USAID FIRMS PROJECT

Productivity Improvement to Knit Garment Manufacturers In Karachi

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Abstract

This report covers the outcomes of training provided in five areas to ten SMEs in knit garment manufacturing in Karachi, under the auspices of the USAID Firms Project.

The report includes statistics of training, major improvements, methodology, findings and recommendations for SMEs to improve productivity, quality, and business development.

This report will help readers to analyze the existing practices and training conducted at selected SMEs in the following areas:

I. Productivity Enhancement through 5S

II. Efficient Marker Making

III. Production Planning and Management

IV. Material Resource Planning

V. Export and Trade Marketing

Acronyms

CAD	Computer Aided Design (Garment Cutting)
CMT	Cut Manufacture And Trim Cost, But Frequently Used As Contract Labor Cost
CPA	Critical Path Analysis
DPR	Daily Production Report
EMM	Efficient Marker Making
EXM	Export Marketing
EU	European Union
GMT	Garment
GSM	Grams Per Square Meter
MRP	Material Resource Planning
ITC	International Trade Center
PDS	Pattern Design Software
PKR	Pakistan Rupees

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Executive Summary

For the development of the knitted garment sector in Pakistan, the USAID Firms Project organized three months of training on five modules to 10 SMEs in Karachi. Two hundred and nine participants in middle and supervisory management were trained on these modules.

The objectives of the USAID Firms Project in improving productivity in the knitted garment sector are to:

- Improve government service delivery, and
- Develop a dynamic, internationally competitive firms to accelerate sales, investment, and job growth to undercut the basis of extremism.

The USAID Firms Project developed the methodology by evaluating factories, conducting managerial and technical modules to selected factories, exposing them to US customers, international trade forums and assist them in deploying machinery and equipment. This report contains details and outcomes of conducting managerial and technical modules to ten out of a total of twenty selected factories.

The Efficient Marker Making module had helped one SME to save 1822 kilograms of fabric, while the Production Planning and Management module demonstrated that one SME could reduce 50% of their accessories cost on sewing thread and avoid thread stocks. The Productivity Enhancement through 5S module was able to create a visible impact on safety and environment with an action plan for future improvements. The Export and Trade Marketing module identified opportunities for new market penetrations and developed action plans for the short and medium term, while the Material Resource Planning module developed action plans for proper material storage, handling and scheduling.

1. Introduction

Knitted Garment Sector in Karachi and Pakistan

The garment sector is labor-intensive and offers significant value addition opportunities for Pakistan's garment industry. In the year 2011, export of knitwear stood at 52,622,000 dozens amounting to US $19,905 Million[1].

Small and medium knitted garment manufacturers in Karachi, Pakistan, operate on a small and disorganized scale. Most factories are operating at less than seventy percent efficiency and had idle capacity over forty percent. Middle management lacks proper management and technical skills resulting in the sector's exports confined to the low end of the market. Insufficient production planning is a major cause of delayed shipment of export orders. Lapses or mismatch in process flow, results in waste of material, time and quality, thus leading to low productivity and quality issues. Many factories have closed down while some are on the verge of bankruptcy.

Other identified weaknesses[2] in the knitted garments sector are:

- High fragmentation
- Over dependence on cotton
- Low productivity
- Declining mill segment (textile mills)
- Technological obsolescence
- No-participation in trade agreements.
- Energy crisis

In the global perspective, Pakistan has lost its competition to emerging producers like Bangladesh, China, Vietnam and India.

The USAID Firms Project had developed and launched this project for improving the productivity of Knitted Garment Sector. The primary objectives are to:

- improve government service delivery, and
- develop dynamic, internationally competitive firms, and
- Accelerate sales, investment, and job growth to undercut the basis of extremism.

[1]Source :Federal Bureau of Statistics (FBS) see appendix 2 for details
[2]Source: Trade Development Authority of Pakistan (TDAP)

2. The Study

Modules selected to achieve the objectives:

To achieve the objectives of this USAID Firms funded Project, for the first phase five modules were delivered by 5 consultants from Textile Institute of Pakistan for 10 SMEs in Karachi. Details of modules and the consultants are as following:

Table 1 Consultants

Module	Consultant
Productivity Enhancement through 5 S‟	Mr. Kashif Butt
Efficient Marker Making	Mr. FakhirIjlal
Production Planning and Management	Mr. GaminiHathiringe
Material Resource Planning	Mr. Abid Anwar
Export and Trade Marketing	Mr. FariqMukhtar
Others	
Co-resource Person No.1	Mr. Ali Raza
Co-resource Person No.2	Ms. Shahina Khatri

Below table represents the statistics of the project.

