



Pre-feasibility Study

HOSIERY KNITWEAR UNIT

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“The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA’s website and consult financial experts to stay current with market conditions”

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

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1. DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on, as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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Document Control

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2. EXECUTIVE SUMMARY

Salaat, known as 'Namaaz' in Urdu, is an obligatory prayer for the Muslims. It has to be practiced by the Muslims five times a day, in mosques or homes on a clean surface. A prayer mat, known in Urdu as 'Jai-Namaaz' or 'Musallah' is thus a necessary item in every Muslim home. Prayer mats are made in large variety of fabrics, designs, textures and colors. The rug making craft flourished under the Ottoman, Safavid, and Mughal dynasties.

Over time, the yarn used for making prayer mats have transitioned from wool to cotton and then to manmade fibers. This transition has allowed cheaper production of more comfortable and affordable prayer mats. Over the years, the use of rug for prayer has increased, compared to its use as an item of décor.

Generally, the prayer rugs are manufactured in a square or rectangular shape with geometric and other colorful designs. There are no special rules for Muslim prayer mats other than these must be rectangular and made with four sides.

There are different types of prayer mats depending upon the manufacturing process, raw materials and design features. Some types of prayer mats include traditional wool mat, mesh cotton mat, jute prayer rug, silk prayer rug, oriental prayer mat, Turkish prayer mat, Persian prayer mat, padded prayer mat and Sisal prayer mat.

This "Pre-feasibility Document" provides information for setting up a "Manufacturing Unit of Prayer Mats" which produces prayer mats of two sizes. The first one is of small size of 42-inch length and 24-inch width. The other one is of large size of 45-inch length and 27-inch width. The business sells these prayer mats in the local wholesale market.

The unit is proposed to be ideally located in metropolitan cities like Karachi, Lahore, Islamabad, and other cities with sizeable shares of population, such as Faisalabad, Rawalpindi, Peshawar, Quetta, Hyderabad, Multan, Gujranwala, etc. These cities are suitable due to the presence of large populations and large number of mosques and other Islamic centers. These cities also offer availability of required resources, good infrastructure and qualified and skilled manpower.

The proposed manufacturing unit of prayer mats operates in a single shift of 10 hours a day for 300 days in a year. Further, it is assumed that the operational capacity utilization of the proposed manufacturing unit of prayer mats will be 60% during the first year of its operations. The capacity will increase at the rate of 5% per annum to reach the maximum capacity of 90% in the 7th operational year. The manufacturing unit of prayer mats will manufacture two different sizes of prayer mats which include a small size of prayer mat of (L*W) 42*24 inches and a large size of prayer mat of (L*W) 45*27 inches. These prayer mats will be sold in wholesale market in a standard packaging of 50 pieces per sack. Thus, the capacity can be expressed in terms of number of sacks of 50 prayer mats. As per the assumptions of the project, at the maximum capacity, the manufacturing unit will produce 97,500 prayer mats of size of 42*24 inches per annum which will be transferred into 1,950 sacks of 50 prayer mats

per annum and 58,500 prayer mats of size of 45*27 inches per annum which will be transferred into 1,170 sacks of 50 prayer mats per annum.

The initial year service capacity of the proposed manufacturing unit of prayer mats is assumed to be 60% which will produce 58,500 prayer mats of size of 42*24 inches per annum which will be transferred into 1,170 sacks of 50 prayer mats per annum and 35,100 prayer mats of size 45*27 inches per annum which will be transferred into 702 sacks of 50 prayer mats per annum.

The proposed manufacturing unit of prayer mats will be set up in a rented building with an area of 3,150 square feet (14 Marla). The proposed business requires a total investment of PKR 18.63 million. This includes capital investment of PKR 14.48 million and working capital of PKR 4.15 million. The project will be established using 100% equity financing. The Net Present Value (NPV) of project is PKR 72.7 million with an Internal Rate of Return (IRR) of 72% and a Payback period of 2.17 years. Further, this project is expected to generate Gross Annual Revenues of PKR 59.03 million during 1st year, Gross Profit (GP) ratio ranging from 33% to 57% and Net Profit (NP) ratio ranging from 8% to 41% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 41% (1,280 sack of 50 pieces) with annual breakeven revenue of PKR 40.37 million.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed business provides Net Present Value (NPV) of PKR 87.30 million, Internal Rate of Return (IRR) of 71% and Payback period of 2.21 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 7% to 41% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 42% (1,323 sack of 50 pieces) with breakeven revenue of PKR 41.72 million.

The proposed project will provide employment opportunities to 32 people, working in a single shift of 10 hours each during 300 days in a year. High return on investment and steady growth of business is expected to the entrepreneur having some prior experience or education in the related field of business. The legal business status of this project is proposed as "Sole Proprietorship" or "Partnership" concern.

3. INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with the objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectorial research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need-based capacity building programs of different types in addition to business guidance through help desk services.

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

4. PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in setting up a "Manufacturing Unit of Prayer Mats" by providing a general understanding of the business with the intention of supporting them in investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business setup and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of any investment decision.

5. BRIEF DESCRIPTION OF PROJECT & PRODUCTS

Salaat, known as 'Namaaz' in Urdu, has to be practiced by the Muslims five times a day, in mosques or homes, on a clean surface. Muslims use prayer mats for offering daily prayers in mosques and in their homes or work places. A prayer mat is spread on the ground to ensure the cleanliness required for the worshipper during the prayer. A prayer mat also offers comfort to the person offering Namaaz. A prayer mat is thus an important item in any Muslim household and constitute an important part of Islamic

culture. Prayer mats are also sometimes known as prayer rugs. In Arab World, prayer mat is known as Sajjādat aṣ-ṣalāt, while the Urdu/Persian equivalent is Jai-Namaz. In the early days of Islam, Muslims used to pray on a mat made of palm frond (leaf of a plan tree). With the passage of time, palm fronds were replaced with prayer mats made from weaving process.

Prayer mat rug is made in the shape of a vertical rectangle, usually with a woven arched doorway, (mehrab) which marks the direction of the qibla. Prayer mats usually have pointed arch, supported by columns on either side, in different variations. All these designs help in increasing the appeal and beauty of the prayer mats. The prayer mat industry flourished under the Ottoman, Safavid and Mughal dynasties and these were traded to Europe and the Far East.

Today, it is easy and affordable to buy a prayer mat, because mass production has reduced their cost. These are made in large variety of colors, ranging from yellow, green, blue, red, black and white, to an infinite combination of shades. The designs range from the most basic mihrab design to complex geometric and colorful designs. There are variations also with respect to lengths and widths. Prayer mats need to be compact enough and light enough to be carried easily during travelling. During recent past, COVID-19 has also acted as a factor to increase the demand for personalized prayer mats, since people going to mosques prefer to take their own prayer mats to the mosques for prostrating safely.

In the proposed project, business produces two sizes of prayer mats. The small size has a length of 42 inches and a width of 24 inches, while the large size has a length of 45 inches and width of 27 inches.

Types of Prayer Mats

Prayer mats come in many different styles, materials and shapes.

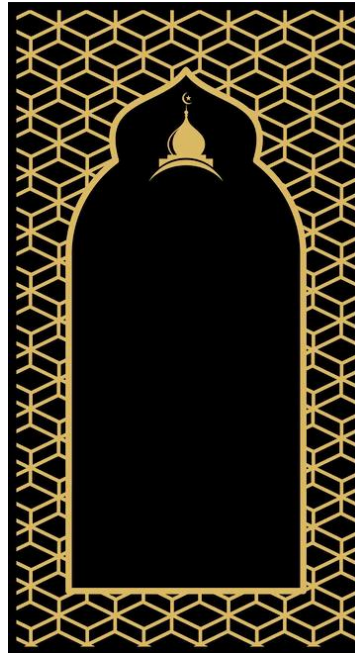
- With respect to manufacturing style, prayer mats can be classified into Modern, Turkish, Persian, Vintage, Geometric, Mamluk and other styles.
- With respect to manufacturing material, prayer mats can be classified into Wool, Jute, Silk, Cotton, Polypropylene and Polyester types.
- With respect to shapes, prayer mats can be classified into Round, Runner, Square and Rectangular shapes, with rectangular shape being the most common.

Different types of prayer mats with respect to styles, materials and shapes are described below:

Geometric Prayer Mat

These prayer mats are usually decorated with many beautiful geometric patterns and shapes. They are sometimes even decorated with images which are usually important Islamic landmarks. These are traditional and in-demand style of prayer mats in the Muslim world. Figure 1 shows geometric prayer mat.

Figure 1: Geometric Prayer Mat



Silver Oushak Prayer Mat

Oushak rugs, also known as Ushak rugs, are woven in Western Turkey and have distinct designs, such as angular large-scale floral patterns. In 21st century, with the changing lifestyles, there are now prayer mats that have been modified to cater to the needs and health concerns, taking care of the worshipper's comfort of his knees and back. Oushak is rated as a comfortable and stylish prayer mat. Figure 2 shows silver oushak prayer mat.

Figure 2: Silver Oushak Prayer Mat

Oriental Prayer Mats

Oriental prayer rugs are typically made with wool and have an intricate, artistic design. These types of rugs look great in any room space and can be very expensive depending on the mat's size. Oriental style is one that has been around for hundreds of years, so it provides a traditional feel. Figure 3 shows oriental prayer mats.

