by the BIK Japan on August 8, 2008, they had made 89 phone calls in order to make appointments, by which appointments were made with 19 companies. The BIK Japan and its Japanese partner paid sales visits to these 19 companies. These sales visits ultimately generated 5 possible business opportunities, out of which 3 opportunities can be followed up for possible business materialization[1].

2.2.7.4 Sixth Field Survey (August 1, 2008 – August 30, 2008)

(1) Self-sustaining effort to maintain Pilot Project mechanism

BASIS, in the weekly meetings with the JICA Study Team, expressed its willingness to take initiative in maintaining and further developing the export marketing mechanism that had been developed in this Pilot Project. BASIS recognized the necessity to make a proactive

[1] Note that although almost a half year has already past since the completion of the Pilot Project, the BIK Japan acquired its first business inquiry in January 2009. The BIK Japan sent this inquiry to the BASIS with some specification translated into English on January 17, 2009. Then, the BASIS forwarded the inquiry to all the 37 member companies that participated in the Pilot Project on the next day (January 18, 2009). According to the BIK Japan, several companies responded to the inquiry despite the fact the due date for the response was the next day of the date when the BASIS distributed the inquiry over to the member companies.

communication with the BIK Japan in order to define what the future relationship between the two should be like.

In addition, two representatives from the BASIS made presentations at the wrap-up seminar of the Pilot Project that was held on August 19, 2008 in Dhaka. BASIS presented future prospective of self-sustainability of the export marketing mechanism that had been established in the Pilot Project. Table 2.2-13 shows the agenda of this wrap-up seminar.

Table 2.2-13 Agenda for the Wrap-up Seminar

Date:	August 19, 2008
Time:	13:30 – 16:45
Venue:	Bangladesh Institute of International and Strategic Studies (BIISS) 1/46, Old Elephant Road (West of Ramna Thana), Eskaton, Dhaka-1000
Organized by:	Japan International Cooperation Agency (JICA) Ministry of Commerce, Government of Bangladesh (GoB) Export Promotion Bureau (EPB), Ministry of Commerce, GoB

Program

13:30 – 14:00 (30 min.)	**Reception**
14:00 – 14:10 (10 min.)	**Opening Addresses** - Ms. Nobuko Suzuki Kayashima, Resident Representative, JICA Bangladesh Office - Mr. Yonezo Fukuda, Counsellor – Deputy Chief of Mission, Embassy of Japan - Representative, Ministry of Commerce, GoB
14:10 – 14:20 (10 min.)	**Outline of JICA Study on Potential Sub-sector Growth for Export Diversification in Bangladesh and Pilot Project Framework** - Mr. Shozo Inakazu, JICA Study Team Leader
14:20 – 15:00 (40 min.)	**Plan and Outcome of Pilot Project** - Mr. Mamoru Yasui, Expert, JICA Study Team
15:00 – 15:15 (15 min.)	(Short Break)
15:15 – 15:45 (30 min.)	**Targeting Offshore Market in Japan – Lessons from Pilot Project** - Mr. A. K. M Fahim Mashroor, Former Treasurer, BASIS
15:45 – 16:00 (15 min.)	**Sustainability and Applicability of the System Established in Pilot Project** - Mr. Habibullah N Karim, President, BASIS
16:00 – 16:30 (30 min.)	**Q & A and Evaluation Questionnaire**
16:30 – 16:45 (15 min.)	**Closing Remarks** - Representative, Export Promotion Bureau, Ministry of Commerce, GoB

2.2.7.3 Every Field Survey

(1) Identification of needs in both markets

In every Field Survey, the JICA Study Team had weekly meetings with the BASIS and at least one seminar/workshop with the participating companies. The JICA Study Team had shared with the BASIS and the participating companies in such meetings and workshops/seminars the needs of Japanese offshore markets that it had analyzed through the series of marketing activities in the Pilot Project. On the other hand, the JICA Study Team, in these meetings and seminars/workshops, heard of the needs of the participating companies through open discussion and questionnaire surveys. By doing so, the Pilot Project attempted to eradicate the gap of needs between demand and supply in connection with the export marketing mechanism developed in the Project.

2.3 Terminal Evaluation of the Pilot Project

Upon completion of the Pilot Project, the terminal evaluation was conducted in accordance with the "JICA Guideline for Project Evaluation," as discussed below. The evaluation was based on the five criteria proposed by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), namely relevance, effectiveness, efficiency, impact, and sustainability.

(1) Investigation period: August 2 - 29, 2008 (sixth field survey)
(2) Investigation method: Interview and questionnaire surveys of target groups and related parties (individuals and entities) on the Bangladesh side, as well as literature and document review
(3) Data collection method: Review of ongoing and past project-related documents, results of questionnaire surveys conducted during the wrap-up seminar of the Project, and results of interview surveys of related parties, as well as examination and analysis by JICA Study Team members
(4) Evaluation method: PDM and the five evaluation criteria

2.3.1 Background Data and Information for Evaluation and Examination

(1) Project Design Matrix (PDM)

Attachment 2.3-1 attached at the end of this chapter presents the PDM for the Pilot Project, which is reproduced from the one contained in 2.1 of the current Pilot Project Completion Report. The PDM constitutes the basis of various evaluations and examinations which are described below.

(2) Examination of plan and actual performance of the Project (Performance Examination Table)

Attachment 2.3-2 shown at the end of this chapter summarizes the performance examination for the Pilot Project. The Table is used as the basis of evaluation of the Project's performance. After examination of the project's performance, the project's implementation process was examined as well.

(3) Evaluation design (evaluation grid based on the five evaluation criteria)

Attachment 2.3-3 attached at the end of this chapter presents an evaluation grid for the Pilot Project, consisting of the five evaluation criteria. The grid also presents evaluation content and methodology.

(4) Questionnaire survey upon completion of the Pilot Project

Attachment 2.3-4 attached at the end of this chapter presents results of questionnaire survey conducted for the participants in the wrap-up seminar of the Pilot Project which held was in Dhaka on August 19, 2008. The results are generally referred in this report in relation to the evaluation and the examination of the Pilot Project.

2.3.2 Examination of Project Performance

As seen in the Performance Examination Table in Attachment 2.3-2 at the end of this chapter, the Pilot Project had successfully produced all the Outputs according to the original plan. As for the Inputs, there were some exclusion and additions as compared to the original plan, which, notwithstanding, did not influence substance of the project activities. The level of achievement of the Project Purpose and an outlook for the Overall Goal in terms of final accomplishment are discussed in the evaluation using the five criteria.

2.3.3 Examination of the Implementation Process

The implementation process of the Pilot Project was evaluated in terms of the following items that are considered to be the critical elements.

(1) Were activities conducted as planned?

As shown in the Performance Examination Table, all the activities were substantially conducted according to the original plan.

(2) Did the project receive high levels of recognition from participating companies and the counterpart organization and personnel?

In the latter half of the Sixth Field Survey, or upon completion of the Pilot Project, a wrap-up seminar of the Pilot Project was held in Dhaka on August 19, 2008. The results of the questionnaire survey conducted at the seminar indicate that 66.7% of the participating companies in the Pilot Project understood substances of the Project very well, and the remaining 33.3% fairly understood the same. (Refer to Attachment 2.3-4 at the end of this chapter for the survey results.) Note that since the counterpart organization (BASIS in this Project) was part of the companies that participated in the Pilot Project and was highly involved in the Project, it had better understanding of the Project than other participating companies. Nevertheless, as discussed later, it is not clear if the participating companies and the counterpart actually understood the Pilot Project according to the PDM.

(3) Was the level of participation in the Project high within the participating companies and the counterpart organization?

The JICA Study Team held workshops and seminars for the participating companies during all the field surveys that it had conducted in the Pilot Project period. These workshops and seminars were attended by 20-35 companies out of the total of 38 participating companies. Also, a seminar held in Tokyo on May 12, 2008 (Output 6) was attended by 15 persons representing the 13 participating companies at their own cost. On the other hand, the wrap-up seminar of the Pilot Project was attended by only 7 participating companies.

The counterpart organization (BASIS) actively participated in the Project during the period when the JICA Study Team stayed in the country. It attended every weekly meeting held with the JICA Study Team during the field surveys and coordinated the organization of the seminars and workshops for the participating companies. On the other hand, the BASIS rarely initiated project-related activities while the JICA Study Team was not present in Bangladesh, unless specifically requested by the JICA Study Team. This suggests that the BASIS lacked the sense of ownership. Finally, the relationship between the counterpart staffs and the JICA Study Team experts was very good with smooth communication.

(4) Were important assumptions and preconditions satisfied?

As indicated in the Performance Examination Table, important assumptions and preconditions in PDM were mostly satisfied.

(5) Did the project management system work well?

No specific comment on this matter was heard from the counterpart or other related organizations.

2.3.4 Evaluation Based on the Five Criteria

2.3.4.1 Relevance

"Relevance" examines whether the project and its implementation are justified and needed. In PDM, the Overall Goal and the Project Purpose are evaluated by this criterion. This Pilot Project was evaluated to have high relevance for the following reasons.

(1) The Project addressed a key problem faced by the target industry

The Pilot Project tried to build up an export marketing system for the Bangladeshi software/ITES industry in non-English speaking countries (Japan as sample market). In establishing the system, a greater emphasis was placed on promotion of public recognition of the Bangladeshi software/ITES industry in Japan. Obscurity of the Bangladeshi software industry in the world market was positioned as one of the direct causes for the core problem of the software industry of Bangladesh at the participatory workshop for problem analysis of the industry in Dhaka on June 25, 2007. Thus, the Pilot Project dealt with a representative problem recognized by the Bangladeshi software industry.

(2) The Project met the needs of the target group

According to the results of the questionnaire survey that was conducted at the wrap-up seminar of the Pilot Project (refer to Attachment 2.3-4 at the end of this chapter), 77.3% of respondents believed that the Project Purpose and the Overall Goal of the Project were in accordance with the needs of software/ITES companies in Bangladesh.

(3) The target area was appropriate

In the above questionnaire survey, 86.4% of the respondents considered that selecting Japan as the sample market was appropriate. Also, the BASIS lists Japan as one of its target markets, together with the USA, the United Kingdom, and Scandinavian countries.

(4) Selection of participating companies and the selection process were appropriate

Companies that participated in the Pilot Project are all member companies of the BASIS, that is, they are all software/ITES companies. In addition, one of the application requirements for the participation in the Project was that the applicants must have long-term interests in the Japanese market. In the meantime, according to the results of the above questionnaire survey, 77.3% of the respondents considered the recruitment and selection process to be fair.

(5) The Project was consistent with government policies

The Bangladesh government's Export Policy (2006-2009) positions the ICT industry as one of the six Highest Priority Sectors. Thus, the Pilot Project that targeted the software industry accorded to the Bangladeshi government policy. Also, the "Japan's Country Assistance Program for Bangladesh (May 2006)" by the Ministry of Foreign Affairs of Japan emphasizes information and communication technology as part of the development strategies of the private sector, which is one of the priority sectors in the Assistance Program.