Table 2 Project Statistics

Module	Participants	Factories to be Trained	No of Participants to be trained	Total training days
Productivity Enhancement through Five S‟s	Technical Staff	10	50	50
Efficient Marker Making	Technical Staff	10	40	50
Production Planning and Management	Management	10	50	30
Material Resource Planning	Management	10	20	30
Export and Trade Marketing	Management	10	30	20

3. Study Methodology

3.1. People Trained Through This Project

Table 3 People Trained

Module	Participants	Participants trained		Training days per factory	Total training days
		Male	Female		
Productivity Enhancement through Five S's	Technical Staff	54	1	5	50
Efficient Marker Making	Technical Staff	30	0	5	50
Production Planning and Management	Management	36	2	3	30
Material Resource Planning	Management	44	0	3	30
Export and Trade Marketing	Management	42	0	2	20

Total 209 participants were trained against planned 190 trainees.

I. Major achievements

Following are the immediate achievements realized in the three technical training modules of Efficient Marker Making, Production Planning and Management, and 5S.

- Efficient Marker Making(EMM)

Efficient Marker Making module had helped one SME to save 1822 kilograms of fabric, which costs PKR 728,947. SME's fabric and cost savings[3] are shown in the table below:

Table 4 EMM Results

Description	Calculation
Width in inch / layer	3
Length in inch / layer	195
(L x W) Area	(3 x 195)= 585
GSM of fabric	290

[3] *See Efficient Marker Making module for details.*

Description	Calculation
(Area x GSM / 1550) saving[4]	(585 x 290 / 1550) =109.451
Layers per cut	45
(Saving x Layers) Saving per cut	(109.451 x 45) = 4925.322
Number of cuts	370
(Saving per cut x number of cuts) Total saving in grams	(4925.322 x 370) =1,822,369.355
Grams per Kgs	1000
(Total saving in grams per kg) Fabric Saved in Kgs	(1822369.335 / 1000) =1822.369
Cost per Kg in PKR	400
Total saving in PKR	(1822.369 x 400)= 728,947.741

- Production Planning and Management(PPM)

PPM module had helped an SME in reducing sewing thread consumption. The SME's recent order of round neck basic T-shirt was selected to calculate the sewing thread consumption. The sewing thread consumption, calculated through an Ms-Excel sheet, was 140 meters per garment, while the SME's conventional techniques estimation was 280 meters per garment. It was evident that SME can reduce 50% cost of sewing thread and avoid excess thread stocks.

- Productivity Enhancement through 5S

The Productivity Enhancement through 5S, made a tangible development in the work environment of all the SMEs which lead to workers motivation and better efficiency. This was due to improved safety and less searching time of required items. Below are pre and post pictures, as evidence of the physical improvements made during the training.

Pre and Post Productivity Enhancement Training Pictures	
Before	**After**
	
	Files are properly arranged and visually

4 1 meter =39.37"and 39.37" x 39.37" = 1549.997 ~ 1550) sq. inches for square meter

Pre and Post Productivity Enhancement Training Pictures

Before	After
Cluttered office files in the Accounts department	indicating sequence.
	