Figure 3: Oriental Prayer Mats

Sisal Prayer Mats

Sisal prayer mats are made from plant fibers and are most popular in the Western countries. They are durable, environmentally friendly, affordable, and come in a variety of colors. Using this natural fabric as a prayer rug is a great way to bring natural textures into one's living space. Figure 4 shows sisal prayer mat.

Figure 4: Sisal Prayer Mats



Traditional Wool Prayer Mat

This type often does not have any fringes, although these are the most expensive type of prayer rug. The wool is often hand-spun and knitted by the weaver, which may take months to complete one piece. The mats are made in a wide variety of colors with intricate patterns woven into them. Figure 5 shows traditional wool rug.

Figure 5: Traditional Wool Rug



Mesh Cotton Prayer Mat

This type of prayer mat is made with a cotton cloth, woven into the shape of the mat. These are usually not as detailed or ornate as wool rugs and can be more affordable than traditional ones. This type of prayer mat gives a light, airy feel and can also be used for other purposes outside of prayer. Figure 6 shows mesh cotton prayer mat.

Figure 6: Mesh Cotton Prayer Mat



Jute Prayer Mat

A prayer rug made of jute is also popular for praying. These are usually made in one piece without any seams and can be designed to look like traditional rugs with floral patterning or more modern, geometric patterns. These prayer rugs do not have a soft feel, but these are inexpensive and easy to clean. Figure 7 shows jute prayer mat.

Figure 7: Jute Prayer Mat**Silk Prayer Mat**

Silk prayer mats are one of the most luxurious types and can provide a soft, comfortable surface to pray on while also providing an elegant look. These typically have simple patterns or designs and come in many different colors from light blue to dark red. Although, these Silk Rugs are more expensive and difficult to clean but these are stylish and add comfort. Figure 8 shows silk prayer mat.

Figure 8: Silk Prayer Mat

Polyester Prayer Mat

Polyester prayer mat is made of polyester yarn. These prayer mats are cheaper but have a strong and high tendency to resist tear and wear. Usually, people prefer soft stuff and a rich on-trend color. These mats are made of polyester, are thick and soft and are used very commonly. In the proposed project, business is manufacturing polyester made prayer mats. Figure 9 shows polyester prayer mat.

Figure 9: Polyester Prayer Mat



Due to large variety in prayer mats' styles, colors, materials and shapes, the business has to choose the most suitable and preferable combination, as per the market demand. In the proposed project, business makes polyester prayer mats by using different color variations in yarn. Business uses design punch cards into jacquard loom to create different pattern of prayer mats.

For preparation of prayer mats weaving process is used. Weaving is a textile production process in which two distinct sets of yarns are interlaced at right angles to form a fabric. Other methods to produce fabric are knitting, crocheting, felting, and braiding. The machine used for weaving is called a loom.

A loom is a machine used for weaving yarn into fabric. Looms can range from very small hand-held frames, to large free-standing hand looms, to huge automatic mechanical devices. The basic purpose of any loom is to hold the warp threads under tension to facilitate the interweaving of the weft threads. The precise shape of the loom and its mechanics may vary, but the basic function remains the same. There are two main types of looms, shuttle and shuttle-less looms. However, in proposed project business is using shuttle power loom to perform the weaving process of prayer mat.

A shuttle loom is a conventional loom type. In a shuttle loom, shuttle carries the weft yarn through the warp yarn shed to form interlacement to produce fabric in the weaving process. The advantages of the shuttle loom are as follows:

- Firstly, shuttle loom is a more economical than shuttle less loom and easy for small business to acquire and start production.
- Secondly, it is suitable for low scale production type industry.
- Thirdly, it is easy to operate and does not require much automation or technical knowledge.
- Lastly, spare parts are easily available in the market.

Polyester Yarn

Polyester yarn is obtained by melt spinning from a polymeric thermoplastic material. It has a low moisture absorption percentage and is sensitive to chlorinated detergents. Polyester yarn has a high color-ability and for this reason, polyester mats have a good color and glaze. High tenacity¹ and low shrinkage make polyester yarn a very important raw material for today's textile industry.

Polyester fiber is one of the most used commercial fibers across the world. Yarns are commercially used interlocked fibers of continuous length, majorly used for weaving and knitting. The polyester yarn is one of the finest and synthetic yarns that are used for various purposes like embroidery, sewing, knitting, weaving and others. The polyester yarns brought a revolution in the global textile industry.

Prayer mats may be made from Wool, Silk or Cotton, but these raw materials are expensive as compared to polyester and have lower tendency to remain intact from being worn down. The proposed business uses polyester yarn to manufacture two sizes of prayer mats, a smaller 42 inch by 24-inch mat and a larger, 45 inches by 27-inch mat. Polyester yarns of different colors are used for different purposes in prayer mat production unit. A combination of colors mix is used for main product manufacturing and for overlocking and lacing of prayer mats. Polyester yarn has the yarn count range² of 200 Ne (as the count of yarn increases, the yarn becomes finer). Figure 10 shows polyester yarn.

¹ the quality or fact of being able to grip something firmly; grip.

² It is a number that indicates the length per unit weight or weight per unit length of yarn

Figure 10: Polyester Yarn**Black Cotton Yarn**

Combed or polyester cotton is a softer version of regular cotton. It is made by further treating the cotton fiber after it has been picked and spun into yarn. Because of the added work and higher quality, that is added to the cotton, combed cotton is usually more expensive and more durable than regular cotton. Cotton yarn has the yarn count of 60 Ne. In the proposed project, business will use black combed cotton yarn to make prayer mat. Figure 11 shows black cotton yarn.

Figure 11: Black Cotton Yarn

During production process of prayer mats, yarn waste is produced at different stages of process which is sold in market to earn revenue.

5.1. Machinery and Equipment's

Machinery and equipment required for the proposed manufacturing unit for prayer mats are described as follows:

16 Spindle Yarn Winder Machine

In the proposed project, 16 spindle winding machines are used to wrap³ the yarn on bobbin. The machine has the spindle speed of 1,600 RPM. It can wrap yarn on 16 cone shaped bobbins in almost 5-10 minutes at once. The machine body operate as a single unit, giving stability and reducing noise and vibration. The position control sensor checks that bobbins are attached in correct position.

The machine is equipped with a touch-sensitive screen interface for programming and adding changes. The control panel is equipped with start, run and emergency stop buttons, safe and easy to use. Through the computer interface it is possible to create and edit programs. It has an electricity consumption of 120 watts per spindle and a total of 1,920 watts. Figure 12 shows 16 spindle yarn winders machine.

Figure 12: 16 Spindle Yarn Winder Machine



Shuttle Power Loom Machine

A shuttle is a tool designed to neatly and compactly store a holder that carries the thread of the weft yarn while weaving with a loom. The main components of the loom are the warp beam, heddles, harnesses, shuttle, reed, and take-up roll. In the loom, yarn processing includes shedding, picking, battening and taking-up operations.

Shedding is the raising of the warp yarns to form a loop through which the filling yarn, carried by the shuttle, can be inserted. The shed is the vertical space between the raised and unraised warp yarns. On the modern loom, simple and intricate shedding operations are performed automatically by the heddle or heald frame, also known as a harness. This is a rectangular frame to which a series of wires, called heddles or healds, are attached.

Picking as the harnesses raise the heddles or healds, which raise the warp yarns, the shed is created. The filling yarn is inserted through the shed by a small carrier device

³ wrap is to enclose or coil around an object or organism, as a form of grasping

called a shuttle. The shuttle is normally pointed at each end to allow passage through the shed. In a traditional shuttle loom, the filling yarn emerges through a hole in the shuttle as it moves across the loom. As the shuttle moves back and forth across the shed, it weaves an edge, or selvage, on each side of the fabric to prevent the fabric from raveling.

Battening as the shuttle moves across the loom laying down the fill yarn, it also passes through openings in another frame called a reed (which resembles a comb). With each picking operation, the reed presses each filling yarn against the portion of the fabric that has already been formed.

In proposed project, power loom is used to manufacture prayer mats. It has automatic shuttle changing mechanism. It has reed width of 56 inch and can operate at speeds of about 960 RPM. It has an electricity consumption of 4,000 watts. Figure 13 shows shuttle power loom machine.

Figure 13: Shuttle Power Loom Machine



Mechanical Jacquard Machine

The Jacquard attachment is an automatic selective shedding device, that is mounted on top of the power loom and every warp yarn runs through a loop in a controlling cord, held by a weight. Each cord is suspended from a wire (hook) that is bent at the bottom to hold the cord and bent at the top in order to hook around the blades of the Griff (the lifting mechanism). To allow only those warp threads that are needed to form the pattern to be raised, some hooks must be dislodged from the rising Griff. This is accomplished by horizontally placed needles connected to the hooks. As the perforated pattern card moves into place on the cylinder (which is a quadrangular block), the needles pass through the holes in the card, and the warps are raised; where there are no holes, the needles are pushed back (by a spring action on the opposite

end of each), pulling the hooks away from the rising Griff bar, and the warps are not raised. Jacquard shedding is able to produce complex designs because of its ability to control each yarn individually. Mechanical jacquard is one of the most common jacquards used with various power or rapier looms. It is mostly used in jacquard weaving of silk, supplying various styles and designs such as curtain, textile fabric, scarf, rugs and towel. It has a speed of 90-180 RPM. Its working transmission mechanism is based on chain type. It has an electricity consumption of 3,500 watts. Figure 14 shows mechanical jacquard machine.