2.3.4.2 Effectiveness

"Effectiveness" measures the effects produced by a project. In PDM, the relationship between the Output and the Project Purpose is subject to the evaluation. Effectiveness of this Pilot Project was evaluated as sufficiently high for the following reasons.

(1) The Project Purpose was achieved, but achievement of the Overall Goal takes some time

As shown in the Performance Examination Table (Attachment 2.3-2) at the end of this chapter, the building of the export promotion system for the software/ITES industry of Bangladesh, as the Project Purpose, had been accomplished in Japan as the sample market. As of the end of the Project, however, no business contract has been made by and through this system, although three business negotiations are underway. While the Project Purpose was achieved when the export promotion system was established, the participating companies and related parties in Bangladesh do not agree because the visual results (actual contract) have still to be obtained. In fact, the results of the questionnaire survey at the wrap-up seminar of the Pilot Project indicate that 86.4% of participants considered the Project Purpose to be achieved in future. Also, the BASIS's representative, in an interview with the JICA Study Team, expressed the same view. These reactions reflect the difference in opinion between the JICA Study Team and the Bangladeshi stakeholders of the Project. While the former could not list the successful business contract as the Project Purpose, the latter wanted it as a tangible result of the Pilot Project.

(2) Outputs contributed greatly to the achievement of the Project Purpose

The Outputs produced from the Pilot Project have been used effectively, with varying degrees, for the achievement of the Project Purpose.

Two sales promotion tools, Outputs 1 and 2 (brochures of the participating companies and a booklet to introduce the software/ITES industry of Bangladesh), were distributed at the seminar held in Japan (Output 6) and have been used for sales promotion activities by the Bridge SE organization (Output 5). Another sales promotion tool, Output 3 (database on the participating companies), is expected to be utilized in the future as the final version was completed in August 2008.

As for Output 4 (needs of Japanese companies as customer), the results of questionnaire surveys conducted by the JICA Study Team in Tokyo were shared at the workshop for the participating companies, which was held during the fifth field survey, and the formal reports compiling the survey results were made available to all the participating companies. The results of the questionnaire survey at the wrap-up seminar of the Pilot Project (refer to Attachment 2.3-4

at the end of this chapter) indicate that 83.3% of the participants understood perception and needs of Japanese companies to some degree.

For Japanese companies identified from the questionnaire survey and for the attendances at the seminar in Japan in May 2008 (Output 6), the Bridge SE organization, or "BIK Japan" has been conducting the sales promotion activities. According to the BIK Japan, it has visited 19 companies that were considered to be potential customers, out of which 5 companies are considered to be good prospects.

According to the questionnaire survey conducted at the wrap-up seminar of the Pilot Project, 63.6% of respondents agreed that business match-making mechanism based upon the Bridge SE system that had been employed in this Project would be an effective measure to establish export channel in non-English speaking markets. BASIS, in its interview with the JICA Study Team, acknowledged effectiveness of the Bridge SE system. The BASIS also stated that effectiveness and necessity of the system were recognized by many Bangladeshi entrepreneurs residing in Japan, who attended the above seminar held in Japan.

(3) Other promoting and inhibiting factors

Any significant effect of the important assumptions from the Output to the Project Purpose was not identified. Note that promoting or inhibiting factors for the achievement of the Project Purpose overlap largely with those relating to sustainability of the Project. This is due to the understanding of the Bangladeshi stakeholders of the Project, that is, they viewed the achievement of the Overall Goal as that of the Project Purpose. Thus, they will be discussed in 2.3.4.5 "Sustainability" below.

2.3.4.3 Efficiency

"Efficiency" in the terminal evaluation examines the efficiency existing between the Inputs and Output in PDM. Judging from the Output produced, the Inputs under the Pilot Project have been utilized in an efficient manner.

(1) Adequacy of quantity, quality, timing, and method of Input

1) JICA Study Team experts showed adequate levels of expertise

The results of the questionnaire survey conducted at the wrap-up seminar of the Pilot Project indicate that 83.3% of the participating companies responded that experts of the JICA Study Team were appropriate in terms of the number, expertise, and timing and period of their assignment. A JICA expert on "Distribution/Market Analysis (2)" is specialized in marketing for the IT-related industries and is thus suitable for the purpose and intent of the

Pilot Project. At the same time, the above questionnaire survey indicates that the only inappropriateness in this regard was that the period of assignment of the JICA experts was too short. This is because the Pilot Project was primarily comprised of marketing activities in Japan, making the period of activity in Bangladesh relatively short.

2) The counterpart staff had appropriate capability but resource input was insufficient

BASIS served as the counterpart for the Pilot Project. In actuality, its three executive council members and one administrative staff were directly engaged in the Project implementation and management. All of them had sufficient expertise and skills to carry out the necessary tasks. However, the three executive council members were the presidents of companies and had difficulty in using much time for the Project. Similarly, the administrative staff (full-time) was also responsible for a number of duties in the BASIS and was not able to be devoted to the Project. Nevertheless, they effectively performed the counterpart's duties, including attendance at weekly meetings with the JICA Study Team during its field surveys and coordination relating to workshop scheduling.

3) Participating companies bore related costs

Under the Pilot Project, the printing cost for Output 1 (brochures of participating companies) was borne by the participating companies. According to accounting documents provided by the BASIS, 36 out of 38 companies that participated in the Project already paid BDT 13,000 (some 22,000 yen) each as of January 29, 2008. According to the BASIS, the remaining two companies promised to pay. As the actual printing cost fell below BDT 13,000 for each company, the surplus was allocated to Project management expenses for the BASIS and the shipment costs for the printed matters (Output 1 and 2) to Japan.

(4) Other promoting and inhibiting factors

Important assumptions did not seem to have significant impacts on the implementation process from the Activity to the Output. As for promoting and inhibiting factors for the successful production of the Output and the effective use of the Input, printing of the Outputs 1 and 2 (both in Japanese) in Bangladesh worked as an inhibiting factor. It took considerable time to find a local company that can print Japanese documents and the time for designing the printed matters was reduced to prevent the Output from being produced efficiently.

2.3.4.4 Impact (Estimated)

"Impact" measures the project's long-term and strategic effects. In PDM, the Overall Goal and the Project Purpose are subject to the evaluation. Note that assessment of impact

under the terminal evaluation is limited to "prospect." The prospective impact of the Pilot Project and possibility to achieve the Overall Goal are discussed as follows.

(1) Prospect for achievement of the Overall Goal

Overall Goal of the Pilot Project is that "Computer Software export from Bangladesh will increase." The results of the questionnaire survey conducted at the wrap-up seminar of the Pilot Project indicate that 90.9% of respondents considered that the computer software export of Bangladesh would grow in the next few years if the Project Purpose was to be achieved and the important assumptions were to be satisfied. The same answer was heard from 11 out of 12 EPB staff members who attended the seminar. It was also stated by the BASIS during the interview with the JICA Study Team. With regard to the expected important assumptions, no substantial problem is expected as shown in the Performance Examination Table (Attachment 2.3-2) at the end of this chapter.

On the other hand, the export promotion system established under the Pilot Project (Project Purpose) was designed for Japan as the sample market. The Project envisioned that the Overall Goal would be achieved as the method to build the export promotion system was to be applied to other non-English speaking markets. In the questionnaire survey at the wrap-up seminar, responses that admitted such applicability accounted for 72.7% of the total, and only 55.6% among respondents representing private enterprises. Furthermore, BASIS's representatives stated in the interview with the JICA Study Team that the BASIS was not sure about the applicability of the method to other non-English speaking markets. In addition, in light of the fact that the export promotion system has still to produce any visible effect, it is not very likely that the Bangladeshi government and its industry will enthusiastically apply the method for the export promotion system to other non-English speaking markets.

Nevertheless, the BASIS expresses its intent to maintain and further develop the export promotion system that had been established under the Pilot Project. Meanwhile, the JICA Study Team believes that Japan provides the largest opportunity for Bangladesh's software/ITES industry among non-English markets, because of its sheer market size. For this reason, the most promising path to achieve the Overall Goal at present is the expansion of software/ITES exports to Japan by maintaining, developing and refining the export promotion system established under the Pilot Project.

(2) Other promoting and inhibiting factors

As promoting factors for achieving the Overall Goal, the BASIS listed strategic focus on priority markets, introduction of the formal language training system and the relevant skills accreditation system to meet the needs of priority markets, and participation in trade shows in targeting priority markets. On the other hand, the inhibiting factors cited by the BASIS included the absence of project ownership, the lack of detailed assessment of project plans and future business plans, and the shortage of investment funds for the companies exploring new markets. The same question was asked in the questionnaire survey at the wrap-up seminar of the Pilot Project, from which the several factors were cited. (Refer to Attachment 2.3-4 at the end of this chapter.)

The JICA Study Team had mainly carried out marketing activities in Japan for the software/ITES industry of Bangladesh as part of the Pilot Project. As a result, it became apparent that the following factors would affect the achievement of the Overall Goal.

1) Advanced Japanese language skills (capable of reading and understanding specifications)
2) Establishment of technical and business creditworthiness through onsite development in Japanese customers
3) Establishment of long-term relationship (including off-shore alliance) built upon customer confidence after achieving 2)
4) Functioning of an intermediary organization to make up for the above three factors while they are absent or insufficient
5) Utilization of Japanese staff in sales promotion activity of the intermediary organization (According to the results of the questionnaire survey conducted by the JICA Study Team for Japanese companies (54 valid answers) in February 2008, 77.6% wanted to deal with Japanese sales personnel.)

(3) Impact on related organizations and policies

During the project implementation period, little impact was seen in relation to organizations and related policies other than BASIS and participating companies. BASIS cited, as major impacts, the nurturing of further motivation to explore the Japanese ICT market and the creation of a firm desire and intent to maintain, develop and refine the export promotion system that had been established in the Pilot Project. As for impact on the participating companies, responses to the questionnaire survey conducted at the wrap-up seminar cited that they were able to gain access to potential non-English speaking markets, could learn market characteristics, gained experience in and understanding of the IT market needs in Japan, and deepened understanding of evaluation criteria relating to IT outsourcing to non-English speaking markets.

Finally, the seminar entitled “Current States and Capability of Software/ITES Industry in Bangladesh” was held in Tokyo (Output 6), under attendance of 71 Japanese software companies. Most of them did not know about Bangladesh as software exporter, but the seminar created impact by expanding recognition of the Bangladesh software industry in the Japanese market.

2.3.4.5 Sustainability (Prospect)

“Sustainability” deals with continuity of the Pilot Project after completion. In PDM, the Overall Goal, the Project Purpose, the Output and the Inputs are subject to the evaluation. Note that assessment of sustainability in the terminal evaluation is limited to “prospect.”

Effects of this Pilot Project are expected to be sustainable to some degree, for the following reasons.