Assorted patterns	Patterns – customers wise segregated
	
	Labeling for fans and tube lights
No labeling for fans and tube lights	

Pre and Post Productivity Enhancement Training Pictures

Before	After
	
Power switchboard is broken – safety hazard	Power switchboard replaced
	
Fabric were used as window blinds	Window were covered with cardboard sheets

Pre and Post Productivity Enhancement Training Pictures

Before	After
	
No proper floor marking	Floor marking
	
Walk ways not identified	Walk way marked
	
Chemical storage areas not marked	Chemical storage area marking

Pre and Post Productivity Enhancement Training Pictures

Before	After
	
No floor marking	Proper floor marking
	
Unorganized racks	Accessories arranged and sorted
	
Dust bins not placed	Dust bins labeled and placed

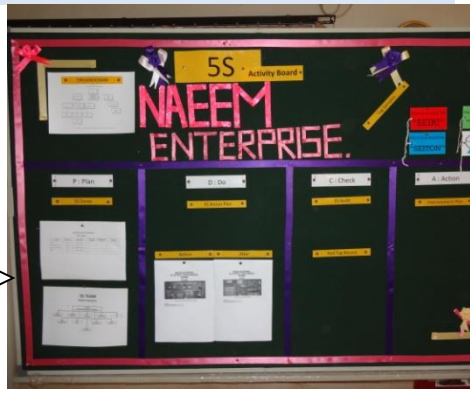
Pre and Post Productivity Enhancement Training Pictures	
Before	**After**
No 5S monitoring	 **5S Notice Board for progress monitoring**

Figure 1: Pre and Post Training Items

4. Detailed Outcome of Training Activities

4.1 Productivity Enhancement through 5S

The Productivity Enhancement through 5S is a part of the USAID Firms Project, for the development of knitted garment manufacturing sector. It is a five days training session for each SME. The sessions started form 21st Jan, 2013and concluded on 1st April, 2013. The total trainees, who have improved their skills through this USAID funded training, are 54 males. Mostly, the trainees were from the middle management cadre.

The objective of this training was to organize the workplace, improve safety, productivity and process flows, and reduce down time, rejections and defects. Employees are trained on the concept of 5S theoretically and practically by demonstrating the issues in the factory premises. Practical implementation of the concepts of 5S resulted in improving productivity. These improvements can bring tangible enhancement in the work environment leading to worker motivation and efficiency due to increased safety and minimal time in searching of required items.

The SME can reduce time consumed for searching items by sorting, disposal of un-necessary items and storing systematically. Space utilization was improved through eliminating un-necessary items and work areas. Storage was organized by labeling and assigning dedicated places for necessary items.

The training on Productivity Enhancement through 5S was divided into two parts:

- Conceptual (class room training)
- Practical (by demonstrating the issues on the factory floor and other areas).

In the first phase of training, trainees were briefed on the benefits of 5S (Japanese and English terms of 5S), for SME and the purpose of using identifications tags in 5S.

5S is a Japanese concept of eliminating wastes by proper housekeeping that contributes to errors, defects and injuries at workplace. 5S also assists in workplace organization through visual management. Furthermore, 5S is a medium to achieve business objectives by moving things faster with desired level of transparency and accuracy. The 5S concept is based on following Japanese terms:

- SEIRI (Sort) - Go through items, keep only what is needed and dispose-off what is not. Disposable items are highlighted with red tags.
- SEITON (Set in order) - Place all the items in order; it can be category wise or according to use.
- SEISO (Shine) - The cleaning process often acts as a form of inspection that exposes abnormal and pre failure conditions that could hurt quality of garments or cause machine breakdown.
- SEIKETSU (Standardize) - Develop systems and procedures to maintain the first three S's.
- SHITSUKE (Sustain) - Maintain a stabilized workplace and move forward towards continuous improvement.

The implementation of the 5S concept brings improvements in compliance and make the workplace more efficient. This is achieved by reducing machine breakdowns, defect rates, inventory damages and help the management in effective problem visualization for addressing them before they accumulate.

4.2 Efficient Marker Making

The Efficient Marker Making is a part of the USAID Firms Project, for the development of cost effective markers for knitted garment manufacturing sector. It is a five days training session for each SME that started form 21st Jan, 2013and was completed on 3rd April, 2013. The total trainees, who have improved their skills through this USAID funded training, were thirty. Mostly, the trainees were from cutting and sample departments.

The objective of the training was to ensure the awareness of the advantages of using CAD system in pattern and marker making for low consumption of fabric, through a comparison between manual and computerized systems. Participants were trained for precise drafting and measurement techniques by using CAD Gerber Accumark[5] software.

Three of the ten SMEs were using the CAD Gerber Accumark software and one was using the Assist Bulmer CAD software. However, the training was provided on Gerber Technology CAD software named Accumark software version 8.5, professional edition, designed to achieve maximum utilization of fabric in shorter time.