Figure 14: Mechanical Jacquard Machine



Brushing Machine

Brushing is a finishing process used to raise the surface fibers of a fabric. The fabric undergoes a mechanical brushing process in which fine, metal brushes carefully rub the fabric to produce fine fibers from the woven yarns, creating extra softness on the surface of the fabric. In the proposed project, brushing machines are designed to clean fabrics with loose, suspended fibers and fluff on back side of prayer mat. It has an electricity consumption of 2,800 watts. Figure 15 shows brushing machine.

Figure 15: Brushing Machine**Shearing Machine**

In the proposed project, the function of a shearing machine is to cut the pile (or the yarn), present on a prayer mat surface, at a constant level of length. This function is used to shorten and equalize the length of a raised fabric to create more space for a subsequent raising. The fabric speed and fabric tension are controlled by inverters, which offer easy adjustment and assures reliable quality. The shearing depth can be adjusted electrically. In this machine, there are four spiral spreading rollers to eliminate any curled fabric edge. It has an electricity consumption of 2,500 watts. Figure 16 shows shearing machine.

Figure 16: Shearing Machine

Overlocking Machine

An overlocking machine is a type of sewing machine that uses multiple threads to stitch fabric while also overcasting to cover raw edges. In the proposed project, overlocking machines are used to stitch the raw edges of prayer mats. Overlocking machine is fitted on the table so that the operator can easily manage and controls its functions. It has an electricity consumption of 700 watts. Figure 17 shows overlocking machine.

Figure 17: Overlocking Machine



Lacing Machine

Lace is a delicate fabric made of yarn or thread in an open web like pattern, made by machine or by hand. In the proposed project, lacing machine is used to lace the prayer mat. Lacing machine is fitted on the table so that the operator can easily manage and controls its functions. It has an electricity consumption of 750 watts. Figure 18 shows lacing machine.

Figure 18: Lacing Machine



Warping Creel

Warping Creel is a simply a frame on which the feeding thread or yarn bobbin is fitted in weaving process. Creel is a frame of round or square section pipes and iron channels. The bobbin holders are arranged in vertical columns on both sides of the creel, 20 columns of bobbin holders are on both sides of creel. The creel of sectional warping contains 12 rows on each side. The number of columns varies according to the requirement of creel capacity. The proposed project uses Warping Creel of capacity of 240 (20*12) bobbin holder on each side and a total of 480 bobbins on both sides. The threads are shifted to creels from the bobbins from winder systems. A yarn guide and a tensioner are provided in the creel for each warp end. The yarn coming from the bobbins passes first through the yarn guide and then through the yarn tensioner. There are three Warping Creels supplying yarn to loom and three are at reserve to minimize lead time. Figure 19 shows warping creel.

Figure 19: Warping Creel



5.2. Consumables

Consumables required for the project are as follows:

Warp Beam

The warp beam, which holds the warp yarns (taana), is located at the back of the loom and is controlled so that it releases warp yarns to the weaving area of the loom as needed. It has width of 1400 mm which match with the loom width of 56 inches. Warp beam has the diameter of 600mm. Business will outsource this process. Figure 20 shows warp beam.

Figure 20: Warp Beam**Polypropylene Woven Sacks**

Poly sacks are made of polythene and are used for packaging various types of products. In proposed project, it will be used to pack 50 pieces of prayer mats per sack. Figure 21 shows polypropylene woven sacks.

Figure 21: Polypropylene Woven Sacks**Harness Cords for Jacquard Machine**

The shaft or harness is the frame of the loom that holds the warp threads. These shafts can be moved up or down by “treadles” to allow the weft to cross through and create the desired pattern. Harness cords are the crucial part of a Jacquard weaving machine. It functions as the lifting part of a Jacquard weaving machine, thus enabling the wonderful and complicated patterns to weave with this technique. The Jacquard

loom has only single harness with at least one heddle attached to each hook. Figure 22 shows harness cords for jacquard machine.

Figure 22: Harness Cords for Jacquard Machine



Design Punch Cards for Jacquard Machine

A punch card is a simple piece of paper stock that can hold data in the form of small punched holes, which are strategically positioned to be read by computers or machines. Jacquard loom has an attachment in which a series of punched cards (one for each row of the weave) control the threads raised in producing the pattern. Figure 23 shows design punch cards for jacquard machine.

Figure 23: Design Punch Cards for Jacquard Machine



Bobbins for Yarn Wrapping

Knitting bobbins are little plastic frames that allow yarn to be wrapped round and hang securely to a little hook. Figure 24 shows bobbins for yarn wrapping.

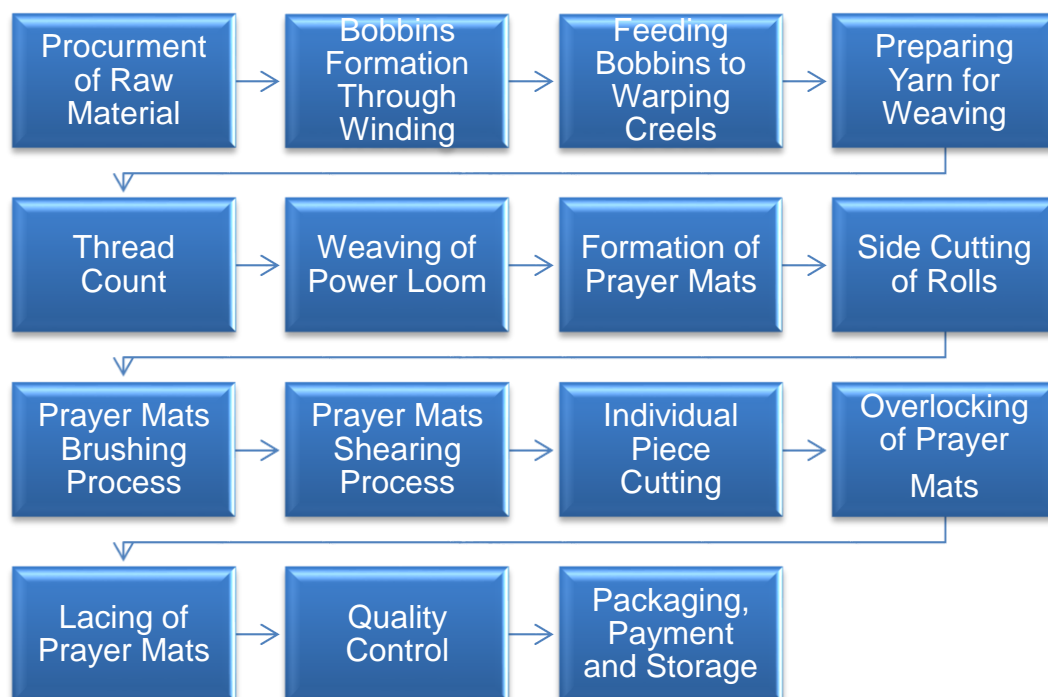
Figure 24: Bobbins for Yarn Wrapping



5.3. Process Flow for Manufacturing Unit of Prayer Mats

A general process flow of a manufacturing unit of prayer mats is shown in Figure 25.

Figure 25: Process Flow for Manufacturing Unit of Prayer Mats



Brief description of process flow is as follows:

Procurement of Raw Material

In this step, the business will procure material required for making prayer mats. The material includes polyester yarn, black cotton yarn and other consumables. These materials can be easily procured from local market (Lahore, Gujranwala, Peshawar and Karachi etc.) through trusted suppliers having a good reputation in term of quality standards. These yarns are acquired in standard cone/roll having weight of 3 kg while color choice of yarn may vary depending upon the business requirement. Business will purchase warp beam which will be used in the weaving process of loom to create warp (Taana) at Y-axis. Business will maintain raw material inventory of one month. These polyester yarn cones will be then transferred to winding machine for bobbins formation.

Bobbins Formation Through Winding

In this step, the polyester yarn cones will be attached to spindles of winding machine. In proposed project, business is using 2 winding machines each with 16 spindles having one polyester yarn cones attached with each spindle. Each spindle will wrap 300 grams of polyester yarn on bobbin. The winder machine can wrap polyester yarn on 16 bobbins in almost 5-10 minutes. These bobbins will be transferred to Warping Creels.

Feeding Bobbins to Warping Creels

There are 3 warping creels for feeding polyester yarn to each power loom (business have 2 power looms). For each power loom, business will have a set of warping creels (3 warping creels in a set) at backup to feed the yarn. While a set of warping creels is feeding the yarn to power loom, the labor will be filling the bobbin on backup warping creels to maintain the continues supply of polyester yarn to power loom. The sequence of arrangement of different color polyester yarn filled bobbins on warping creels will depend on the design requirements of business and expertise of skilled labor hired specially for this process.