(1) BASIS intends to continue the Pilot Project

As pointed out earlier, the BASIS has expressed the intent to maintain, further develop, and refine the export promotion system established under the Pilot Project. At a meeting with the JICA Study Team during the sixth field survey, the BASIS indicated that, after the end of the Pilot Project, it would clearly define the future cooperation with the BIK Japan. In particular, it will build up a new collaboration system by drafting a formal agreement and discussing it with the BIK Japan in the form of telephone conference. Then, the BASIS will hold a workshop for companies that participated in the Pilot Project in order to decide as to whether the present system and organization should be maintained or changed (including the Bridge SE organization). Finally, the BASIS pointed out the need for some financial contribution from the participating companies in order to secure financial sustainability of the Bridge SE organization as well as to ensure the commitment of the Bridge SE organization to the participating companies in Bangladesh.

(2) Government is expected to better the legal system that supports the export promotion of software/ITES industry

At present, none of policy implementation organizations relating to software/ITES exports, such as EPB, ICT Business Promotion Council (IBPC) and Bangladesh Computer Council (BCC), has made a clear commitment to direct support for maintenance and development of the export promotion system developed in the Pilot Project. On the other hand, the BCC and the IBPC stated in the interview with the JICA Study Team that the Bridge SE organization should receive formal support from the EPB and the IBPC.

The government is expected to proceed with further development of the related legal system. In particular, according to the BCC, specific action plans will be presented for the new ICT policy, which is scheduled to be announced in October 2008, including the enactment and reinforcement of related laws and regulations, infrastructure development, and the strengthening of the foreign marketing support system (Note that the new ICT Policy has not been effectuated yet as of January 2009).

(3) Applicability to other markets is currently low

As mentioned earlier, at this point, there is small possibility that Bangladesh will actively apply the export promotion system developed in the Pilot Project to other non-English speaking countries.

(4) Other promoting and inhibiting factors

BASIS cited a promoting factor for continuity of the effects produced from the Pilot Project that the Japanese market will be gradually opened up to the Bangladesh software/ITES industry. At the same time, an inhibiting factor perceived by the BASIS is that the Bridge SE organization will not become active. The JICA Study Team and the BASIS cited the ability of the Bridge SE organization's human resources and financial independence as common factors for affecting sustainability of the effects of the Project. Any organization depends on human resources that virtually determine its functionality and performance. Also, it takes considerable time for an organization to conduct its business effectively and produce results (profit/benefit). If the Bridge SE organization cannot secure the operating budget before it becomes financially independent, it will be impossible to maintain the effect produced from the Project. Note that the same question was asked in the questionnaire survey at the wrap-up seminar of the Pilot Project, from which the several impacts were cited. (Refer to Attachment 2.3-4 at the end of this chapter.)

2.3.5 Conclusion, Recommendations, and Lessons Learned

2.3.5.1 Conclusion

(1) Bangladesh can become a software exporting country (relevance)

In the conceptual design process for the Pilot Project, the study was conducted to see if the Bangladeshi computer software industry is capable of making exports to Japan and other markets. It was concluded that the industry had sufficient export capability. The JICA Study Team expert in the software industry visited the 42 companies that had the intent to participate in the Pilot Project and evaluated them through interview and according to the

checklist. Based on the evaluation results, the Pilot Project was implemented without changing the original conceptual design.

(2) The Pilot Project has been implemented according to the original plan and had successfully achieved the Project Purpose (effectiveness and efficiency)

Inputs and Activities of the Pilot Project were made substantially according to the original plan. As a result, Output was smoothly produced and satisfactory results were obtained. In the implementation process that required participation of the counterpart organization and related parties, it took considerable effort to establish the Bridge SE organization and organize the seminar in Tokyo. Overall, the Project did not face any notable problem and was smoothly ended. However, a problem arose after the completion of the Project, as discussed in (4).

(3) The Project's target countries (regions) should be clearly delineated (relevance and impact)

The Project Purpose was set to build a system to promote the industry's entry to non-English speaking markets, and Japan was selected as a sample market. However, evaluation conducted upon completion of the Project revealed that there was a significant difference in requirements for designing the market entry support system between Japan and other non-English speaking markets. It was concluded that the Japanese market distinguished itself from other non-English speaking countries, suggesting the need for development of different systems for different countries.

Thus, the Project Purpose of the Pilot Project should be further narrowed down to the establishment of an export promotion system targeting the Japanese market. However, the Overall Goal (to increase software exports) needs not to be changed.

(4) The Project Purpose is not necessarily consistent with expectation of related parties in Bangladesh (effectiveness and impact)

The Project Purpose of the Pilot Project is that "Computer Software Industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs the Japanese market as the sample)." As discussed in (2), the Project Purpose has been achieved. It should be noted, however, that the system was established for the Project Purpose but it does not warrant sustainability in the future.

Meanwhile, the BASIS (counterpart for the Project) and the participating companies did not entirely agree with the idea that the Project Purpose was achieved. They seem to consider the Overall Goal (to increase software exports) to be the Project Purpose and would not think that the Project Purpose was achieved unless an actual contract was effected during the project period. Note, however, that no one on the Bangladesh side stated that the JICA Study Team was responsible for concluding a contract. In a sense, this is a foregone conclusion expected from the two parties and their different viewpoints on the Project and its purpose.

(5) Possibility of continuation of the Pilot Project and inhibiting factors (sustainability and impact)

If the Bangladeshi software industry targets Japan as a highly potential export market, the Pilot Project will have to be implemented on a continuous basis, albeit the need for some refinement of its scheme. This notion is substantiated by the fact that Japanese companies consider the Bridge SE-led business (in Japanese) to be essential. If the Pilot Project is dissolved with completion of the current Study, it will take additional and substantial input to restart the similar approach from scratch, much more than that required for continuation of the Pilot Project. Furthermore, opportunity for entering the Japanese market will probably have been lost already.

The key factors for supporting continuation of the Pilot Project are the reinforcement of the Bridge SE resource and the commitment by the BASIS and its member companies.

2.3.5.2 Recommendations

(1) The Bridge SE resource should be reinforced

Under the Pilot Project, the Bridge SE organization, the BIK Japan, was established by three software/IT companies operated by Bangladeshis residing in Japan. These companies are specialized in software development and related service and are capable of doing business in Bengali, English, and Japanese. However, they are not excelled at marketing activity in Japan. Meanwhile, many Japanese companies prefer to deal with Japanese sales personnel. Thus, it makes sense that the Bridge SE organization has Japanese staffs who conduct sales and marketing activities. In fact, the BIK Japan now commissions most of its sales activities to a Japanese company. Yet, it has still to establish a strong technical and financial base required to pursue its purpose with sustainability. It is therefore desirable to strengthen the BIK Japan from this viewpoint as well as in consideration of possibility to start up a new Bridge SE organization.

(2) BASIS should assume ownership in maintaining and developing the collaborative arrangement with the Bridge SE organization

During the Pilot Project period, the JICA Study Team served as the bridge between the BASIS and the BIK Japan. Due to the lack of communication between them under their own initiative, however, any formal arrangement has not been made to define their collaboration relationship and its rules. As the BASIS is expected to assume ownership in maintaining and developing the collaborative relationship with the Bridge SE resource in Japan, it needs to establish leadership in driving continuation of the Pilot Project. In particular, it should build consensus amongst the participating companies about the leadership and the collaborative arrangement with the BIK Japan (or a new Bridge SE organization), followed by the future direction of its involvement with the continuation of the Pilot Project.

(3) The Bangladesh government and industry should provide financial support for the Bridge SE organization

BIK Japan is organized by three software/IT companies operated by Bangladeshis residing in Japan. The three companies are very small and use a Japanese company to carry out sales activity on a fee basis. In fact, they continue to spend money without a definite prospect for winning contracts and may reach financial limitation in due course. To support their activity, therefore, it is imperative to provide financial support from the participating companies in Bangladesh (potential beneficiaries) via the BASIS. Furthermore, it is desirable that the Bangladeshi government bear certain portions of marketing costs via the BASIS.

(4) Participating companies and BASIS should build up a pool of software engineers with Japanese language ability

The export promotion system established under the Pilot Project had the primary purpose of helping Bangladeshi software/ITES companies with their lack of Japanese language ability. In the course of the Project, however, it became apparent that Japanese companies wanted to ascertain technical and business capabilities of Bangladesh software/ITES companies by working with Bangladesh engineers (with Japanese language ability) in on-site development projects. This means, Bangladesh software engineers are required to have sufficient language ability required for such development tasks in Japan.

To meet such demand, it is desirable to reinforce Japanese language education in Bangladesh in a long-term. In addition to the long-term approach, it is recommended to promote effective use of Bangladeshi engineers who are currently working in Japan. One

idea is that the companies participating in the Project collaboratively retain Bangladeshi engineers working in the companies of Bangladeshis residing in Japan on a lease-agreement basis, and send them to Japanese customers.

2.3.5.3 Lessons Learned

(1) Need for sharing the Project Purpose

The Pilot Project set the Project Purpose that was difficult to quantify or visualize. As a result, while the Project Purpose was achieved from perspective of the planner (JICA Study Team), it was not very clear to the beneficiaries (counterpart and participants). Then, the beneficiaries seemed to view the Overall Goal (increase in sales and exports) as the Project Purpose. Although the JICA Study Team tried to make the Project Purpose clear through the series of workshops and seminars, its effort fell short of enabling the two parties to share the common Purpose with clear understanding. It is therefore important to monitor and evaluate understanding of related parties of the project and its intent, which should be carried out periodically throughout the project period.

(2) Importance of leadership within the counterpart organization

Under the Pilot Project, the private trade association served as the counterpart. The counterpart staff members were the presidents of private enterprises and were not able to devote themselves to the Project management. As a result, the Project lacked strong leadership. The leadership within the counterpart organization would have increased its sense of ownership about the Project, while empowering communication with the Bridge SE organization in Japan.

(3) Importance of human resource

In the Pilot Project, the proposed Outputs had been steadily produced, which led to the achievement of the Project Purpose. Yet, the achievement had not generated the desired effect (actual contract award), partly because it takes considerable time for the Bangladeshi software/ITES industry to penetrate into the Japanese market, together with generally long lead time for software business between initial contact and contract award. At the same time, quality of human resources in the Bridge SE organization is considered to be an additional factor. While they have sufficient knowledge and skills in software technology and Japanese language, their marketing capability relating to the Japanese market is not satisfactory. As mentioned earlier, the alliance with a Japanese company was established to make up for the situation and extensive marketing activities have already started. In

addition to the establishment of the organization, availability of competent human resources in the organization is essential in the project's success.

(4) Importance of a participatory approach

In the implementation process, extensive cooperation was obtained from the government organizations, private organizations, and companies in Japan and Bangladesh. It was beyond the expectation and seems to come from national characteristics of Bangladesh and the congeniality with Japan and its people. Another factor peculiar to the Pilot Project is the effort by the JICA Study Team to take a participatory approach emphasizing free exchange of opinions and collaborative activities based on the common perspective and recognition. Although the Project Purpose may not have been entirely shared, as discussed in (1), the participatory approach was proven to be a critical factor for maximizing the effects of development projects in the country.