The first four days of training was conducted at the SME's facility. Beginning of the training, trainer delved into the current practices that the SME's employees undertook. At each SME, the trainees were taken to their pattern/sample and cutting room to analyze their process and point out the gaps in the current process. Following activities were examined:

- Pattern creation
- Pattern alteration
- Pattern grading
- Marker planning
- Marker making
- Fabric laying
- Marker cutting

During analysis, it was found that all the SMEs are creating patterns according to specifications provided by customer, with an inefficient manual technique. Base pattern was drawn on boxboard sheet, which is later graded manually to get all the required sizes. This manual and inefficient process of pattern making was carrying repetition of work and resulted in low productivity.

Those SMEs equipped with CAD software were recommended to CAD Gerber Accumark software for the pattern creation and pattern grading processes. The beneficiaries' representatives were trained on the Gerber Accumark software by using its Pattern design software (PDS) module. The PDS module facilitates the pattern master or sample master to create the patterns digitally and grades them automatically. There are multiple advantages of using PDS such as; no repletion of work, increase in productivity and secure data storage.

[5]Accumark is a trade mark of Gerber USA, making software

Other SMEs were suggested to procure the CAD software especially the Gerber Accumark software.

The SMEs without CAD system were planning markers for the optimum utilization of fabric, based on the knowledge and skills of its Pattern Master, The Pattern Master chooses the most suitable sizes and traced on fabric layer to find the gross fabric utilization, while to achieve the best possible utilization of fabric, he repeats the same process various times.

The three SMEs which were using the CAD software, were planning markers on the CAD software's marker making module. They were making the mini markers and using them for tracing, which contains intensive manual work and reduced productivity, while two of these have the plotter.

They were recommended to use the plotter and plot the full-scale markers. Later, for cutting full-scale, markers can directly be pasted or punched on the fabric layers. As a result, the tracing and mini-marker making time can be reduced to zero.

All the SMEs were using chalks to trace the patterns on marker top of fabric layers for cutting which resulted in fabric loss. Usually, the thickness of local chalk ranged between 4mm to 5mm and the imported chalks ranged between 2mm to 3mm. When tracing patterns, bothwaste approximately 1 inch fabric from each layer (given the marker is based on six patterns). The plotted full-scale markers can easily save up to 0.8-inch fabric form each layer, because it has 0.5mm thin lines to separate the one pattern from another and to accommodate the cutting machines blade.

Moreover, all these SMEs were using manual techniques for laying fabric for cutting and cutting the fabric layers through scissors. Use of scissor resulted in uneven edges and increased wastage. Therefore, the SMEs were recommended to use edge cutters instead of scissors, to control the additional waste of fabric.

At the fifth day of training session, nine SMEs were taken to the Textile Institute of Pakistan's CAD lab for the demonstration of CAD system e.g. digitizer and infinity plotter.

In one factory, there was a saving of 1822 kilograms of fabric, which costs around PKR 72,894. During the training session, a recent order of the SME was selected that of 100,000 units of three end fleece pants with required GSM of 290. This order was processed and compared with SME's fabric estimation and marker planning/making techniques. The SME was found wasting three inches of fabric per layer due to poor planning of marker.

According to the SME's staff, they required 48 inches width to get maximum utilization. However, the Accumark software were used for adjusting patterns in 45 inches width to save three inches of fabric in each layer. Numerical figures were was given in Overall Activities Performance Results section.

4.3 Production Planning and Management

Production Planning and Management (PPM) training was conducted to improve the planning and costing of knitted garment manufacturing. The PPM training was a three days session for each SME that was started from 28th Jan, 2013 and ended at 1st Apr, 2013. The total trainees who have improved skills through this USAID funded training are 42 males and one female. Mostly, the trainees were middle and top management personnel.

The major objective of this training was to minimize the production time and costs by training management on production scheduling and equipment utilization.

This training was focused on improving the existing methods of planning, capacity calculation with available resources and their deployment according to schedule, for achieving timely deliveries.

During the course of training, the concept of capacity and its allocation was briefed to the trainees. The capacity is calculated using,

- resources available per day
- production of each sewing line per day
- time taken to deliver the order
- uncertainties

The formula to find capacity in standard minutes is given by

Capacity in standard minutes = Machines x shift time in minutes x total working days per month

An exercise was conducted, wherein the trainees were asked to select one line of the factory and find its sewing capacity by using the PPM formula. It was recommended to use number of machines and working days per month.