Preparing the Yarns for Weaving

In this process, the two distinct sets of yarns called the warp (taana) and weft (baana) are interlaced with each other. The length-wise (y-axis) yarns which run from the back to the front of the loom, are called the warp. The cross-wise (x-axis) yarns are the weft. In preparation for weaving, each warp end beaming from warp beam must be threaded through its own drop wire, heddle eye, and reed dent. The drop wire is a device that will stop the loom if an end should break, the heddle eye is the opening in a heddle that carries the yarn, and the reed comb-like device that will push each filling yarn close against the completed fabric. Placing the warp yarns on the loom is done either by drawing-in or by tying-in. Heddle wires are held in frames called harnesses.

Thread Count

The process goes further with the selection of thread count (it is a unit of textile measurement, used for measuring the thickness or fineness of fabric) the worker set the number of threads along two sides (up and across) of the square inch. Higher the thread count, finer the fabric will be. Polyester yarn coming out from warping creels (having thread count of 200 Ne) will be set carefully and sequentially into the power looms. It is a very complex procedure and done by an expert skilled labor.

Weaving Process of Power Loom

A loom is a device used for fabric weaving process which hold the warp threads in place while the filling threads are woven through them. It is about interlacing of two sets; warp (taana) and weft (baana), at right angles to produce the prayer mat roll. Because the warp is held under high tension during the entire process of weaving therefore warp yarn must be strong. The filling yarns (weft) experience less strain during the weaving process. Their preparation includes spinning them to the required size and giving them just the right amount of twist desired for the kind of fabric they will be used. Reed is a comb like structure with small dents in it from which threads are passing. Larger the gap between the reed count means the finest is the prayer mat.

Formation of Prayer Mats

The power loom used for manufacturing of small size prayer mats of (L*W) 42*24 inches will produce 5 rolls of prayer mats in 2 hours and the power loom used for manufacturing of large size prayer mats of (L*W) 45*27*inches will produce 3 rolls of prayer mats each roll will require 3 hours. Each roll will consist of 65 pieces of prayer mats.

Side Cutting of Prayer Mats

Labor will manually perform the side cutting on the prayer mat rolls for cutting the raw and extra edges of the rolls with the help of scissor. The waste yarn produced during the process will be sold in the market.

Prayer Mats Brushing Process

In this process, the prayer mat rolls will pass through the brushing machine. The brushing machine will remove the suspended and fluffy threads from the back side of prayer mats and make the mats smooth and clean. This process will take 20-25 minutes per roll. The waste yarn produced during the process will be sold in the market.

Prayer Mats Shearing Process

In this process, the prayer mats rolls will pass through the shearing machine. The shearing machine will stretch the prayer mats to open the curls which will increase the strength and equalize the length of a raised fabric to make the design more prominent on front side of prayer mats. The shearing machine will take 15-20 minutes per roll to

complete the process. The waste yarn produced during the process will be sold in the market.

Individual Piece Cutting

After shearing, prayer mats rolls will be cut down into individual prayer mats manually by the labor with the help of scissor. From each roll, 65 prayer mats pieces will be produced.

Over-locking of Prayer Mats

In overlocking process, each piece of prayer mat will be over locked separately from two length sides with the help of overlock machine. In over-locking, machine will bind the raw edges of prayer mats to prevent them from getting worn down. Overlocking machine pulls the prayer mat through while attaching polyester textured yarn around the border with the use of a needle threaded with the yarn and complete the prayer mat overlocking in 1-2 minute per prayer mat.

Lacing of Prayer Mat

In this process, lace will be attached on two width sides of prayer mats with the help of lacing machine. Polyester yarn will be used as lacing material and color combination will be decided by the business. The lacing process will take 2-3 minute per prayer mat.

Quality Control

Quality of the product is inspected at the end of each process by the skilled labor. If any issue arises the skilled labor moves and try to figure the reason of defect to prevent the more defects.

Packaging, Payment & Storage

Prayer mats will be packed in the polypropylene sack manually by the labor. These poly sacks have the capacity of 50 piece of prayer mats. All the sales are made on credit basis of 10 days. These poly sacks will be stored in store room. Business will maintain finished goods inventory for 15 days.

5.4. Installed and Operational Capacities

The proposed manufacturing unit of prayer mats will operate in a single shift of 10 hours a day for 300 days in a year. Further, it is assumed that the operational capacity utilization of the proposed manufacturing unit of prayer mats will be 60% during the first year of its operations. The capacity will increase at the rate of 5% per annum to reach the maximum capacity of 90% in the 7th operational year. The production capacity of the project will be based on production capacity of power looms. The power loom used to manufacture small size of prayer mat of (L*W) 42*24 will produce 5 rolls in 2 hours and the power loom used to manufacture large size of prayer mat of (L*W) 45*27 will produce 3 rolls in 3 hours. A roll of prayer mat will contain 65 prayer mats. The manufacturing unit of prayer mats will manufacture two different sizes of prayer

mats which include a small size of prayer mat of (L*W) 42*24 inches and a large size of prayer mat of (L*W) 45*27 inches. These prayer mats will be sold in wholesale market in a standard packaging of 50 pieces per sack. Thus, the capacity can be expressed in terms of number of sacks of 50 prayer mats. As per the assumptions of the project, at the maximum capacity, the manufacturing unit will produce 97,500 prayer mats of size of 42*24 inches per annum which will be transferred into 1,950 sacks of 50 prayer mats per annum and 58,500 prayer mats of size of 45*27 inches per annum which will be transferred into 1,170 sacks of 50 prayer mats per annum.

The initial year service capacity of the proposed manufacturing unit of prayer mats is assumed to be 60% which will produce 58,500 prayer mats of size of 42*24 inches per annum which will be transferred into 1,170 sacks of 50 prayer mats per annum and 35,100 prayer mats of size 45*27 inches per annum which will be transferred into 702 sacks of 50 prayer mats per annum.

The total capacity of the proposed unit is determined on the basis of the processing capacity of power looms. Table 1 and Table 2 shows production capacity calculations of the proposed manufacturing unit of prayer mats.

Table 1: Installed and Operational Production Capacity of Power Loom-Small Size (42842) Prayer Mats

Working Hours in a Shift (Hours)	Time Taken by Loom to Complete a Roll (Hours)	Total Rolls Produced by a Loom per Day	Total Number of Prayer Mats in a Roll (Units)	Total Number of Prayer Mats in a Day (Units)	Total Number of Prayer Mats in a Month (Units)	Total Number of Prayer Mats @100% Capacity (Units)	Total Number of Prayer Mats @60% Capacity (Units)
10	2	5	65	325	8,125	97,500	58,500

Table 2: Installed and Operational Production Capacity of Power Loom-Large Size (47*25) Prayer Mats

Working Hours in a Shift (Hours)	Time Taken by Loom to Complete a Roll (Hours)	Total Rolls Produced by a Loom per Day	Total Number of Prayer Mats in a Roll (Units)	Total Number of Prayer Mats in a Day (Units)	Total Number of Prayer Mats in a Month (Units)	Total Number of Prayer Mats @100% Capacity (Units)	Total Number of Prayer Mats @60% Capacity (Units)
10	3	3	65	195	4,875	58,500	35,100

6. CRITICAL FACTORS

Before making the decision to invest in manufacturing unit of prayer mats, one should carefully analyze the critical associated factors. The important considerations in this regard include:

- Technical knowhow and basic knowledge of the business
- Availability of specialized workforce
- Selection of appropriate machinery and technology
- Supervision of the production process at every level
- Quality products and customer satisfaction
- Accurate control of different quality parameters quality of raw material, color combination etc.
- Selection of appropriate distribution channel

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The unit is proposed to be ideally located in metropolitan cities like Karachi, Lahore, Islamabad, and other cities with sizeable shares of affluent religious population, such as Faisalabad, Rawalpindi, Peshawar, Quetta, Hyderabad, Multan, Gujranwala, Sialkot, Mardan, Sukkur, Gujrat, Muzaffarabad, Sahiwal, etc. These cities are suitable due to the presence of large populations and large number of mosques, madrasa and other religious centers. These cities also offer good availability of required resources, good infrastructure and qualified and skilled manpower.

8. POTENTIAL TARGET MARKETS/CUSTOMERS

Pakistan carpet industry has been the most potential sector in creation of employment in the country. In addition to rural employment, 70% of which used to be women, it has also provided employable space in urban areas. In its peak period, it used to provide jobs to 1.5 million people in the country. Rugs of different types are woven in each province of Pakistan, which represent the cultural diversity and traditions of each province on manufactured prayer rugs. Each has their own styles, specialties and qualities which are famous for their multipurpose nature and distinct designs; so, all such types of producing areas create new opportunities to increase future demand.

Pakistan is a Muslim majority country. They use prayer mats used while they are praying to ensure purity. By offering prayer on a Muslim prayer carpet, the believer fulfills the cleanliness requirement. Prayer mats are treated with respect and considered important item of use in daily life which create the demand for prayer mats in market and similar is all around the Muslim world.

The international trade of rugs is reported under the carpet & textile category. Rugs are traded in 5 different categories: under the HS code of 570110⁴, 570210, 570190, 570320 and 570299. However, for specifically the prayer rug or mat fall under the HS code of 570210. As per International Trade Center (ITC) total value of rugs exports from Pakistan fall under HS code 570210 is reported to be USD\$ 9.77 million in 2021 as compared to the 2020 in which it was USD\$ 6.26 million.