Attachment 2.1-1 Cooperation Agreement with BASIS for Project Implementation <1/3>

Sub-sector: <u>Computer Software</u>

AGREEMENT FOR
EXECUTION OF THE PILOT PROJECT
UNDER THE STUDY FOR EXPORT DIVERSIFICATION (JICA)
BETWEEN

UNICO INTERNATIONAL CORPORATION
AND
Bangladesh Association of Software and Information Services (BASIS)

July 8, 2007

PREFACE

Upon request of Government of Bangladesh or Ministry of Commerce (MOC), Japan International Cooperation Agency (JICA) dispatches the JICA Study Team organized by UNICO International Corporation (hereinafter referred to as "UNICO"), Tokyo, Japan, to conduct the Study on Potential Sub-sector Growth for Export diversification in the People's Republic of Bangladesh (hereinafter referred to as "the Study"). In the course of the Study, the JICA Study Team carries out a pilot project that aims to assist private enterprises in their export promotion including strengthening of international competitiveness.

This is prepared as a gentleman's agreement between UNICO that implements the pilot project (hereinafter referred to as "Consultant") and the BASIS that participates in the pilot project as a beneficiary (hereinafter referred to as "Participant") in order to successfully implement the pilot project and effectively achieve the aim of it. The pilot project will be implemented in accordance with Appendix.

Attachment 2.1-1 Cooperation Agreement with BASIS for Project Implementation <2/3>

ARTICLE 1. PRINCIPLE

1.1 This Agreement shall be executed by the both parties, Consultant and Participant, in sympathy to the pilot project, good faith and friendship and in case any problem occurs in conducting the pilot project, such matter shall be settled through consultation of the both parties.

1.2 This Agreement does not accompany any monetary payment between both parties so that own obligations and responsibilities shall be fulfilled at own cost.

ARTICLE 2. OBLIGATIONS OF CONSULTANT

2.1 Consultant shall manage and implement the pilot project under full understanding and cooperation of Participant for benefit of Participant and the target sub-sector.

2.2 Consultant shall give recommendations and guide Participant for improvement of export marketing of Bangladeshi software industry.

2.3 In the event that Consultant raises necessary requests to Participants for the pilot project, it shall be made in writing, after preliminary consultation with Participant, and by giving enough period of time for works.

ARTICLE 3. RESPONSIBILITIES OF PARTICIPANT

3.1 Participant shall perform its roles and activities involved in the pilot project, which will be collaboratively elaborated by Consultant and Participant and presented later, in order to achieve the maximum effects of the pilot project.

3.2 When Consultant makes consultation works in the Participant's office under the Agreement, one or more responsible personnel of management of Participant shall attend the consultation works.

3.3 Participant shall follow suggestions, advices and requests that Consultant gives for the implementation of the pilot project as far as situation allows.

3.4 Participant shall present results of the pilot project at the seminar that will be held the in the final stage of the pilot project.

3.5 Participant, in anonymous, shall allow Consultant to publish the results of the pilot project in a book of practices.

ARTICLE 4. DUTY OF CONFIDENTIALITY

4.1 Neither party shall reveal any data and information obtained through the work under the Agreement relating to the other party and third party without prior consent of the relating party.

Attachment 2.1-1 Cooperation Agreement with BASIS for Project Implementation <3/3>

4.2 Both parties shall not disclose or communicate to any person or entity any personal information acquired in the course of provision of the Services hereunder.

ARTICLE 5. TERMINATION OF AGREEMENT

5.1 This Agreement shall become effective upon the date of this Agreement, and remain in full force until the pilot project will be completed.

5.2 Should either party default in the execution of its obligations under this Agreement, the other party shall give the defaulting party notice in writing to remedy such default promptly.

5.3 Either party may terminate this Agreement without prejudice, should the performance of his/her responsibilities under this Agreement not be continued by any reason acceptable for the other party. Notice of termination shall be made to the other party in writing as soon as the matter occurs.

IN WITNESS WHREOF, the parties hereto have executed this Agreement in duplicate by placing their signatures, and each party shall keep one copy of the originals.

Date of Agreement: July 8, 2007

Shozo INAKAZU

Leader of JICA Study Team,
UNICO International Corporation
Tokyo, Japan

RAFIQUL ISLAM
Acting President
BASIS.

2

Attachment 2.2-1 Result of Needs-Identification Questionnaire Survey <1/4>

Questionnaire Result

Valid Answer : 54

	Company Profile (Multiple answer allowed))	Answer	Ratio to Total
1	Independent System Integrator	22	34.9%
2	IT Service/ITES	18	28.6%
3	System Integrator under Hardware Manufacturer	7	11.1%
4	System Integrator under Consulting Company	3	4.8%
5	System Integrator under Trading House	2	3.2%
6	Hardware Manufacturer	1	1.6%
7	Multinational Packaged Software Vendor	1	1.6%
8	Others	9	14.3%
	Total Valid Answer	63	100.0%
Q1. Current State of Software/ITES Industry of Bangladesh			
Q1-1	**How much do you know about software/ITES industry in Bangladesh?**		
1	I know it very well	0	0.0%
2	I know it a little	6	11.1%
3	I do not know it well	23	42.6%
4	I do not know even existence of software/ITES suppliers in Bangladesh	25	46.3%
	Total Valid Answer	54	100.0%
Q1-2	**Are you interested in business with Bangladeshi software/ITES companies? (not limited to offshoring/outsourcing)**		
1	Yes, and we want to do business	3	5.6%
2	Yes, but we cannot consider doing business at this point	5	9.3%
3	No at present, but we may have interests in future	36	66.7%
4	No, we are not interested now, nor will we be in future	10	18.5%
	Total Valid Answer	54	100.0%
Q2. Human Resource			
Q2-1	**Are you interested in hiring Bangladeshi engineers or receiving contract-based Bangladeshi onsite engineers?**		
1	Yes, we want to hire	4	7.4%
2	Yes, we want to receive contract-based Bangladeshi onsite engineers	0	0.0%
3	No, but we want to know employment conditions etc	25	46.3%
4	No we are not interested, nor will be in future	25	46.3%
	Total Valid Answer	54	100.0%
Q3. Offshoring/Outsourcing			
Q3-1	**Does your company offshore/outsource software development and IT services to foreign countries?**		
1	Yes, we do currently	22	40.7%
2	No, we do not currently, but we have done in the past	3	5.6%
3	No, we do not currently, but we plan to do in future	11	20.4%
4	No, we do not, have not, and will not	18	33.3%
	Total Valid Answer	54	100.0%
Q3-2	**Which countries does your company offshore/outsource software development and IT services to? (including experience in the past and plan in the future) (Multiple answers allowed)**		
1	China	27	41.5%
2	Viet Nam	9	13.8%
3	Others (Sri Lanka, USA, Singapore, Malaysia, Germany, France,	8	12.3%
4	South Korea	7	10.8%
5	India	6	9.2%
6	The Philippines	4	6.2%
7	Taiwan	4	6.2%
	Total Valid Answer	65	100.0%

Attachment 2.2-1 Result of Needs-Identification Questionnaire Survey <2/4>

Q3-3 In which fields of technology does your company offshore/outsource? (Multiple answers allowed)			
1	Data entry/conversion	10	12.8%
2	Homepage/application development	10	12.8%
3	Embedded system development/access control	8	10.3%
4	Account/financial management	7	9.0%
5	ERP	7	9.0%
6	Software implementation/integration	6	7.7%
7	Inventory management	4	5.1%
8	Human resource management	3	3.8%
9	Billing	2	2.6%
10	POS for retailing	2	2.6%
11	SCM	2	2.6%
12	Data warehousing	2	2.6%
13	Asset management	1	1.3%
14	CRM	1	1.3%
15	E-government application	1	1.3%
16	Mobile/wireless application development	1	1.3%
17	E-learning	1	1.3%
18	Data security	1	1.3%
19	E-commerce	0	0.0%
20	Game software	1	1.3%
21	Others	8	10.3%
	Total Valid Answer	78	100.0%
Q3-4 In which form does you company offshore/outsource (including experience in the past and plan in the future)? (Multiple answers allowed)			
1	Coordinator onsite type	10	25.0%
2	Part-time onsite type	9	22.5%
3	Offshore outsourcing type	9	22.5%
4	Onsite outsourcing type	5	12.5%
5	Offshore development center type	5	12.5%
6	Offsite type	2	5.0%
	Total Valid Answer	40	100.0%
Q3-5 What are the reasons to offshore/outsource software development/IT services? (including experience in the past and plan in the future) (Multiple answers allowed)			
1	To reduce development cost	31	39.2%
2	Due to a lack of internal resources	21	26.6%
3	To deal with fluctuation in development burden	8	10.1%
4	Because there is a group company in destination country	8	10.1%
5	To shorten development schedule	7	8.9%
6	Due to a lack of internal technology	2	2.5%
7	Others	2	2.5%
	Total Valid Answer	79	100.0%
Q3-6 Is your offshoring/outsourcing successful? (including experience in the past) (Multiple answers allowed)			
1	Very Successful	6	23.1%
2	Fairly successful	17	65.4%
3	It did not solve any problem	2	7.7%
4	Failed (generated loss)	1	3.8%
	Total Valid Answer	26	100.0%
Q3-7 Reasons for answer 3 and 4 in Q3-6? (Multiple answers allowed)			
1	Quality problem	6	20.7%
2	Language communication gap	5	17.2%
3	Failure in communication about specification	4	13.8%
4	Leak-out of secret information	3	10.3%
5	Overhead costs in business order to oversea	2	6.9%
6	Lack of understanding of different culture	2	6.9%
7	Complexity/difficulty in oversea business order	1	3.4%
8	Unstable management of offshore partner	1	3.4%
9	High turnover rates of engineers in offshore partner	1	3.4%
10	Undeveloped infrastructure of offshore partner	1	3.4%
11	Political issues	1	3.4%
12	Difference in development process	0	0.0%
13	Low technology/skills	0	0.0%
14	Other	2	6.9%
	Total Valid Answer	29	100.0%

Attachment 2.2-1 Result of Needs-Identification Questionnaire Survey <3/4>

Q3-8 Are you interested in offshore development/outsourcing of software development and IT services to Bangladesh?

1	Yes, and we want to establish business channel	2	3.8%
2	Yes, but we cannot see possibility to do business at this point	5	9.4%
3	No at present, but we may have interests in future	29	54.7%
4	No, we are not interested now, nor will we be in future	17	32.1%
	Total Valid Answer	53	100.0%

Q3-9 What would be the reason for your company to offshore/outsource to Bangladesh? (Multiple answers allowed)

1	Low development cost	21	36.2%
2	Risk diversification by offshoring/outsourcing to various countries	14	24.1%
3	Future potentials	14	24.1%
4	High technology/skills, high quality	6	10.3%
5	Others	3	5.2%
	Total Valid Answer	58	100.0%

Q3-10 In what fields of technology would your company offshore/outsource to Bangladesh? (Multiple answers allowed)

1	Data entry/conversion	10	16.4%
2	Homepage/application development	9	14.8%
3	Embedded system development/access control	8	13.1%
4	Account/financial management	6	9.8%
5	ERP	4	6.6%
6	Software implementation/integration	4	6.6%
7	Inventory management	4	6.6%
8	Human resource management	3	4.9%
9	Billing	1	1.6%
10	POS for retailing	1	1.6%
11	SCM	1	1.6%
12	Data warehousing	1	1.6%
13	Asset management	1	1.6%
14	CRM	1	1.6%
15	E-government application	1	1.6%
16	Mobile/wireless application development	0	0.0%
17	E-learning	0	0.0%
18	Data security	0	0.0%
19	E-commerce	0	0.0%
20	Game software	0	0.0%
21	Others	6	9.8%
	Total Valid Answer	61	100.0%

Q3-11 How less should the average man-month personnel pricing of Bangladesh be in comparison with India, if your company considers offshoring/outsourcing to Bangladesh?