For developing better understanding of this concept, some examples were provided to the trainees and solutions were discussed[6]

This concept of capacity calculation will facilitate the SME from order booking to order delivery. SME will search and get only those orders that it can complete and timely deliver on their available capacities. During forward scheduling the PPC officer will allocate capacities to the orders in minutes to ensure the timely deliveries.

All the SME's were advised to plan the orders based on the PPM principles. It was recommended that when the delivery date is fixed, then the backward scheduling techniques should be used. In this technique, the PPC officer will develop an activity plan, which will start from the delivery date, and ends at the order confirmation date. To reduce the lead-time and start multiple operations of an order simultaneously, CPA technique was also taught.

To avoid the sewing thread consumption issues, e.g. shortage during production or increase in thread stocks, a systematic sewing thread consumption technique was shared with trainees. They were advised to use the standard sewing thread consumption factors. Thread consumption factors are the standard numbers assigned to each machine as per its thread consumption. The formula for thread consumption is:

Thread Consumption = (Seam Length x Thread Consumption Factor) + Trim Allowance

To ensure the implementation of this concept, trainees were asked to calculate the actual sewing thread consumption by afore-mentioned formula and to avoid sewing thread shortages during production.They were advised to add 5% of the total sewing thread consumption as process wastage. It was also recommended, that only merchandising, sample or industrial engineering department should be responsible to calculate sewing thread consumption.

[6] see appendix for an example

In one SME, an order was selected of a basic round neck t-shirt. The sewing thread consumption calculated by the PPM principles was 140 meters per garment, while with the SME's conventional technique, it was 280 meters per garment. It was evident that SMEs can reduce 50% accessories cost (sewing thread) and avoid excess thread stocks.

All the SMEs were using the contractual labor for the production related activities such as; cutting, sewing, cropping, finishing etc. However, the SMEs were using the permanent employees to supervise the contractual labor and to maintain the garment quality standards.

To calculate the garment cost, the SME's management finalizes the CMT labor cost (contractual labor cost) with CMT contractor. The management negotiates CMT labor cost based on past CMT cost of similar garment and the prevailing market rates of other SME's.

The concept of calculating SMV of each product, for determining more accurate CMT cost, was introduced to the trainees. However, separate training is required to fully explain and practically demonstrate this concept to the trainees.

To take full advantage and properly implement the PPM concepts, SME needs training to determine the Standard Minute Value (SMV). The SMV is the key unit in the international trade of apparel. The standard minute value is a unit of measuring the standard time for producing garments or operations and the components of operations.

Below are the summarized findings and recommendations for SME's pertaining to PPM training.

- Most SME's did not have a dedicated production-planning officer or a production-planning department.
- Except three factories, the top management and the owners were responsible to plan the internal resources as well as outsourcing.
- In all the ten SME's, there was no concept of order scheduling and planning for the entire activities involved in an order execution.
- Only three of ten SMEs were using ERP software, but the data found was not updated. While other seven were using the paper formats to transfer and collect production related data.
- For new orders, all the SMEs were using the conventional weighing and sewing technique, for calculating the sewing thread consumption. In the case of repeat orders, SME's apply the same sewing thread consumption values that were used in previous orders.
- Three SME's did not have any production activities due to various reasons; some of the reasons are waiting for orders, material delays and not having knitted garments manufacturing.
- Except three SME's, others did not have inline quality control system. These inline quality points help the SME to control the quality at critical points.

The recommendations were made for each factory separately by keeping their need and financial status in mind.

- Some of the SME's were recommended to establish a production planning and controlling department. While others were recommended to hire a dedicated production planning and controlling officer.
- The PPC officer to be responsible to plan all the internal resources, and develop action plans by assigning the dates and production capacities to an order or multiple orders.

- To reduce the lead time of an order and to process multiple orders simultaneously, it was recommended to use critical path technique.
- The three SMEs having ERP software were advised to update the data regularly. While, others were provided a DPR (an excel sheet to collect and compare the production and quality data) and recommended its implementation.
- For sewing thread consumption, a Microsoft Excel sheet was provided to the most of the SME's, while some were given the format to calculate the sewing thread. However, in either case, the standard sewing thread consumption factors were shared with them and they were advised to use it for all upcoming orders.
- The SME's were advised to overcome their strategic problems with the help of consultants and USAID Firms. They should obtain new orders or plan all the resources to ensure regular production.
- To maintain consistent quality, the SME's were suggested to establish the inline quality checkpoints at the critical operations.