In recent two decades it has shown a tendency to slow down. Due to slow down in world markets, law and order situation in the country and other number of reasons, the export of carpets and rugs have declined from USD\$ 278 million in 2004–2005 to USD\$ 67.15 million during 2018. Recently, the Pakistani industry has been outcompeted by India, China, Turkey, Iran, and Afghanistan. Therefore, In order to reap the benefits of the remerging Global Markets, Pakistani Exporters with tangible Policy Support and incentives must prepare themselves starting with timely market intelligence which is the paramount in these uncertain times of Pakistan Carpet Industry as a whole.

The Carpets and Rugs market in the U.S. was estimated at US\$9.1 Billion in the year 2020. China, the world's second largest economy, is forecast to reach a projected market size of US\$7.7 Billion by the year 2027. Among the other noteworthy geographic markets are Japan, Germany and Canada, each forecast to grow at 0.4%, 0.9% and 1.6% respectively over the 2020-2027 periods.

The leading import market for carpets is the European Union, which buys more than half of the total value of world imports. North America takes a further about 20% shares. Buyers are increasingly moving towards attractive and bold colors and non-geometrical exclusive patterns for carpet and rugs, which also aids to drive demand in the market. There is always more demand for good looking, cheap priced carpets and floor coverings in the world market. These aforementioned markets are naturally taken as potential markets for Pakistan. Competing for these markets are six main producing countries – the Islamic Republic of Iran, India, China, Nepal, Pakistan, Afghanistan and Turkey.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of manufacturing unit of prayer mats. Various assumptions relevant to revenue and costs along with the results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as annexures of this document.

All the figures in this financial model have been calculated after carefully considering the relevant assumptions and target market.

⁴ <https://intracen.org/resources/data-and-analysis/trade-statistics>

9.1. Initial Project Cost

Table 3 provides fixed and working capital requirements for establishment of manufacturing unit of prayer mats.

Table 3: Initial Project Cost estimates

Particulars	Cost (PKR)	Reference
Land	-	9.1.1
Building / Infrastructure	273,558	9.1.2
Machinery & equipment	9,500,000	9.1.3
Furniture & fixtures	990,500	9.1.4
Office vehicles	488,500	9.1.5
Office equipment	1,414,000	9.1.6
Tools & Equipment	190,800	9.1.7
Security against building	810,000	9.1.8
Pre-operating costs	818,207	9.1.9
Total Capital Cost - (A)	14,485,565	
Equipment spare part inventory	237,500	
Raw Material Inventory	1,644,617	
Upfront building rent	270,000	
Cash	2,000,000	
Total Working Capital	4,152,117	
Total Project Cost - (A+B)	18,637,681	

9.1.1. Land

The proposed unit will be established in a rented building having an area of 3,150 square feet (14 Marla). Total rental cost has been estimated as PKR 270,000. The breakup of the space requirement is provided in Table 4.

Table 4: Breakup of Space Requirement

Production Area	Number	Length	Width	Area(Sq. Ft.)
Staff Area	1	20	15	300
Store Room	1	20	15	300
Production Hall	1	45	40	1,800
Pavement Open Area	1	20	20	400

Packaging Area	1	14	10	140
Kitchen	1	5	10	50
Washrooms	4	5	8	160
Total				3,150

9.1.2. Building/ Infrastructure

There will be no cost of building construction since the manufacturing unit of prayer mats will be started in a rented building having an area of 3,150 square feet. However, there will be a renovation cost required to make the building usable for the business. Building rent of PKR 270,000 per month has been included in the operating cost as well as it is also included in the capital investment. The proposed project requires electricity load of around 41 KW for which an industrial electricity connection will be required. Table 5 provide details of building renovation cost.

Table 5: Building Renovation Cost

Cost Item	Unit of Measurement	Total Units	Cost/Unit (PKR)	Total Cost (PKR)
Paint Cost	Liter	83	800	66,768
Labour Cost	Sq.Feet	8,346	15	125,190
Tile Cost	Sq.Feet	510	120	61,200
Labour Cost-Tile	Sq.Feet	510	40	20,400
Total				273,558

9.1.3. Machinery and Equipment

Table 6 provides details of machinery and equipment for the proposed project.

Table 6: Machinery Cost Details

Cost Item	Number of Items	Unit Cost (PKR)	Total Cost (PKR)
16 Spindle Yarn Winder Machine	2	350,000	700,000
Shuttle Power Loom Machine (Reed Width 56-Inches)	2	900,000	1,800,000
Mechanical Jacquard Machine	2	800,000	1,600,000
Brushing Machine	1	800,000	800,000
Shearing Machine	1	900,000	900,000
Overlocking Machine	2	100,000	200,000
Lacing Machine	2	180,000	360,000
Warping Creels	12	120,000	1,440,000
Generator 50 KVA	1	1,700,000	1,700,000
Total			9,500,000

9.1.4. Office Equipment

Table 7 shows details of equipment cost required for the manufacturing unit of prayer mats.

Table 7: Office Equipment Cost Details

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
1.5 ton Inverter Air Conditioners	2	105,000	210,000
Laptop	2	150,000	300,000
Desktop Computer	4	75,000	300,000
Printer	4	52,000	208,000
Water Dispenser	3	25,000	75,000
Security System (6 Cams , 2 MP)	16	2,500	40,000
DVR	2	14,000	28,000
LED/LCD TV	1	40,000	40,000
WI-FI/ Internet Connection	1	3,500	3,500
Ceiling Fan	11	8,000	88,000
Bracket Fan	6	10,500	63,000
Exhaust Fan	13	4,500	58,500
Total			1,414,000

9.1.5. Tools & Equipment

Table 8 provides details of tools and equipment for the proposed project.

Table 8: Tools & Equipment

Cost Item	Number of Items	Unit Cost (PKR)	Total Cost (PKR)
142 Pcs Combination Tool Set	4	41,000	164,000
Handle Wrench Screwdriver Set	4	1,200	4,800
Digital Multimeter Clamp Meter	4	4,000	16,000
Scissors	10	600	6,000
Total (PKR)			190,800

9.1.6. Furniture and Fixture

Table 9 provides details of furniture and fixtures.

Table 9: Furniture & Fixtures Cost Details

Cost Item	Number of Items	Unit Cost (PKR)	Total Cost (PKR)
Executive Table	1	60,000	60,000
Executive Chair	1	30,000	30,000
Staff Chairs	33	13,500	445,500
Staff Table	7	30,000	210,000
Visitor Chairs	3	15,000	45,000
Sofa Set	2	45,000	90,000
Overlocking Machine Table	2	20,000	40,000
Lacing Machine Table	2	20,000	40,000
Tables for Cutting	2	15,000	30,000
Total			990,500

9.1.7. Vehicles

Table 10 provides details of the vehicles required along with their cost for the proposed project.

Table 10: Office Vehicle Cost Details

Cost Item	Number of Vehicles	Unit Cost (PKR)	Registration Fee Plus Number Plate Charges per vehicle	Total (PKR)
Loader Rickshaw	1	250,000	2,500	252,500
Motorcycle	2	111,500	6,500	236,000
Total Cost (PKR)				488,500

9.1.8. Pre-Operating Costs

Table 11 provides details of estimated pre-operating costs.

Table 11: Pre-Operating Cost Details

Production Supervisor	Hiring Months Beforein Year 0	Unit Cost (per month) (PKR)	Cost (PKR)
Production Supervisor	1	100,000	100,000
Diploma Holder Electrical Technician	1	70,000	70,000
Diploma Holder Mechanical Technician	1	70,000	70,000
Maintenance Helpers	1	25,000	25,000
Winder Machine - Bubbin Filling (Skilled)	1	35,000	35,000
Yarn Insertion into Loom Needles (Skilled)	1	60,000	60,000
Power Loom Operator (Skilled)	1	50,000	50,000
Jacquard Loom Operator (Skilled)	1	50,000	50,000
Procurement Officer	1	40,000	40,000
Driver	1	25,000	25,000
Office Boy	1	25,000	25,000
Security Guard	1	25,000	25,000
Sweeper		25,000	25,000
Utilities			218,207
Total Cost (PKR)			818,207

9.1.9. Security against Building

Table 12 shows details of security against building.

Table 12: Security against Building

Particular	Months	Rent per month (PKR)	Total (PKR)
Security against building	3	270,000	810,000
Total (PKR)			810,000

9.2. Breakeven Analysis

Table 13 shows calculation of break-even analysis.

Table 13: Breakeven Analysis

Particulars	Amount First Year (PKR)	Profitability Ratio
Sales (PKR) – A	59,037,381	100%
Variable Cost (PKR) – B	41,682,448	71%
Contribution (PKR) (A-B) = C	17,354,933	29%
Fixed Cost (PKR) – D	11,869,963	20%
Contribution Margin	29%	
Breakeven Analysis		
Breakeven Revenue (PKR)	40,378,812	
Break-Even (Sack of 50 Pieces)	1,280	
Breakeven Capacity	41%	

9.3. Revenue Generation

Table 14 and Table 15 provides details regarding revenue generation from the manufacturing unit of prayer mats and sale of waste yarn during the first year of its operations.