1	Less than 2/3 of India	6	14.6%
2	Less than 1/2 of India	20	48.8%
3	Less than 1/3 of India	9	22.0%
4	Less than 1/4 of India	6	14.6%
	Total Valid Answer	41	100.0%

Q3-12 How less should the average man-month personnel pricing of Bangladesh be in comparison with China, if you consider offshoring/outsourcing to Bangladesh?

1	Less than 3/4 of China	6	14.6%
2	Less than 2/3 of China	7	17.1%
3	Less than 1/2 of China	21	51.2%
4	Less than 1/3 of China	7	17.1%
	Total Valid Answer	41	100.0%

Q3-13 If your company considers offshoring/outsourcing to Bangladesh rather than Viet Nam, what would be the most important deciding factors? (Multiple answers allowed)

1	Quality	39	18.9%
2	Japanese language capability	39	18.9%
3	Development cost	28	13.6%
4	Delivery time	27	13.1%
5	Information protection	23	11.2%
6	Infrastructure of offshore partner	12	5.8%
7	Business stability of offshore partner	12	5.8%
8	Overhead costs	10	4.9%
9	Duration of development schedule	7	3.4%
10	Similarity of development process	7	3.4%
11	Others	2	1.0%
	Total Valid Answer	206	100.0%

Attachment 2.2-1 Result of Needs-Identification Questionnaire Survey <4/4>

Q3-14 What would be the most significant concerns if your company were to offshore/outsource software development and IT services to Bangladesh? (Multiple answers allowed)

1	Language communication gap	37	15.6%
2	Quality	35	14.8%
3	Failure in communication about specification	28	11.8%
4	Leak-out of secret information	25	10.5%
5	Gap in culture and business practice	23	9.7%
6	Delivery time	20	8.4%
7	Diplomatic/geopolitical risks	17	7.2%
8	Undeveloped infrastructure of Bangladeshi companies	16	6.8%
9	Unstable management of Bangladeshi companies	11	4.6%
10	Low technology/skills	10	4.2%
11	Difference in development process	10	4.2%
12	Others	5	2.1%
	Total Valid Answer	237	100.0%

Q4. Bridging Organization

Q4-1 Would the intermediary organizations like BIK Japan be necessary if your company were to offshore/outsource software development and IT services to Bangladesh? (Multiple answers allowed)

1	Yes	38	76.0%
2	No	12	24.0%
	Total Valid Answer	50	100.0%

Q4-2 What are the reasons for "Yes" in Q4-1? (Multiple answers allowed)

1	To eliminate difference in business practice between the two countries	31	31.3%
2	Due to difficulty in finding suitable Bangladeshi software/ITES companies	29	29.3%
3	To eliminate language gap	26	26.3%
4	To reduce costs related to air travel to Bangladesh for necessary activities like monitoring	12	12.1%
5	Others	1	1.0%
	Total Valid Answer	99	100.0%

Q4-3 What would you like the Bridge SE System to do, if you were to offshore/outsource software development and IT services to Bangladesh? (Multiple answers allowed)

1	All the services including partner finding and matching, contract, technical interpretation, testing, delivery, and maintenance	24	51.1%
2	Partner finding and matching, and technical interpretation only	15	31.9%
3	Partner finding and matching only	6	12.8%
4	Technical interpretation only	2	4.3%
5	Others	0	0.0%
	Total Valid Answer	47	100.0%

Q4-4 What sort of sales persons would you like to receive from the Bridge SE System? (Multiple answers allowed)

1	Japanese sales person and Bangladeshi Bridge SE who speaks Japanese	29	38.2%
2	Japanese sales person only	15	19.7%
3	Japanese sales person and Japanese Bridge SE	15	19.7%
4	Bangladeshi sales person who speaks Japanese and Bangladeshi Bridge SE who speaks Japanese	9	11.8%
5	Only Bangladeshi sales person who speaks Japanese	8	10.5%
	Total Valid Answer	76	100.0%

Q4-5 Can the Bridge SE System contact you for detailed service presentation?

1	Yes	5	9.6%
2	Only presentation materials can be accepted	31	59.6%
3	No	16	30.8%
	Total Valid Answer	52	100.0%

Q5. Seminar

Q5-1 Do you want to attend the seminar on Current State and Capability of Bangladeshi Software/ITES industry?

1	Yes	9	17.6%
2	No	42	82.4%
	Total Valid Answer	51	100.0%

Q5-2 What sort of content would you expect from the seminar? (Multiple answers allowed)

1	Presentation by Japanese companies on experience of offshore development/outsourcing in Bangladesh in the past	23	28.8%
2	Presentation by Bangladeshi companies on experience of offshore development/outsourcing from Japan in the past	22	27.5%
3	Presentation on current states of Bangladeshi software/ITES industry	18	22.5%
4	Presentation on services offered by Bridge SE System	10	12.5%
5	Business-matching session	5	6.3%
6	Others	2	2.5%
	Total Valid Answer	80	100.0%

Attachment 2.3-1 PDM (Project Design Matrix) <1/2>

Ver. No.: 0.2 (E) (revised as originally planned)

Date: June 30, 2008

Name of Project: Project for Establishing the Institutional Mechanism for Export Marketing of Software and ITES Industry in Bangladesh (Sample Market: Japan)

Project Period: Oct. 1, 2007 - August 31, 2008 (11 months)

Target Area: Bangladesh and Japan

Target Group: Computer Software Companies in Bangladesh

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal Computer Software export from Bangladesh will increase	* By the year 2009-10, export of Software/ITES from Bangladesh will have increased by 10% in terms of value compared to 2006-07.	* Balance of Payment statistics by the Bangladesh Bank. Bangladesh Export Statistics by the Export Promotion Bureau	
Project Purpose Computer Software Industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs	* By the end of the Project, at least one (1) software business will be intermediated by and through the Bridge SE System.	* Business contract document(s).	* Software demand in Japan and the world will not shrink significantly below the level at the beginning of the Project. * Power and telecommunication infrastructure will not deteriorate to the level where software development cannot be processed. * Preferential treatment on software industry in Bangladesh will continue.
Output 1. Brochures of the companies that intend to exploit international markets will be drawn up.	1. By the end of the 4th Field Survey, two thousand (2,000) copies of company brochures (1,000 for English and 1,000 for Japanese) will have been printed.	1. Concerned printed matter.	* Bangladesh will continue to comply with the WTO/GATT rules on trade in service.
2. Comprehensive brochure for the Computer Software industry in Bangladesh will be drawn up.	2. By the end of the 4th Field Survey, two thousand (2,000) copies of the introductory brochure for the software/ITES industry in Bangladesh (1,000 for English and 1,000 for Japanese) will have been printed.	2. Concerned printed matter.	
3. Database of Computer Software companies of Bangladesh will be established (for business reference of Japanese buyers).	3. By the end of the 5th Field Survey, the database of the participating companies will have been created.	3 Concerned database	
4. Market needs of the potential-partner Japanese companies will be comprehended and criteria for partner qualification (of Japanese companies) will be established.	4. By the end of March, 2008, questionnaire will have been sent out to one thousand (1,000) potential Japanese clients.	4. List of companies to which questionnaire is sent out	
5. Institutional system for the Bridge SE (System Engineer) that intermediates Bangladeshi and Japanese markets will be structured.	5. By the end of March, 2008, the Bridge SE System will have been established in Japan.	5. Registration document(s).	
6. A seminar for advertisement and popularization of Computer Software industry of Bangladesh will take place in Japan.	6. In May, 2008, at least 50 participants will be present at the seminar for advertisement and popularization of Software / ITES industry of Bangladesh.	6. Attendance list.	
7. A system for business match-making between Bangladeshi and Japanese companies through intermediation of the Bridge SE will be established.	7-1. By the end of the 3rd Field Survey, Bangladeshi software/ITES supplier will have been organized for Japanese market.	7-1. List of participating companies in the Project	
	7-2. During the Project period, relationship is to be established between Bridge SE System and BASIS through the intermediation of JICA Study Team.	7-2. Performance of JICA Study Team	
	7-3. After achieving the Output 4, the Bridge SE System will start sales activities for the Bangladeshi participating companies.	7-3. Report from Bridge SE System	

Attachment 2.3-1 PDM (Project Design Matrix) <2/2>

Activities	Inputs		
1-1. Recruit and select Computer Software companies that are interested in exploiting Japanese market. 1-2. Draw up brand-new brochures for their own companies with support from the JICA Study team. 1-3. Finalize those brochures both in English and Japanese for export marketing. 2-1. Collect data and information of Computer Software industry in Bangladesh. 2-2. Draw up the brochure for Computer Software industry in Bangladesh. 3-1. Select articles to be presented in the database of Bangladeshi Computer Software Companies where potential buyers can conduct business search. 3-2. Create the database through collected data and information as well as by referring to Output 1 and 2. 4-1. Conduct a questionnaire survey on Japanese Computer Software companies by which those interested in business with Bangladeshi companies can be extracted (The questionnaire is to be conducted in Japan by the JICA Study team). 4-2. Organize information on the Japanese companies collected by the questionnaire for business reference of Bangladeshi suppliers. 5-1. Recruit Japan-based Bangladesh companies (or subsidiaries), Bangladeshi ICT businessmen in Japan in order to constitute the Bridge SE system (by the JICA Study Team). 5-2. Establish the Bridge SE system that intermediate business between Bangladesh and Japan. 6-1. Identify the seminar venue (in Japan) and select/invite Japanese companies. 6-2. Hold the seminar. 7-1. Identify needs of both Bangladeshi and Japanese markets and bridge the gap between the identified needs. 7-2. Establish the system where information on demand/supply in the both markets can widely be shared. 7-3. BASIS establishes the system where it introduces potential business partners to the interested Japanese companies.	Japan **Human resources** Expert (Distribution/Market Analysis) 4.47M/M Expert (Product Development/Marketing) 4.47M/M **Equipments and supplies** Printing of industry brochure JPY 344,000 Translation of company and industry brochures JPY 1,330,000 Database translation JPY 800,000 Questionnaire survey JPY 40,000 Seminar JPY To be budgetized	Bangladesh **Human resources** BASIS secretariat 9M/M **Supplies** Printing of company brochures Database web development Bridge SE System establishment (by Bangladehi residing in Japan)	* Participating companies draw up their company brochures in English. * Participating companies pay for printing their brochures. * Appropriate promoter(s) and Bridge SEs are existent in Japan for the establishment of the Bridge SE System. **Precondition** * The sufficient number of companies (at least 20 companies) applies for participation in the Project