As a result, of this training, the SMEs will be able to employ new methods for the:

- Development of control systems for improving production and quality to assess risk and take preventive measures.
- Costing of garments by using systematic approach to calculate materials and CMT cost.

4.4 Material Resource Planning

The Material Resource Planning is a module of the USAID Firms Project, for the development of knitted garment manufacturing sector. It is a three days training session for each SME that started form 23rd Jan, 2013 and completed on 6th Apr, 2013. The total trainees, who have improved their skills through this USAID funded training, are 44.

The objective of this training was to develop SME's competence in material requirements planning. As a result, of this training, the SME's management will be able to schedule and place orders for dependent demand and improve supply chain management to ensure timely deliveries.

At all the SMEs, to enhance the understanding of MRP concepts, an activity was performed and the trainees were asked to select their recently shipped order. The selected order was used to find the required materials for its completion. Then, the dependent demands were identified and materials were scheduled.

As a result, of this activity, the trainees analyzed their mistakes in their actual material planning and ordering. This activity has also encouraged trainees to maintain the safe inventory levels (minimum required quantities for uninterrupted production).

The final day of the training was allocated for the evaluation of SMEs material handling processes. During the evaluation, the issues were highlighted and solutions were recommended to the SMEs trainees.

Mostly, in the accessories store, some accessories (buttons, threads etc.,) were placed in racks; however, they were not sorted. The material identification and stock cards were mostly missing. The SME's store officer was, recommended to maintain the stock card (a card that will identify the quantities and status of that particular item).

All the SMEs were using manual techniques and labor to transport materials from one department to another (either hand carried or through trolleys). This results in low efficiency, more time consumption, high running cost and material accumulation. Thus, the SMEs were recommended to store materials on pallets and use hydraulic trolleys to transport pallets in various departments. One hydraulic trolley can lift and transport upto5 tons of material by employing only one person.

4.5 Export and Trade Marketing:

The Export and Trade Marketing is a module of the USAID Firms Project, for the development of knitted garment manufacturing sector. It is a two days training session for each SME that started form 21st Jan, 2013 and was concluded on 29th Mar, 2013. The total trainees, who have improved their skills through this USAID funded training, are 36.

The objectives of the training were to ensure that trainees:

- Understand US & EU markets, and
- Acquire complete knowledge and understanding of export documentation

The Export and Trade Marketing Module will enable the SME to recognize and build on its strengths and overcome any shortcomings, in order to ensure business development. We assisted the SME to develop an action plans based on SWOT analysis for implementation in the short and medium term.

Key findings and recommendations proposed in the EXM training are:

Findings:

- In five SMEs web site was under construction
- Mostly export orders were obtained through buying agents.
- All the ten SMEs were concerned with high overheads and low profit margins.
- Nine SMEs were concerned with lack of regular orders and keenly interested in exploring new customers in existing markets and exploring new markets.
- Eight SMEs did not have committed and experienced marketing professional for business development.
- US was the major export market for most SMEs, whilst some are also exporting to a few EU markets. No SME had considered exploring South America, Asia and Middle East.
- None of the SMEs had considered offering design options to customers
- Only three SMEs were participating in International Trade Fairs and Exhibitions
- Only three SMEs showed interest in tapping the local market, out of which only one had progressed development of a feasibility study.

Recommendations:

- The SMEs were encouraged to develop the web-site urgently, since it is the first impression for customers of the professionalism of an SME as a reliable supplier. Besides, the web-site is a cost effective promotional resource for highlighting the capabilities, endorsements of satisfied customers and showcasing quality and unique products.