Table 14: Revenue – Prayer Mats

Product	Number of Prayer Mat in a Standard Sack	Number of Sack Sold @100%	Number of Sack Sold @60%	Price Per Prayer Mat (PKR)	Price Per Sack (PKR)	Revenue @100% (PKR)	Revenue @60% (PKR)
Small Size (42*24)	50	1,950	1,170	600	30,000	58,500,000	35,100,000
Large Size (45*27)		1,170	702	750	37,500	43,875,000	26,325,000
Total		3,120	1,872			102,375,000	61,425,000

Table 15: Revenue –Yarn Wastage

Particulars	Total Wastage (Gram)	Total Wastage (Kg)	Sale Price Per Kg (PKR)	Total Revenue (PKR)
Yarn Wastage	8,587,800	8,588	20	171,760
Total				171,760

9.1. Variable Cost Estimate

Variable costs of the project have been provided in Table 16

Table 16: Variable Cost Estimate

Description of Costs	Amount (PKR)
Main Raw Material Cost	16,684,450
Other Material Cost	3,050,950
Consumable Cost	1,495,550
Warping Beams For Loom (Outsourced)	2,502,668
Direct Labor	11,520,000
Machinery Maintenance Cost	1,900,000
Direct Electricity	1,507,831
Generator Diesel Cost	1,104,000
Communications expense (phone, mail, internet, etc.)	639,000
Office vehicles running expense	639,000
Office expenses (stationery, entertainment etc.)	639,000
Total Variable Cost (PKR)	41,682,449

9.2. Main Raw Material Cost

Table 17 and Table 18 provides details regarding raw material cost incurred for the manufacturing of prayer mats of small size of (L*W) 42*24 inches, whereas Table 19 and Table 20 provides details regarding raw material cost incurred for the manufacturing of prayer mat of large size of (L*W) 45*27 inches during the first year of its operations.

Table 17: Main Raw Materials Cost - Small Size (42*24) Prayer Mat

Raw Material	Net Weight Per Prayer Mat (Grams)	Wastage of Material Per Prayer Mat (%)	Wastage of Material Per Prayer Mat (Gram)	Gross Weight Per Unit (Grams)	Gross Weight of Prayer Mats @100% Capacity (Grams)	Gross Weight of Prayer Mats @100% Capacity (Kg)	Gross Weight of Prayer Mats @60% Capacity (Grams)	Gross Weight of Prayer Mats @60% Capacity (Kg)	Cost Per Kg (PKR)	Total Cost @60% Capacity (PKR)
Cotton Black (60 Count)	250	15%	47	297	28,957,500	28,958	17,374,500	17,375	150	2,606,250
Polyster Fabric Yarn-Loom Insertion (200 Count)	200		38	238	23,205,000	23,205	13,923,000	13,923	350	4,873,050
Total	450		85	535	52,162,500	52,163	31,297,500	31,298		7,479,300

Table 18: Other Raw Materials Cost - Small Size (42*24) Prayer Mat

Raw Material	Material Required per Prayer Unit (Gram)	Material Required of Prayer Mats @100% Capacity (Grams)	Material Required of Prayer Mats @100% Capacity (Kg)	Material Required of Prayer Mats @60% Capacity (Grams)	Material Required of Prayer Mats @60% Capacity (Kg)	Cost Per Kg (PKR)	Total Cost @60% Capacity (PKR)
Polyester Fabric Yarn-Overlocking	10	975,000	975	585,000	585	350	204,750
Polyester Fabric Yarn-Lacing	70	6,825,000	6,825	4,095,000	4,095	350	1,433,250
Total		7,800,000	7,800	4,680,000	4,680		1,638,000

Table 19: Main Raw Materials Cost - Large Size (45*27) Prayer Mats

Raw Material	Net Weight Per Prayer Mat (Grams)	Wastage of Material Per Prayer Mat (%)	Wastage of Material Per Prayer Mat (Gram)	Gross Weight Per Unit (Grams)	Gross Weight of Prayer Mats @100% Capacity (Grams)	Gross Weight of Prayer Mats @100% Capacity (Kg)	Gross Weight of Prayer Mats @60% Capacity (Grams)	Gross Weight of Prayer Mats @60% Capacity (Kg)	Cost Per Kg (PKR)	Total Cost @60% Capacity (PKR)
Cotton Black (60 Count)	300	15%	56	356	34,710,000	34,710	20,826,000	20,826	150	3,123,900

Polyster Fabric Yarn-Loom Insertion (200 Count)	250		47	297	28,957,500	28,958	17,374,500	17,375	350	6,081,250
Total	550		103	653	63,667,500	63,668	38,200,500	38,201		9,205,150

Table 20: Other Raw Materials Cost - Large Size (45*27) Prayer Mats

Raw Material	Material Required per Prayer Unit (Gram)	Material Required of Prayer Mats @100% Capacity (Grams)	Material Required of Prayer Mats @100% Capacity (Kg)	Material Required of Prayer Mats @60% Capacity (Grams)	Material Required of Prayer Mats @60% Capacity (Kg)	Cost Per Kg (PKR)	Total Cost @60% Capacity (PKR)
Polyester Fabric Yarn-Overlocking	15	877,500	878	526,500	527	350	184,450
Polyester Fabric Yarn-Lacing	100	5,850,000	5,850	3,510,000	3,510	350	1,228,500
Total		6,727,500	6,728	4,036,500	4,037		1,412,950

Table 21: Consumable Cost

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Wrapping Creel Bubbins			57,600
Polypropylene Woven Sacks			187,200
Harness Cords for Jacquard Machine	2	500,000	1,000,000
Design Punch Cards for Jacquard Machine	10	25,000	250,000
Bubbins for Yarn Wrapping	50	15	750
Total			1,495,550

Table 22: Warping Creel Bobbins

No of Warping Creels With a Single Loom	No of Sides on Creels	No of Rows on Each Side of Creels	No of Bobbins in Row	No of Bubbin Filled on Single Creel	Total Number of Bubbin Filled for Single Loom	No. of Looms	Total Number of Bubbin Filled for Both Loom	Bobbins for Backup Warping Creels for both Looms	Cost Per Bubbin (PKR)	Total Cost (PKR)
3	2	12	20	480	1,440	2	2,880	2,880	10	57,600
Total										57,600

Table 23: Packaging Cost - Polypropylene Woven Sack

Number of Prayer Mat to be Filled in a Sack	Number of Sacks Required	Cost per Sack (PKR)	Total Cost (PKR)
50	1,872	100	187,200
Total			187,200

Table 24: Direct Labor

Personnel	Number of Personnel	Salary per Head (PKR)	Annual Salaries (PKR)
Production Supervisor	1	100,000	1,200,000
Diploma Holder Electrical Technician	1	70,000	840,000
Diploma Holder Mechanical Technician	1	70,000	840,000
Maintenance Helpers	2	25,000	600,000
Winder Machine - Bubbin Filling (Skilled)	1	35,000	420,000
Wrapping Creels Filling (Unskilled)	2	25,000	600,000
Yarn Insertion into Loom Needles (Skilled)	2	60,000	1,440,000
Power Loom Operator (Skilled)	2	50,000	1,200,000
Jacquard Loom Operator (Skilled)	2	50,000	1,200,000
Roll Side Cutting (Skilled)	1	30,000	360,000
Brushing Machine Operator (Skilled)	1	35,000	420,000
Shearing Machine Operator (Skilled)	1	35,000	420,000
Overlocking Machine Operator (Skilled)	2	35,000	840,000
Lacing Machine Operator (Skilled)	2	35,000	840,000
Packaging (Unskilled)	1	25,000	300,000
Total			11,520,000

Table 25: Generator Diesel Cost

Machine	Diesel Consumption per Liter/Hour	Generator Usage Hours per Day	Total Diesel Consumption Liter/Day	Diesel Price per Liter	Total Diesel Consumption Liter/Day (PKR)	Total Diesel Consumption Liter/Year (PKR)
50KVA Generator	8	2	16	230	3,680	1,104,000
Total						1,104,000

Table 26: Variable Cost Assumption

Description of Costs	Rational
Warping Beams For Loom (Outsourced)	15% of Cost of Raw Material
Machinery Maintenance Cost	20% of Cost of Machinery
Communications expense (phone, mail, internet, etc.)	15% of Management staff expense
Office vehicles running expense	15% of Management staff expense
Office expenses (stationery, entertainment etc.)	15% of Management staff expense

9.3. Fixed Cost Estimate

Table 27 shows the estimated fixed cost of the project.

Table 27: Fixed Cost Estimate

Description of Costs	Amount (PKR)
Management Staff	4,260,000
Building rental expense	3,240,000
Indirect Electricity	1,110,649
Promotional expense	885,561
Depreciation expense	1,914,926
Amortization of pre-operating costs	163,641
Bad debt expense	295,187
Total Fixed Cost	11,869,964

Table 28: Management Staff

Personnel	Number of Personnel	Salary per Head (PKR)	Annual Salaries (PKR)
Accounts Officer	1	40,000	480,000
Admin and HR Manager	1	50,000	600,000
Sales & Marketing Officer	1	70,000	840,000
Procurement Officer	1	40,000	480,000
Store Keeper	1	30,000	360,000

Driver	1	25,000	300,000
Office Boy	1	25,000	300,000
Security Guard	2	25,000	600,000
Sweeper	1	25,000	300,000
Total			4,260,000

Table 29: Fixed Cost Assumptions

Description of Costs	Rational
Promotional expense	1.5% of revenue
Bad Debt Expense	0.5% of revenue
Depreciation	
Building & infrastructure	10% of cost
Machinery & equipment	15% of cost
Office equipment, Furniture & Fixture, Office vehicles	15% of cost
Tools and Equipment's	15% of cost

9.4. Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected Internal Rate of Return (IRR), Net Present Value (NPV) and Payback period of the study, which is shown in Table 30.