Attachment 2.3-2 Performance Examination Table <1/2>

Date: September 1, 2008

Name of Project: Project for Establishing the Institutional Mechanism for Export Marketing of Software and ITES Industry in Bangladesh (Sample Market: Japan)

Project Period: Oct. 1, 2007 - August 31, 2008 (11 months)

Target Area: Bangladesh and Japan

Target Group: Computer Software Companies in Bangladesh

Narrative Summary	Objectively Verifiable Indicators	Performance	Important Assumptions	Current State of Important Assumptions
Overall Goal				
Computer Software export from Bangladesh will increase	* By the year 2009-10, export of Software/ITES from Bangladesh will have increased by 10% in terms of value compared to 2006-07.			
Project Purpose			**Project Purpose → Overall Goal**	
Computer Software industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs the Japanese market as the sample)	* By the end of the Project, at least one (1) software business will be intermediated by and through the Bridge SE System.	* At the end of the Project, the export marketing system in the Project Purpose has been established in the sample market of Japan. However, there has been no business materialized through this system so far.	* Software demand in Japan and the world will not shrink significantly below the level at the beginning of the Project. * Power and telecommunication infrastructure will not deteriorate to the level where software development cannot be processed. * Preferential treatment on software industry in Bangladesh will continue.	* According to the Information Technology Promotion Agency of Japan (IPA), offshore development market scale in Japan is expected to be about 257 billion yen in 2011, which was about 71 billion yen in 2006. * Although validation research has not been done on the degree of infrastructure improvement, power and telecommunication infrastructure still at the level where software development canbe processed. * According to the Export Policy (2006-9), software industry (ICT industry) will remain the Highest Priority Sector at least until fiscal year of 2009.
Outputs			**Outputs → Project Purpose**	
1. Brochures of the companies that intend to exploit international markets will be drawn up.	1. By the end of the 4th Field Survey, two thousand (2,000) copies of company brochures (1,000 for English and 1,000 for Japanese) will have been printed.	1. In the Fourth Field Survey, a total of 2,000 copies of company brochures were printed, in both Japanese and English, in booklet. It works as the Company Directory of the participating companies. Also, additional 500 copies were printed, in both English and Japanese, as one-paper leaflet for each participating company.	* Bangladesh will continue to comply with the WTO/GATT rules on trade in service.	* Bangladesh still remains the member country of the WTO.
			Activities → Outputs	
2. Comprehensive brochure for the Computer Software industry in Bangladesh will be drawn up.	2. By the end of the 4th Field Survey, two thousand (2,000) copies of the introductory brochure for the software/ITES industry in Bangladesh (1,000 for English and 1,000 for Japanese) will have been printed.	2. In the Fourth Field Survey, a total of 1,200 copies of the industry Brochure were printed in Japanese and English (English version is the summery), which introduces the current state of software/ITES industry of Bangladesh.	* Participating companies draw up their company brochures in English.	* All the participating companies drew up their company brochures in English.
3. Database of Computer Software companies of Bangladesh will be established (for business reference of Japanese buyers).	3. By the end of the 5th Field Survey, the database of the participating companies will have been created.	3. In August 2008, a company database of 33 participating companies and project database of 30participating companies (128 projects in total) was created in Japanese and English. (Note that submission of the database was not compulsory as it may include confidential data of the company.)	* Participating companies pay for printing their brochures. * Appropriate promoter(s) and Bridge SEs are existent in Japan for the establishment of the Bridge SE System.	* As of January 29, 2008, 36 out of the 38 participating companies had paid for printing the brochures. BASIS has received commitment for the payment from the rest 2 companies as well. * Appropriate promoter(s) and Bridge SEs existed in Japan for the establishment of the Bridge SE System.
			Precondition	**Current States of Precondition**
4. Market needs of the potential-partner Japanese companies will be comprehended and criteria for partner qualification (of Japanese companies) will be established.	4. By the end of March, 2008, questionnaire will have been sent out to one thousand (1,000) potential Japanese clients.	4-1. In February 2008, the needs-identification questionnaires were sent to 552 companies in Japan. Those companies were indentified by the outbound telemarketing that had earlier been conducted with 1,006 software/ITES companies in Japan. 4-2. After all, 54 valid answers were collected and demand analyses were made based upon these answers.	* The sufficient number of companies (at least 20 companies) applies for participation in the Project	* A total of 41 companies applied for the participation.
5. Institutional system for the Bridge SE (System Engineer) that intermediates Bangladeshi and Japanese markets will be structured.	5. By the end of March, 2008, the Bridge SE System will have been established in Japan.	5-1. Process of establishing the Bridge SE System began in December 2007 by 4 Bangladeshi-owned IT companies in Japan (organization is named "BIK Japan"). Now, it is performing the sales activities (The number of the members was reduced to 3 later). 5-2. Since May 2008, BIK Japan has been allying with a Japanese SPO company and they have been performing sales activities collaboratively since then.		
6. A seminar for advertisement and popularization of Computer Software industry of Bangladesh will take place in Japan.	6. In May, 2008, at least 50 participants will be present at the seminar for advertisement and popularization of Software / ITES industry of Bangladesh.	6-1. A seminar entitled "Current States and Capability of Software/ITES Industry in Bangladesh" was held on May 12, 2008 in Tokyo where 89 audiences from 71 Japanese companies attended. 6-2. A total of 15 persons from 13 participating companies attended this seminar from Bangladesh.		
7. A system for business match-making between Bangladeshi and Japanese companies through intermediation of the Bridge SE will be established.	7-1. By the end of the 3rd Field Survey, Bangladeshi software/ITES supplier will have been organized for Japanese market. 7-2. During the Project period, relationship is to be established between Bridge SE System and BASIS through the intermediation of JICA Study Team. 7-3. After achieving the Output 4, the Bridge SE System will start sales activities for the Bangladeshi participating companies.	7-1. In the Third Field Survey, the supplier group was organized by 41 Bangladeshi software/ITES companies. (Now, the number of participating companies was reduced to 37) 7-2. In February 2008, a tele-conference was conducted between BIK Japan and BASIS by the intermediation of the JICA Study Team where cooperative relationship between them was confirmed. In addition, in March 2008, a representative from the BIK Japan visited Dhaka where the workshop on the BIK Japan was held by BASIS with the participating companies. 7-3. In March 2008, sales activities meant for Bangladeshi participating companies got started by BIK Japan based on the list of the leads generated by output 4.		

Attachment 2.3-2 Performance Examination Table <2/2>

Activities	Performance (Activities)	Inputs (Plan)	Inputs (Actual)
1-1. Recruit and select Computer Software companies that are interested in exploiting Japanese market.	1-1. Before the Third Field Survey began, the JICA Study Team and the BASIS had distributed the application form to all the BASIS member companies, of which 41 companies applied for participation. All the 41 companies were accepted for participation based upon the assessment on their applications. (After the Third Field Survey, the number of participants was reduced to 38)	**Japan** **Human resources** Expert (Distribution/Market Analysis) 4.64M/M Expert (Product Development/Marketing) 4.64M/M **Equipments and supplies** Printing of industry brochure JPY 344,000 Translation of company and industry brochures JPY 1,330,000 Database translation JPY 800,000 Questionnaire survey JPY 40,000 Seminar JPY To be budgetized	**Japan** **Human resources** Expert (Distribution/Market Analysis) 4.57M/M Expert (Product Development/Marketing) 4.64M/M **Equipments and supplies** Printing of industry brochure JPY 293,488 Translation of company and industry brochures JPY 531,456 Database translation JPY 0 (done by the JICA Study Team) Questionnaire survey JPY 171,300 Database marketing JPY 949,300 Seminar JPY 554,899
1-2. Draw up brand-new brochures for their own companies with support from the JICA Study team.	1-2. In the Third Field Survey, all the participating companies drew up the draft for their company brochures in English based upon the format created by the JICA Study Team.		
1-3. Finalize those brochures both in English and Japanese for export marketing.	1-3. JICA Study Team translated the English brochures into Japanese after it was back in Japan from the Third Field Survey. In the Fourth Field Survey, the brochures were printed.		
2-1. Collect data and information of Computer Software industry in Bangladesh.	2-1. In the Third Field Survey, the JICA Study Team and BASIS collaboratively decided the items to be covered in the brochure for Computer Software industry in Bangladesh. In addition, the BASIS provided the JICA Study Team with the data and information for drawing up the brochure.		
2-2. Draw up the brochure for Computer Software industry in Bangladesh.	2-2. JICA Study Team drew up the brochure in Japanese and translated the summery into English after it was back in Japan from the Third Field Survey. In the Fourth Field Survey, the brochures were printed.	**Bangladesh** **Human resources** BASIS secretariat 9M/M	**Bangladesh** **Human Resource** BASIS Secretariat During the Pilot Project period, four persons were directly involved in the Project. Yet, it is not clear how many man-months were actually put in because they were involved in the Project while they were doing other ordinary work.
3-1. Select articles to be presented in the database of Bangladeshi Computer Software Companies where potential buyers can conduct business search.	3-1. In the Third Field Survey, the JICA Study Team, via the BASIS, distributed the data-entry format to all the participating companies for the company database development		
3-2. Create the database through collected data and information as well as by referring to Output 1 and 2.	3-2. In August 2008, the JICA Study Team created the company database and project database in both Japanese and English.	**Supplies** Printing of company brochures	**Equipment and Supplies** Printing of company brochures (2,500 copies) Shipping cost for brochures to Japan
4-1. Conduct a questionnaire survey on Japanese Computer Software companies by which those interested in business with Bangladeshi companies can be extracted (The questionnaire is to be conducted in Japan by the JICA Study team).	4-1. From February 2008 to March 2008, the JICA Study Team conducted needs-identification questionnaire survey with the Japanese IT companies and analyzed the results.	Database web development	Web development for the company and project database Not determined yet Conference room, equipment of BASIS
4-2. Organize information on the Japanese companies collected by the questionnaire for business reference of Bangladeshi suppliers.	4-2. In the Fifth Field Survey, the JICA Study Team held the workshop where it shared with the participating companies the organized information on needs of Japanese IT companies.	Bridge SE System establishment (by Bangladeshi residing in Japan)	Bridge SE System establishment (by Bangladeshi residing in Japan)
5-1. Recruit Japan-based Bangladesh companies (or subsidiaries), Bangladeshi ICT businessmen in Japan in order to constitute the Bridge SE system (by the JICA Study Team).	5-1. In December 2007, the JICA Study Team contacted Bangladeshi IT business persons, who were introduced by Bangladesh Chambers of Commerce and Industry in Japan (to be established), and it suggested that they establish the Bridge SE System.		
5-2. Establish the Bridge SE system that intermediate business between Bangladesh and Japan.	5-2. In December 2007, four Bangladeshi IT entrepreneurs in Japan began the process of establishing the Bridge SE System (BIK Japan) and it is now performing its functions.		
6-1. Identify the seminar venue (in Japan) and select/invite Japanese companies.	6-1. In April 2008, the JICA Study Team decided the venue for the seminar and sent out invitations to around 2,000 Japanese companies.		
6-2. Hold the seminar.	6-2. On May 12, 2008, the JICA Study Team and BIK Japan held the seminar.		
7-1. Identify needs of both Bangladeshi and Japanese markets and bridge the gap between the identified needs.	7-1. The JICA Study Team analyzed the needs of Japanese companies by taking advantage of activities 4-1 and 6-2. In addition, throughout the Field Surveys, the JICA Study Team had done research on the needs of Bangladeshi supplier group (participating companies) through the regular meetings with BASIS.		
7-2. Establish the system where information on demand/supply in the both markets can widely be shared.	7-2. In every Field Survey, the JICA Study Team held the workshop and seminar with the participating companies where it shared the information on the demands/supplies in offshore development markets of Japan. In addition, such information was also shared through the mailing group named JICA Project, which has been maintained by the BASIS.		
7-3. BASIS establishes the system where it introduces potential business partners to the interested Japanese companies.	7-3. In the Third Field Survey, the BASIS organized the supplier group (composed of the participating companies) meant for the Japanese markets. In addition, the BASIS and BIK Japan held the meeting in Dhaka where they confirmed the proposed business flow and cooperative relationships. Besides, in the Sixth Field Survey, the BASIS, at the wrap-up seminar of the Pilot Project, presented the future prospectives for self-sustaining system of the model established in the Pilot Project.		