- The SMEs were advised to contact buyers directly. Consulates, trade directory listings of importers, etc., are useful resources for identifying and approaching potential customers. This will help the SMEs obtain better prices by eliminating the buying agent commission
- It was recommended to benchmark overheads with the best run similar firms in the industry. Since EU offered higher prices, it was suggested to identify and tap EU markets and (or) increase its share of total exports.
- Eight of the ten SMEs did not have a dedicated marketing professional for business development. Most SMEs had entrusted the task to the owner or to less qualified and experienced staff. The SMEs were advised to employ dedicated and experienced marketing professional for growing the business.
- In addition to employing a dedicated marketing person, the SMEs were encouraged to explore new customers in the existing export markets and pursue new markets in EU, South America, Asia and Middle East. Based on resources and interest of SMEs and participants, new markets were identified for each SME for further exploration
- For obtaining better prices, regular orders and meeting expectations of customers the SMEs were advised to offer design options in both fabric and garments. Engaging services of designers on part time basis was recommended, as a first step.
- The non-participating SMEs in International Trade Fairs and Exhibitions, due financial constraints, were advised to do so as observers, without having to set up stalls.
- The SMEs were suggested to explore the local market, since the large enterprises have had enormous success, as evidenced by the growth of local brands from less than ten to over one hundred and seventy five in the last five years.

The SMEs were provided guidance for identifying specific tasks for implementation in the short and medium term. This exercise was undertaken on the basis of SWOT analysis, with the objective of developing action plans, compatible with financial and human resources.

Separate action plans were developed for each SME with full participation and agreement of trainees. Specific and time bound development plans were made in the following areas:

- Products
- New export markets
- Approaching buyers directly
- Employing dedicated and experienced marketing manager
- Participation in International Trade Fairs and setting up pre-planned objectives for maximizing benefits
- Tapping local markets

The SMEs identified new products for development and specialization. Most of the SMEs were keen to specialize in basic t-shirts. They were recommended to also consider value added sports t- shirts for colleges and clubs. Six SMEs agreed for the latter due to better prices and less competition from other suppliers.

The SMEs were also advised to add woven garments, especially denim shorts, trousers etc. The trainees agreed to present this proposition to the top management and reach a decision by year end.

Moreover, the opportunity of recommending design options to buyers, in both fabric and garments, was also included as an objective for finalization latest by December 2013.The benefits are better prices and improved margins. Also, the competitive edge will be difficult for prospective buyers to ignore, as this is not a practice in most similar SMEs.

For identifying suitable new markets in EU, TDAP, ITC; US and EU commercial Department's websites were researched in detail to determine the export trends of selected items, in the last 3-5 years. Competition export trends were also considered in these markets to assess the probability of success. Country reports on the apparel sector of these countries were also evaluated.

New markets were identified in EU, South America, Asia and the Middle East for further exploration and finalization in specified periods. Also, new customers in existing markets were agreed for progress on specified dates.

Nine of the ten SMEs were obtaining orders from buying agents. The SMEs were recommended to benefit from Consulates and trade directory listing for identifying and approaching customers directly, both in the existing and new markets. The advantage is better prices and developing rapport with customers, as the buying agent will be eliminated.

All the ten SMEs had idle capacity, ranging from 30 percent to 50 percent. One SME had orders for only 18 machines out of a total of 300 machines, since the last six months. The SMEs were advised to immediately employ dedicated and experienced marketing professional for obtaining large and regular orders. In five SMEs, business development was pursued by the owner single handedly. The owners were also overseeing other operations of the business and were not able to give the required time for business development. In three SMEs, business development was entrusted with inexperienced and unsuitable staff.

Seven SMEs were not participating in International Trade Fairs and Exhibitions, some due to financial constraints and others because of lack of appreciation of the benefits. These SMEs were recommended to participate, initially, as observers. The importance of setting up objectives, like number of meetings with prospective customers, and subsequent enquiries, was emphasized to measure cost-benefit of participation. Participation was thus included in action plans, subject to top management approval

Three SMEs included exploring local market as an action plan by 2014. Six others, though they did not specify period in the action plans, promised to take it up with the top management, only one SME was not inclined to consider tapping the local market.

5. Conclusion

The first phase of productivity improvement program sponsored by USAID Firms was successfully completed by covering all modules. The project was to develop SMEs in knitwear sector in Karachi, Pakistan with marketing, technical and industrial management approaches. The project utilized 5 consultants, one each in Efficient Marker Making, Productivity Enhancement through 5S, Production Planning and Management, Export and Trade Marketing, and Material Resource Planning.

There had been immediate improvements in most modules to increase the productivity of the SMEs. Further improvements are expected in due course.

Out of the 10 factories, Makda and Sylvana factories will not be recommended for upcoming productivity enhancement through line management & lay out efficiency and planning module due to unavailability of relevant staff, and systems. Bills also requested not to conduct the above training as they need to continue the current system.