Table 30: Financial Feasibility Analysis

Description	Project
IRR	72%
NPV (PKR)	72,707,878
Payback Period (years)	2.17
Projection Years	10
Discount rate used for NPV	25%

9.5. Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 31.

Table 31: Financial Feasibility Analysis with 50% Debt

Description	Project
IRR	71%
NPV (PKR)	87,309,918
Payback Period (years)	2.21
Projection Years	10
Discount rate used for NPV	22%

9.6. Human Resource Requirement

The proposed services shall require the workforce as provided in Table 32.

Table 32: Human Resource

Personnel	Number of Personnel	Salary per Head (PKR)	Annual Salaries (PKR)
Production Supervisor	1	100,000	1,200,000
Diploma Holder Electrical Technician	1	70,000	840,000
Diploma Holder Mechanical Technician	1	70,000	840,000
Maintenance Helpers	2	25,000	600,000
Winder Machine - Bubbin Filling (Skilled)	1	35,000	420,000
Wrapping Creels Filling (Unskilled)	2	25,000	600,000
Yarn Insertion into Loom Needles (Skilled)	2	60,000	1,440,000
Power Loom Operator (Skilled)	2	50,000	1,200,000
Jacquard Loom Operator (Skilled)	2	50,000	1,200,000
Roll Side Cutting (Skilled)	1	30,000	360,000

Brushing Machine Operator (Skilled)	1	35,000	420,000
Shearing Machine Operator (Skilled)	1	35,000	420,000
Overlocking Machine Operator (Skilled)	2	35,000	840,000
Lacing Machine Operator (Skilled)	2	35,000	840,000
Packaging (Unskilled)	1	25,000	300,000
Accounts Officer	1	40,000	480,000
Admin and HR Manager	1	50,000	600,000
Sales & Marketing Officer	1	70,000	840,000
Procurement Officer	1	40,000	480,000
Store Keeper	1	30,000	360,000
Driver	1	25,000	300,000
Office Boy	1	25,000	300,000
Security Guard	2	25,000	600,000
Sweeper	1	25,000	300,000
Total	32		15,780,000

10. CONTACT DETAILS

The contact details of all the major suppliers of machinery & equipment and raw materials are given in Table 33.

Table 33: Contact Details

Name of Supplier	Product	Contact	Website/Email
Tsudakoma (Changshu) Co., Ltd.	Power Looms	https://tsudakoma.com	https://www.tsudakoma.com
Sino Textile	Brushing, Shearing Machine	+86-0571-56071596	merlin@sinotextilemachinery.com
Itema	Textile Machinery	Tel +86 (0)21 6774 2618	http://www.itemagroup.com/en/
Picanol	Textile Machinery	Fax +86 21 6774 2608	https://www.picanol.be/
Ravi spinning (Polyester Yarn Manufacturer)	Raw Material	+92 42 35918212	https://ravispinning.com/ info@ravispinning.com
N.P. Spinning Mills Limited	Raw Material	+92-21-32427202-205	info@npsm.com.pk
Fine Thread	Raw Material	+92 41 8505295-96	info@finethreadind.com

11. USEFUL LINKS

Table 34: Useful Links

Name of Organization	E-mail Address
Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
National Business Development Program (NBDP)	www.nbdp.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of National Health Services Regulations and Coordination	www.nhsrsc.gov.pk
Ministry of Federal Education and Professional Training	www.mofept.gov.pk
Specialized Healthcare and Medical Education Department Lahore	health.punjab.gov.pk/
Government of Punjab	www.punjab.gov.pk
Government of Sindh	sindh.gov.pk/
Government of Balochistan	balochistan.gov.pk/
Government of KPK	kp.gov.pk/
Government of Gilgit Baltistan	gilgitbaltistan.gov.pk/
Government of Azad Jammu & Kashmir	ajk.gov.pk/
Trade Development Authority of Pakistan	www.tdap.gov.pk
Securities and Exchange Commission of Pakistan	www.secp.gov.pk
State Bank of Pakistan	www.sbp.gov.pk
Federal Board of Revenue	www.fbr.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
Pakistan Stock Exchange (PSX)	www.psx.com.pk
Pakistan Standards and Quality Control Authority (PSQCA)	http://www.psqca.com.pk
Punjab Small Industries Corporation	https://www.psic.gop.pk/
Sindh Small Industries Corporation	https://ssic.gos.pk/
KP Small Industries Development Board	https://small_industries_d e.kp.gov.pk/
Government of Balochistan Industries and Commerce	https://balochistan.gov.pk/departments-download/industries-and-commerce/

Pakistan Carpet Manufacturers & Exporters Association (PCMEA)	https://pcmea.org.pk/
All Pakistan Textile Mills Association (APTMA)	https://aptma.org.pk/
Pakistan Textile Exporters Association (PTEA)	https://ptea.org.pk/

12. ANNEXURES

12.1. Income Statement

Calculations	SMEDA									
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Small Size (24*42) - Prayer Mat Sacks	33,637,500	41,718,706	49,461,931	58,341,356	68,507,270	80,128,702	93,395,679	103,036,020	113,408,313	124,824,750
Large Size (27*45) - Prayer Mat Sacks	25,228,125	31,289,030	37,096,448	43,756,017	51,380,452	60,096,527	70,046,759	77,277,015	85,056,235	93,618,562
Small Size (24*42) - Yarn Wastage	99,450	118,583	140,560	165,761	194,611	227,589	265,235	291,935	321,324	353,670
Large Size (27*45) - Yarn Wastage	72,306	86,217	102,196	120,518	141,493	165,471	192,841	212,254	233,621	257,139
Total Revenue	59,037,381	73,212,536	86,801,135	102,383,652	120,223,826	140,618,289	163,900,515	180,817,225	199,019,492	219,054,121
<i>Cost of sales</i>										
Main Raw Material Cost	16,684,450	18,364,018	20,212,662	22,247,404	24,486,976	26,951,998	29,665,166	32,651,459	35,938,373	39,556,169
Other Material Cost	3,050,950	3,358,079	3,696,126	4,068,202	4,477,735	4,928,493	5,424,628	5,970,707	6,571,759	7,233,316
Consumable Cost	1,495,550	1,646,102	1,811,810	1,994,198	2,194,948	2,415,906	2,659,107	2,926,790	3,221,421	3,545,710
Warping Beams For Loom (Outsourced)	2,502,668	2,754,603	3,031,899	3,337,111	3,673,046	4,042,800	4,449,775	4,897,719	5,390,756	5,933,425
Direct Labor	11,520,000	12,637,440	13,863,272	15,208,009	16,683,186	18,301,455	20,076,696	22,024,136	24,160,477	26,504,043
Machinery Maintenance Cost	1,900,000	2,091,267	2,301,788	2,533,501	2,788,540	3,069,253	3,378,224	3,718,299	4,092,608	4,504,597
Direct Electricity	1,507,831	1,644,089	1,792,659	1,954,656	2,131,292	2,323,890	2,533,892	2,762,871	3,012,543	3,284,776
Generator Diesel Cost	1,104,000	1,215,136	1,337,460	1,472,097	1,620,288	1,783,397	1,962,926	2,160,527	2,378,020	2,617,408
Total cost of sales	39,765,448	43,710,733	48,047,675	52,815,178	58,056,011	63,817,192	70,150,414	77,112,509	84,765,955	93,179,444
Gross Profit	19,271,933	29,501,803	38,753,459	49,568,474	62,167,816	76,801,097	93,750,101	103,704,716	114,253,537	125,874,677
<i>General administration & selling expenses</i>										
Management Staff	4,260,000	4,673,220	5,126,522	5,623,795	6,169,303	6,767,726	7,424,195	8,144,342	8,934,343	9,800,974
Building rental expense	3,240,000	3,564,000	3,920,400	4,312,440	4,743,684	5,218,052	5,739,858	6,313,843	6,945,228	7,639,751
Indirect Electricity	1,110,649	1,211,014	1,320,450	1,439,774	1,569,882	1,711,747	1,866,432	2,035,095	2,219,000	2,419,523
Communications expense (phone, mail, internet, etc.)	639,000	700,983	768,978	843,569	925,395	1,015,159	1,113,629	1,221,651	1,340,151	1,470,146
Office vehicles running expense	639,000	703,326	774,127	852,056	937,830	1,032,238	1,136,150	1,250,523	1,376,409	1,514,967
Office expenses (stationery, entertainment etc.)	639,000	700,983	768,978	843,569	925,395	1,015,159	1,113,629	1,221,651	1,340,151	1,470,146
Promotional expense	885,561	1,098,188	1,302,017	1,535,755	1,803,357	2,109,274	2,458,508	2,712,258	2,985,292	3,285,812
Depreciation expense	1,914,926	1,914,926	1,914,926	1,914,926	1,914,926	1,914,926	1,285,736	3,578,195	3,578,195	3,578,195
Amortization of pre-operating costs	163,641	163,641	163,641	163,641	163,641	-	-	-	-	-
Bad debt expense	295,187	366,063	434,006	511,918	601,119	703,091	819,503	904,086	995,097	1,095,271
Subtotal	13,786,963	15,096,344	16,494,046	18,041,444	19,754,533	21,487,372	22,957,639	27,381,644	29,713,866	32,274,784
Operating Income	5,484,969	14,405,459	22,259,414	31,527,030	42,413,282	55,313,725	70,792,462	76,323,071	84,539,670	93,599,892
Gain / (loss) on sale of machinery & equipment	-	-	-	-	-	-	2,375,000	-	-	-
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	353,500	-	-	-
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	122,125	-	-	-
Earnings Before Interest & Taxes	5,484,969	14,405,459	22,259,414	31,527,030	42,413,282	55,313,725	73,643,087	76,323,071	84,539,670	93,599,892
Interest expense on long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-
Interest expense on long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	5,484,969	14,405,459	22,259,414	31,527,030	42,413,282	55,313,725	73,643,087	76,323,071	84,539,670	93,599,892
Tax	779,118	3,006,501	5,166,339	8,403,109	11,468,985	17,021,961	22,979,003	2,260,215	2,487,744	2,738,177
NET PROFIT/(LOSS) AFTER TAX	4,705,851	11,398,958	17,093,075	23,123,921	30,944,297	38,291,764	50,664,084	74,062,856	82,051,927	90,861,716