Attachment 2.3-3 Evaluation Grid Table (Computer Software Industry) <1/2>

Five Criteria	Evaluation Question		Basis for Judgment	Data Needed	Data Source	Data Collection Methods
	Major Items	Minor Items				
Relevance	Did the Project deal with the significant problem(s) that the software/ITES industry of Bangladesh is facing?		Participatory problem analysis	Problem tree	Stakeholders in software/ITES industry	PCM Problem Analysis at the Pilot Project workshop held in June 2007 in Dhaka
	Were project purpose and overall goals in accordance with the needs of software/ITES companies in Bangladesh?		Analysis on questionnaire survey result, The number of the companies that applied for participation	Recognition of target group, The number of the companies that applied for participation	Software/ITES companies, JICA Study Team	Questionnaire survey at the wrap-up seminar on Pilot Project
	Are the purposes of the Project in line with the development policies of Bangladesh?	Are the project purpose and overall goals in line with the Export Policy of Bangladesh?	Consistency with the policy	Export Policy	Ministry of Commerce (MoC)	Review on policy
	Are the purposes of the Project consistent with foreign aid policy of Japan?	Are the project purpose and overall goal consistent with the priority sectors and goals of the Japan's Country Assistance Program for Bangladesh?	Consistency with priority sectors and goals	Japan's Country Assistance Program for Bangladesh	Ministry of Foreign Affairs of Japan	Review on program
	Was the selection of target area appropriate?	Was it appropriate to have taken Japan as a sample market?	Analysis on questionnaire survey result, Consistency with BASIS's target markets	Recognition of participating companies, Recognition of counterpart	Participating companies, BASIS	Questionnaire survey at the wrap-up seminar on Pilot Project, Review on BASIS's documents
	Was the selection of the participating companies appropriate?	Are business fields of the participating companies in line with the Project?	Scrutiny on participating companies' information	Company Directory (Output 1), BASIS member directory	JICA Study Team, BASIS	Review on materials
		Were the participating companies selected fairly out of the target group?	Legitimacy of selection process, Analysis on questionnaire survey result	Selection process, Recognition of target group	JICA Study Team, Software/ITES companies	Review on materials, Questionnaire survey at the wrap-up seminar on Pilot Project
	Were the benefits of the effect and the burden of the costs fairly distributed (or will they be?)	Was the cost burden equally distributed among the participating companies?	Scrutiny on costs borne by participating companies	BASIS's accounting document	BASIS	Review on BASIS's document
		Will the positive effects be fairly distributed among the participating companies?	Scrutiny on business flow, Analysis on questionnaire survey result	Business flow concept, Recognition of participating companies	BIK Japan, Participating companies	Review on materials, Questionnaire survey at the wrap-up seminar on Pilot Project
Effective-ness	Was the project purpose achieved (or will it be achieved)?		Comparative examination of plan and performance, Analysis on questionnaire survey result, Analysis on interview result	Performance evaluation table, Recognition of participating companies, Recognition of counterpart	Performance evaluation table, Participating companies, BASIS	Preparation of performance evaluation table, Questionnaire survey at the wrap-up seminar on Pilot Project, Interview
	Is the output contributing to achieving the project purpose?	Has the brochures (Company Directory) of the participating companies been utilized as one of the sales tools in Japan?	Analysis on interview result, Performance at the seminar in Tokyo	Performance of BIK Japan, Performance at the seminar in Tokyo	BIK Japan, JICA Study Team	Interview Review on Project documents
		Has the brochure for Bangladeshi software/ITES industry been utilized as one of the sales tools in Japan?	Analysis on interview result, Performance at the seminar in Tokyo	Performance of BIK Japan, Performance at the seminar in Tokyo	BIK Japan, JICA Study Team	Interview Review on Project documents
		Has the database of the participating companies been utilized as one of the sales tools in Japan?	Analysis on interview result	Performance of BIK Japan, Recognition of counterpart	BIK Japan, BASIS	Interview
		Have the knowledge about the needs of Japanese companies been shared with BASIS and the participating companies?	Scrutiny on M/M, Analysis on interview result, Analysis on questionnaire survey result	M/M on Pilot Project workshop in May 2008, Recognition of counterpart, Recognition of participating companies	BASIS, Participating companies	Review on M/M, Interview, Questionnaire survey at the wrap-up seminar on Pilot Project
		Has the Bridge SE System been performing sales intermediary functions between the participating companies and potential Japanese clients?	Scrutiny on BIK Japan's performance, Perspectives of JICA experts	Performance of BIK Japan, Recognition of JICA Experts	BIK Japan, JICA Study Team	Review on BIK Japan's performance, Perspectives of JICA Experts
		Have the results of the seminar on Bangladeshi software/ITES industry in Tokyo been utilized for the sales activities in Japan?	Scrutiny on BIK Japan's performance	Performance of BIK Japan	BIK Japan	Review on BIK Japan's performance
		Have Bangladeshi stakeholders of this Project recognized the business match-making mechanism through the Bridge SE System as an effective measures to establish the export channel in non-English speaking markets?	Analysis on interview result, Analysis on questionnaire survey result	Recognition of counterpart, Recognition of target group	BASIS, Software/ITES companies	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project
		What are the factors other than the output that have contributed (are contributing) to achieving the project purpose?	Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	Have the important assumptions from the output to the project purpose exerted any influence?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	What are the inhibiting and promoting factors for the achievement of the project purpose?		Analysis on interview result, Perspectives of JICA experts	Recognition of counterpart, Recognition of JICA Experts	BASIS, JICA Study Team	Interview, Perspectives of JICA experts
Efficiency	Was the output achieved?	Has the brochures (Company Directory) of the participating companies been printed as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has the brochure for Bangladeshi software/ITES industry been printed as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has the database of the participating companies been created as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has the needs of Japanese companies understood as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table

Attachment 2.3-3 Evaluation Grid Table (Computer Software Industry) <2/2>

Five Criteria	Evaluation Question		Basis for Judgment	Data Needed	Data Source	Data Collection Methods
	Major Items	Minor Items				
		Has the Bridge SE System been established as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has the seminar on Bangladeshi software/ITES industry been held in Japan as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
		Has the match-making mechanism through the Bridge SE System been established as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
	Seen from the achieved output, were the quality, quantity and timing of the inputs appropriate?	Were the number of dispatched JICA experts, their fields of expertise and the timing of the dispatch appropriate?	Scrutiny on CV of JICA Experts, Analysis on interview result, Analysis on questionnaire survey result	CV of JICA Experts Recognition of counterpart, Recognition of participating companies	JICA Study Team BASIS, Participating companies	Review on CV of JICA Experts Interview, Questionnaire survey at the wrap-up seminar on Pilot Project
		Were the number of counterpart personnel involved in the Project and their capability appropriate?	Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
		Has the target group borne the cost burden as planned?	Comparative examination of plan and performance,	Performance evaluation table	Performance evaluation table	Preparation of performance evaluation table
	Have the important assumptions from the activities to the output exerted any influence?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
	What are the inhibiting and promoting factors for producing the output and for the efficient utilization of inputs?		Perspectives of JICA experts	Recognition of JICA Experts	JICA Study Team	Perspectives of JICA experts
Impact (Prospect)	Looking at the input and output performance and at the activity status, are there prospects that the overall goal will be produced as an effect of the Project?	Are there prospects that software/ITES exports from Bangladesh will increase as planned after the Project completes?	Analysis on interview result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of JICA Experts	BASIS, EPB, JICA Study Team	Interview, Perspectives of JICA experts
	What are the inhibiting and promoting factors for the achievement of the overall goal?		Analysis on interview result, Analysis on questionnaire survey result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of target group Recognition of JICA Experts	BASIS, EPB, Software/ITES companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Do the overall goal and the project purpose have causal relationship?		Analysis on interview result, Analysis on questionnaire survey result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of target group Recognition of JICA Experts	BASIS, EPB, Software/ITES companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Are the important assumptions from the project purpose to the overall goal still correct at the present point of time? Is it likely for the important assumptions to be verified?		Analysis on interview result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of JICA Experts	BASIS, EPB, JICA Study Team	Interview, Perspectives of JICA experts
	Were there (Will there be) any positive and negative impacts beside the overall goal?	Influence on the concerned organizations	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	EPB, BASIS, BCC, IBPC	Interview
		Influence on the establishment of policies	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	MoC, EPB, BCC, MoSICT	Review on policies, Interview
		Others	Comparative examination of before- and after- the Project.	Situation of before- and after- the Project.	Others	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project
Sustaina-bility (Prospects)	Will the concerned government agencies extend their support to the system that has been established in the Project?		Analysis on interview result, Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	MoC, EPB, BCC, MoSICT、IBPC JICA Study Team	Interview, Perspectives of JICA experts
	Will the regulations and legal systems related to software/ITES industry be prepared and become friendlier than now?		Analysis on interview result, Perspectives of JICA experts	Recognition of concerned agencies, Recognition of JICA Experts	MoC, EPB, BCC, MoSICT、IBPC JICA Study Team	Interview, Perspectives of JICA experts
	Will the BASIS continue to be involved with and further develop the export marketing mechanism that has been established in the Project? (Is it capable to do so?)		Analysis on interview result	Recognition of counterpart, Budget of BASIS	BASIS	Interview
	Will the BIK Japan continue to be involved with and further develop the export marketing mechanism that has been established in the Project? (Is it capable to do so?)		Analysis on interview result	Recognition of BIK Japan, Budget of BIK Japan	BIK Japan	Interview
	Would the export marketing mechanism developed by this Project be applicable to other non-English speaking countries?		Analysis on interview result, Analysis on questionnaire survey result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of target group Recognition of JICA Experts	BASIS, EPB, Software/ITES companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Would there be any possibility that BASIS and the other concerned organizations would apply the export marketing mechanism developed by the Project to other non-English countries in future? (Are they capable to do so?)		Analysis on interview result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of JICA Experts	BASIS, EPB, JICA Study Team	Interview, Perspectives of JICA experts
	What are the inhibiting and promoting factors for the sustainable effects of the Project?		Analysis on interview result, Analysis on questionnaire survey result, Perspectives of JICA experts	Recognition of counterpart, Recognition of concerned agencies, Recognition of target group Recognition of JICA Experts	BASIS, EPB, Software/ITES companies, JICA Study Team	Interview, Questionnaire survey at the wrap-up seminar on Pilot Project, Perspectives of JICA experts
	Considering the above-raised aspects as a whole, is the probability of the sustainability high or low?		Judgment by JICA Study Team	Recognition of counterpart, Recognition of JICA Experts	BASIS, JICA Study Team	Discussion