There were slight delays in implementing the plan due to law and order situation in the city at the time of delivery.

Throughout the training, [redacted] was very keen in all aspects and was highly cooperative. TIP appreciates and is thankful for the cooperation extended by other SME's as well.

6. Appendices

Appendix 1 - Example for Capacity calculation in PPM

If there are 10 machines, shift time is 8 hours and 24 total working days for a month, the capacity in standard minutes,

= 10 x (8 x 60) x 24= 10 x (480) x 24= 115,200 minutes (excluding allowances)

Appendix 2 References

- *Federal Bureau of Statistics (FBS) data;*

STATEMENT SHOWING EXPORTS OF SELECTED COMMODITIES DURING THE MONTH OF JUNE, 2013

VALUE = (RUPEES IN MILLION)
(U.S DOLLARS IN THOUSAND)

SL. NO.	COMMODITIES	UNIT	* JUNE,2013			* MAY,2013			JUNE,2012			% CHANGE IN JUNE,2013 OVER					
			** QUANTITY	VALUE		** QUANTITY	VALUE		QUANTITY	VALUE		* MAY,2013 QUANTITY	* MAY,2013 VALUE		JUNE,2012 QUANTITY	JUNE,2012 VALUE	
				RUPEES	DOLLARS		RUPEES	DOLLARS		RUPEES	DOLLARS		RUPEES	DOLLARS		RUPEES	DOLLARS
B	TEXTILE GROUP	-		112,036	1,136,504		116,858	1,187,896		101,677	1,060,344	-	-4.13	-4.33	-	10.19	5.20
	13.RAW COTTON	M.T	4,321	705	7,152	5,009	831	8,447	2,431	340	3,613	-13.74	-15.16	-15.33	77.75	107.35	97.95
	14.COTTON YARN	M.T	60,346	18,403	186,682	61,951	19,318	196,373	53,876	15,590	165,645	-2.59	-4.74	-4.93	12.01	18.04	12.70
	15.COTTON CLOTH	TH.SQM	143,883	22,014	223,312	158,665	23,962	243,581	181,835	19,554	207,763	-9.33	-8.13	-8.32	-20.87	12.56	7.48
	16.COTTON CARDED OR COMBED	M.T	30	5	51	40	6	61	0	0	0	-25.00	-16.67	-16.39	100.00	100.00	100.00
	17.YARN OTHER THAN COTTON YARN	M.T	1,164	408	4,139	844	277	2,816	1,279	398	4,226	37.91	47.29	46.98	-8.99	2.51	-2.06
	18.KNITWEAR	TH.DOZ	11,595	18,614	186,822	11,549	17,722	180,149	9,334	17,095	181,638	0.40	5.03	4.81	24.22	8.89	3.96
	19.BED WEAR	M.T	22,763	15,000	152,161	24,366	16,048	163,133	21,678	13,768	146,293	-6.58	-6.53	-6.73	5.01	8.95	4.01
	20.TOWELS	M.T	12,950	5,829	59,130	15,545	7,053	71,696	13,953	6,183	65,701	-16.69	-17.35	-17.53	-7.19	-5.73	-10.00
	21.TENTS,CANVAS & TARPULIN	M.T	3,997	1,415	14,354	2,821	993	10,094	3,136	1,017	10,809	41.69	42.50	42.20	27.46	39.13	32.80
	22.READYMADE GARMENTS	TH.DOZ	2,641	16,908	171,516	2,665	16,950	172,302	2,668	14,635	155,500	-1.64	-0.25	-0.46	-1.01	15.53	10.30
	23.ART,SILK & SYNTHETIC TEXTILE	TH.SQM	19,758	3,649	37,016	24,608	4,454	45,276	42,930	4,493	47,742	-19.71	-18.07	-18.24	-53.98	-18.78	-22.47
	24.MADEUP ARTICLES(EXCL.TOWELS BEDWEAR.)	-		5,203	52,780		5,727	58,217		5,379	57,151	-	-9.15	-9.34	-	-3.27	-7.65
	25.OTHER TEXTILE MATERIALS	-		3,863	39,389		3,517	35,751		3,225	34,263	-	10.41	10.18	-	20.40	14.96

Trade Development Authority of Pakistan (TDAP

www.wikipedia.com.

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