12.2. Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	2,000,000	2,800,869	8,322,700	14,341,148	20,624,853	27,804,064	34,875,884	60,971,615	136,378,004	219,412,831	322,985,210
Accounts receivable	-	1,967,913	2,440,418	2,893,371	3,412,788	4,007,461	4,687,276	5,463,350	6,027,241	6,633,983	7,301,804
Equipment spare part inventory	237,500	286,416	345,408	416,549	502,343	605,808	730,582	881,056	1,062,521	1,281,362	-
Raw material inventory	1,644,617	1,992,399	2,413,726	2,924,149	3,542,511	4,291,636	5,199,175	6,298,630	7,630,583	9,244,200	-
Finished goods inventory	-	1,656,894	1,821,281	2,001,986	2,200,632	2,419,000	2,659,050	2,922,934	3,213,021	3,531,915	3,882,477
Pre-paid building rent	270,000	297,000	326,700	359,370	395,307	434,838	478,321	526,154	578,769	636,646	-
Total Current Assets	4,152,117	9,001,491	15,670,233	22,936,575	30,678,435	39,562,807	48,630,289	77,063,739	154,890,139	240,740,937	334,169,491
<i>Fixed assets</i>											
Land	-	-	-	-	-	-	-	-	-	-	-
Building Infrastructure Renovation	273,558	246,202	218,846	191,491	164,135	136,779	109,423	82,067	54,712	27,356	0
Machinery & equipment	9,500,000	8,075,000	6,650,000	5,225,000	3,800,000	2,375,000	950,000	18,008,301	15,307,056	12,605,811	9,904,566
Furniture & fixtures	990,500	841,925	693,350	544,775	396,200	247,625	99,050	1,877,602	1,595,962	1,314,322	1,032,681
Office vehicles	488,500	415,225	341,950	268,675	195,400	122,125	48,850	744,280	632,638	520,996	409,354
Office equipment	1,414,000	1,201,900	989,800	777,700	565,600	353,500	141,400	2,680,393	2,278,334	1,876,275	1,474,216
Tools & Equipmet	190,800	162,180	133,560	104,940	76,320	47,700	19,080	361,683	307,430	253,178	198,925
Security against building	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000	810,000
Total Fixed Assets	13,667,358	11,752,432	9,837,506	7,922,581	6,007,655	4,092,729	2,177,803	24,564,327	20,986,132	17,407,937	13,829,743
<i>Intangible assets</i>											
Pre-operation costs	818,207	654,565	490,924	327,283	163,641	-	-	-	-	-	-
Total Intangible Assets	818,207	654,565	490,924	327,283	163,641	-	-	-	-	-	-
TOTAL ASSETS	18,637,681	21,408,488	25,998,663	31,186,438	36,849,731	43,655,536	50,808,093	101,628,066	175,876,271	258,148,875	347,999,233
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	417,882	485,040	564,249	657,836	768,598	899,901	1,055,791	1,241,140	1,461,817	450,460
Total Current Liabilities	-	417,882	485,040	564,249	657,836	768,598	899,901	1,055,791	1,241,140	1,461,817	450,460
<i>Other liabilities</i>											
Long term debt (Project Loan)	-	-	-	-	-	-	-	-	-	-	-
Long term debt (Working Capital Loan)	-	-	-	-	-	-	-	-	-	-	-
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681	18,637,681
Retained earnings	-	2,352,926	6,875,942	11,984,508	17,554,215	24,249,256	31,270,510	81,934,594	155,997,450	238,049,376	328,911,092
Total Equity	18,637,681	20,990,607	25,513,623	30,622,190	36,191,896	42,886,937	49,908,191	100,572,275	174,635,131	256,687,058	347,548,774
TOTAL CAPITAL AND LIABILITIES	18,637,681	21,408,488	25,998,663	31,186,438	36,849,731	43,655,536	50,808,093	101,628,066	175,876,271	258,148,875	347,999,233

12.3.Cash Flow Statement

Calculations	SMEDA										
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities											
Net profit		4,705,851	11,398,958	17,093,075	23,123,921	30,944,297	38,291,764	50,664,084	74,062,856	82,051,927	90,861,716
Add: depreciation expense		1,914,926	1,914,926	1,914,926	1,914,926	1,914,926	1,914,926	1,285,736	3,578,195	3,578,195	3,578,195
amortization of pre-operating costs		163,641	163,641	163,641	163,641	163,641	-	-	-	-	-
Accounts receivable		(1,967,913)	(472,505)	(452,953)	(519,417)	(594,672)	(679,815)	(776,074)	(563,890)	(606,742)	(667,821)
Finished goods inventory		(1,656,894)	(164,387)	(180,706)	(198,646)	(218,368)	(240,049)	(263,884)	(290,087)	(318,894)	(350,562)
Equipment inventory	(237,500)	(48,916)	(58,991)	(71,141)	(85,794)	(103,465)	(124,774)	(150,474)	(181,466)	(218,841)	1,281,362
Raw Material Inventory	(1,644,617)	(347,782)	(421,327)	(510,424)	(618,361)	(749,125)	(907,540)	(1,099,455)	(1,331,953)	(1,613,617)	9,244,200
Pre-paid building rent	(270,000)	(27,000)	(29,700)	(32,670)	(35,937)	(39,531)	(43,484)	(47,832)	(52,615)	(57,877)	636,646
Accounts payable		417,882	67,158	79,209	93,587	110,763	131,303	155,890	185,349	220,677	(1,011,357)
Cash provided by operations	(2,152,117)	3,153,795	12,397,773	18,002,956	23,837,919	31,428,467	38,342,330	49,767,991	75,406,388	83,034,827	103,572,379
Financing activities											
Project Loan - principal repayment	-	-	-	-	-	-	-	-	-	-	-
Working Capital Loan - principal repayment	-	-	-	-	-	-	-	-	-	-	-
Additions to Project Loan	-	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	18,637,681	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	18,637,681	-	-	-	-	-	-	-	-	-	-
Investing activities											
Capital expenditure	(14,485,565)	-	-	-	-	-	-	(23,672,260)	-	-	-
Cash (used for) / provided by investing activities	(14,485,565)	-	-	-	-	-	-	(23,672,260)	-	-	-
NET CASH	2,000,000	3,153,795	12,397,773	18,002,956	23,837,919	31,428,467	38,342,330	26,095,731	75,406,388	83,034,827	103,572,379

13. KEY ASSUMPTIONS

13.1. Operating Cost Assumptions

Table 35: Operating Cost Assumptions

Description	Details
Operating costs growth rate	10.1%
Electricity growth rate	9.0%
Water price growth rate	9.0%
Gas price growth rate	9.0%
Wage growth rate	9.7%
Office equipment price growth rate	9.6%
Office vehicles price growth rate	6.2%

13.2. Revenue Assumptions

Table 36: Revenue Assumptions

Description	Details
Sale price growth rate	10.1%
Capacity utilization	60%
Capacity utilization growth rate	5%
Maximum capacity	90%

13.3. Financial Assumptions

Table 37: Financial Assumptions

Description	Details
Project life (Years)	10
Debt: Equity	0:100
Discount Rate	25%

13.4. Debt Related Assumptions

Table 38: Debt Related Assumption

Description of Cost	Details
Project Life (Years)	10
Debt: Equity	50:50
Discount Rate	22%
Debt Grace Period	1 Years
Interest Rate (KIBOR+3%)	19%

13.5. Cash Flow Assumptions

Table 39: Cash Flow Assumptions

Description	Details
Accounts receivable cycle (in days)	10
Accounts payable cycle (in days)	30

Small and Medium Enterprises Development Authority

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