Attachment 2.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Computer Software Industry) <1/5>

Date: August 19, 2008, Attendance: 38 persons

Q1	The purpose of this Project is that "Computer Software Industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs the Japanese market as the sample)." In addition, the overall goal, which is expected to be achieved within about 5 years after the completion of the Project, is that "Computer Software export from Bangladesh will increase." Do you think that the purpose and goal were in accordance with the needs of software/ITES industry of Bangladesh?		
Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	7	77.8%
	No	0	0.0%
	Not sure to answer	2	22.2%
	Total	9	100.0%
Government and others	Yes	10	76.9%
	No	2	15.4%
	Not sure to answer	1	7.7%
	Total	13	100.0%
All	Yes	17	77.3%
	No	2	9.1%
	Not sure to answer	3	13.6%
	Total	22	100.0%
Q2	**This is the question to ask only the companies that participated in the Project.** How much did you know about contents/substance of the Project?		
Respondent	Answer	Number of Answers	Ratio to Total
Participating Company	Knew very well	4	66.7%
	Knew fairly	2	33.3%
	Did not know very well	0	0.0%
	Did not know at all	0	0.0%
	Total	6	100.0%
Q3	This Project has taken Japan as a sample market. Do you think that it was appropriate to have taken Japan as a sample market?		
Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	7	77.8%
	No	2	22.2%
	No (Please write down which country should have been taken as a sample)	EU, More flexible and open markets than Japanese markets	
	Total	9	100.0%
Government and others	Yes	12	92.3%
	No	1	7.7%
	No (Please write down which country should have been taken as a sample)	English-speaking markets	
	Total	13	100.0%
All	Yes	19	86.4%
	No	3	13.6%
	Total	22	100.0%

Attachment 2.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Computer Software Industry) <2/5>

Q4	This Project was participated in by 38 software/ITES companies of BASIS members. Before the Project began, the BASIS and the JICA Study Team had distributed application form and requirement to all the BASIS members. Since all the applied companies met the requirements, no company was rejected for the participation. Do you think that this application and selection process was fair?		
Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	7	77.8%
	No	2	22.2%
	Not sure to answer	0	0.0%
	Total	9	100.0%
Government and others	Yes	10	76.9%
	No	0	0.0%
	Not sure to answer	3	23.1%
	Total	13	100.0%
All	Yes	17	77.3%
	No	2	9.1%
	Not sure to answer	3	13.6%
	Total	22	100.0%

Q4-1	**For those who answered "No" in question 4,** what should the application and selection process have been like? Please describe below.
Respondent	Description
All	JICA needed to study the software company thoroughly by its own

Q5	**This is the question to ask only the companies that participated in the Project.** Do you think that positive effects of the Project will be shared fairly among all the participating companies in near future?		
Respondent	Answer	Number of Answers	Ratio to Total
Participating Company	Yes	4	66.7%
	No	1	16.7%
	Not sure to answer	1	16.7%
	Total	6	100.0%

Q5-1	**For those who answered "No" in question 5**, why do you think so? Please describe below.
Respondent	Description
All	The language and cultural barriers cannot be overcome by other companies

Q6	Do you think that the purpose of the Project, "Computer Software Industry in Bangladesh will establish export marketing mechanism that can be applied to international markets, especially non-English speaking markets (It is expected that the Project will promote access to Japanese market as it employs the Japanese market as the sample)," was achieved (or will be achieved)?		
Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Achieved	0	0.0%
	Will be achieved	8	88.9%
	Was not achieved and will not be achieved	1	11.1%
	Total	9	100.0%
Government and others	Achieved	1	7.7%
	Will be achieved	11	84.6%
	Was not achieved and will not be achieved	1	7.7%
	Total	13	100.0%
All	Achieved	1	4.5%
	Will be achieved	19	86.4%
	Was not achieved and will not be achieved	2	9.1%
	Total	22	100.0%

Attachment 2.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Computer Software Industry) <3/5>

Q7	**This is the question to ask only the companies that participated in the Project.** How much have you been able to understand the recognition and needs/demand of Japanese companies about software/ITES industry of Bangladesh by having participated in the Project?

Respondent	Answer	Number of Answers	Ratio to Total
Participating Company	Understood very well	0	0.0%
	Understood fairly	5	83.3%
	Did not understand very well	1	16.7%
	Did not understand at all	0	0.0%
	Total	6	100.0%

Q7-1	**For those who answered "No" in question 7**, why do you think so? Please describe below.

Respondent	Description
Participating Company	Not enough opportunities/exposures have been provided to interact a number of Japanese companies

Q8	Do you think that business match-making mechanism based upon the Bridge SE system that has been employed in this Project would be an effective measure to establish export channel in non-English speaking markets?

Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	3	33.3%
	No	2	22.2%
	Not sure to answer	4	44.4%
	Total	9	100.0%
Government and others	Yes	11	84.6%
	No	1	7.7%
	Not sure to answer	1	7.7%
	Total	13	100.0%
All	Yes	14	63.6%
	No	3	13.6%
	Not sure to answer	5	22.7%
	Total	22	100.0%

Q8-1	**For those who answered "No" in question 8**, why do you think so? Please describe below.

Respondent	Description
All	Every country has different mode of development and achievement. Modalities must be determined by countries
	In the mechanism, both the parties are not able to know each other - more interactions are required
	Bridge SE system has not provided any positive result. Thus I am not sure yet if it can bring a success
	Japanese language skill and Japanese language enabled engineers are actually necessary for ODC in future
	Financial sustainability of Bridge SE system model is not sure

Q9	**This is the question to ask only the companies that participated in the Project.** Do you think that the number, expertise, and dispatch period of JICA experts (Mr. Yasui and Mr. Sugiyama) were appropriate in light of the Project purpose?

Respondent	Answer	Number of Answers	Ratio to Total
Participating Company	Yes	5	83.3%
	No	1	16.7%
	Not sure to answer	0	0.0%
	Total	6	100.0%

Q9-1	**For those who answered "No" in question 9**, what do you think is not appropriate? Please describe below.

Respondent	Description
All	Dispatch period was too short

Attachment 2.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Computer Software Industry) <4/5>

Q10	What do you think will be the contributing factor and constraining (inhibitory) factor for the increase in software/ITES export from Bangladesh in near future (during about 5 years after the Project completes)? Please describe below

	Description
Contributing Factor	Technical skill
	Low cost professionals
	Experience in EU and USA
	Organized approach
	A large number of talented youth
	Economic potential
	Continuous support and promotion
	Positive results of Pilot Project
	IPSAEP to be utilized by BCC, academia and industry collaboratively
	Bridge SE system
	Good entrepreneurship
	Proper follow-up action of Pilot Project
	Experience of software development
Constraining Factor	Language problem
	Lack of government understanding of benefits of IT in general, leading to a lack of policy discussion
	Low number of IT professionals
	Limited number of trainee intake capacity
	Length of time in materializing order
	University curriculum not based upon market demands
	Lack of proper IT based knowledge
	Lack of access to trade financing/finance

Q11	Suppose 4 assumptions: 1) "Bangladeshi software industry were successful in establishing the export marketing mechanism in Japan that can be applied to other non-English speaking markets;" 2) "Demands in Japan and the world for software services were not to shrink significantly below the current level;" 3) "Power and telecommunication infrastructure were not to deteriorate to the level where software development cannot be processed;" and 4) "Preferential treatment on software industry in Bangladesh were to continue." If these 4 assumptions were correct, then do you think it would be correct to say that software/ITES export value would increase in near future (during about 5 years after the Project completes)?

Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	8	88.9%
	No	0	0.0%
	Not sure to answer	1	11.1%
	Total	9	100.0%
Government and others	Yes	12	92.3%
	No	0	0.0%
	Not sure to answer	1	7.7%
	Total	13	100.0%
All	Yes	20	90.9%
	No	0	0.0%
	Not sure to answer	2	9.1%
	Total	22	100.0%

Q12	Has the Project had (or will the Project have) any impact (both positive and negative) on your company (organization)? Please describe below.

	Description
Positive Impact	Prospective access to non-English speaking markets
	Learning about more markets
	Good experience and understanding on Japanese IT market needs
	Created awareness among BASIS members toward Japanese ICT markets
	Increased awareness about IT market outsourcing criteria for non-English speaking markets

Attachment 2.3-4 Questionnaire Survey at the Wrap-up Seminar for the Pilot Project (Computer Software Industry) <5/5>

Negative Impact			
Q13	Do you think that it would be possible that the export marketing mechanism established in this Project be applied to other non-English speaking markets?		
Respondent	Answer	Number of Answers	Ratio to Total
Private Company	Yes	5	55.6%
	No	3	33.3%
	Not sure to answer	1	11.1%
	Total	9	100.0%
Government and others	Yes	11	84.6%
	No	2	15.4%
	Not sure to answer	0	0.0%
	Total	13	100.0%
All	Yes	16	72.7%
	No	5	22.7%
	Not sure to answer	1	4.5%
	Total	22	100.0%
Q13-1	**For those who answered "No" in question 13**, why do you think so? Please describe below.		
Respondent	Description		
All	It depends on culture and other factors		
	Current approach has not produced desirable results as yet		
	Approach to marketing for Japanese market would not be similar to that of other non-English speaking countries		
Q14	What do you think will be the contributing factor and constraining (inhibitory) factor for sustainability of the effect that has (will have) been generated by this Project? Please describe below.		
	Description		
Contributing Factor	More exposure to Japanese market		
	BIK model works		
	A fair system/chance		
	High level of interests of Bangladesh companies		
	Continuous support and promotion		
	Economic potential		
	Continuous support and promotion		
	IPSAEP program		
	Outcome of the seminar in May in Tokyo		
	Proper government guidance/assistance		
	Language proficiency		
	Match-making program between Japan and Bangladesh		
Constraining Factor	Language problem		
	BIK model fails		
	An unfair system/chance		
	Not enough government fund to support the project		
	Availability of JICA volunteers for teaching Japanese language		
	Difference in modalities of development and business expansions in various countries		
	Poor response from the participating companies		
	Weakness/shortcomings of software/ITES sector		
	A lack of trade financing		