



Pre-feasibility Study

SETTING UP TRACTOR/AGRIC ULTURAL EQUIPMENT REPAIR UNIT

August 2021

“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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2 EXECUTIVE SUMMARY

Agriculture machinery and equipment includes machines and equipment that are used in production, harvesting, and care of farm products. Agricultural tractor is the most commonly used vehicle/machine. Other common agriculture equipment includes plough, rotavator, hydraulic trolley, etc.

Tractor is a farm vehicle. Other agricultural equipment can be mounted on and towed behind the tractor to provide power. There are various uses of a tractor depending on the particular agricultural implement. Some common uses are for cultivating, plowing, planting, fertilizing and harvesting.

Rotavator is a tractor-drawn implement which is mainly used for seed bed preparation within one or two passes and is suitable in removing and mixing residual of maize, wheat, sugarcane, etc. The use of rotavator helps improving soil health and save fuel, cost and time.

A plough is a farm tool for loosening or turning the soil before sowing seeds or planting seedlings. Ploughs were traditionally drawn by oxen, but in modern times, are drawn by tractors. A plough may have a wooden, iron or steel frame, with a blade attached to cut and loosen the soil.

Agriculture trolleys are hydraulically operated containers and are generally used to transport agriculture products like cotton, wheat, rice, maize, sugarcane, etc. or different types of straws.

Farmers use tractor and other agriculture machinery and equipment regularly which creates the demand for their repair and maintenance. Such repair services are provided at specialized workshops which may be called "Tractor / Agriculture equipment repair unit".

This pre-feasibility document provides details for setting up of a Tractor / Agricultural Equipment Repair Unit. The unit is proposed to be located in any city/town of Pakistan where agriculture activity is carried out. Such locations may include cities like Lahore, Peshawar, Rawalpindi, Quetta, Faisalabad, Mardan, Sahiwal, Sukkur, Toba Tek Singh, Bahawalpur, Peshawar, Mirpur Khas, Sialkot, Hyderabad, Nowshera, Muzaffargarh, Gujranwala, Multan, Sheikhupura, Bahawalnagar, Sanghar, Dera Ghazi Khan, Narowal, Larkana, Dera Ismail Khan, Dadu, Mardan, etc.

The proposed project will be set up in a rented premises having an area of 5,625 sq. ft. (1.25 Kanal). The proposed project has a total investment of PKR 3.4 million. This includes capital investment of PKR 2.2 million and working capital of PKR 1.2 million. This project is financed through 100% equity. The Net Present Value (NPV) of project is PKR 22.23 million with an Internal Rate of Return (IRR) of 79% and a Payback period of 1.91 years. Further, the proposed project is expected to generate Gross Annual Revenues of PKR 15.23 million in 1st year after coming into operations, Gross Profit (GP) ratio ranging from of 37% to 46% and Net Profit (NP) ratio ranging from 5% to 19% during the projection period of ten years. The proposed project will achieve its

estimated breakeven point at capacity of 50% (1,945 jobs) with breakeven revenue of PKR 12.64 million in a year.

The proposed unit may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the unit provides Net Present Value (NPV) of PKR 25.72 million, Internal Rate of Return (IRR) of 79% and Payback period of 1.89 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from 4% to 19% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 52% (2,029 orders) with breakeven revenue of PKR 13.2 million.

The proposed project will provide employment opportunities to 14 people. As evident from the above-mentioned financial figures, the proposed project for Setting up Tractor/Agricultural Equipment Repair Unit shows reasonable profitability and is economically and financially viable. The legal form of this project is proposed as "Sole-Proprietorship".

3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an 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 'sectoral 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 is 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 provide information to the potential investors about setting up “Tractor/Agricultural Equipment Repair Unit”. The document provides a general understanding of the business to facilitate potential investors in crucial and effective 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 set-up 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 & SERVICES

This document provides details for setting up a Tractor/Agricultural Equipment Repair Unit. The services provided by this unit will primarily be availed by agricultural tractor and other machinery and equipment owners to maintain those in proper operating condition; so as to efficiently carry out their agricultural activities. In addition to providing repair services, the unit also provides spare parts that are replaced frequently. Thus, the proposed unit can be called a 2S workshop (Spares and Services).¹

A. Types of Services

The following services will be provided in the proposed repair unit:

Repair and Maintenance of Tractor Engine

An engine overhaul is a major engine repair that involves the removal, disassembly, inspection and repair of an engine. During the overhaul, old and worn-out parts and components may be replaced with new ones. During disassembly, the engine is cleaned thoroughly to remove the built-up grime and debris. Since the entire engine is being taken apart, it is easier for the mechanic to identify problems and replace the malfunctioning parts. Once everything has been cleaned and necessary replacements

¹ The other type of workshop is 3S which also sells new vehicles and thus offers ‘Sales’, ‘Spares’ and ‘Services (repair)’ to its customers.

have been made, the engine is put back together and fixed back into the tractor body. Figure-1 shows repair and maintenance activity of tractor engine.

Figure 1 Repair and Maintenance of Tractor Engine



Electrical System Maintenance: Like in all vehicles, a battery supplies power to the tractor's engine which starts by ignition system. Other electric items includes front lights, back lights, work light, indicators and other electric parts. The repair unit provides all repairing services related to battery, wiring, replacing electric items and other electric related services.

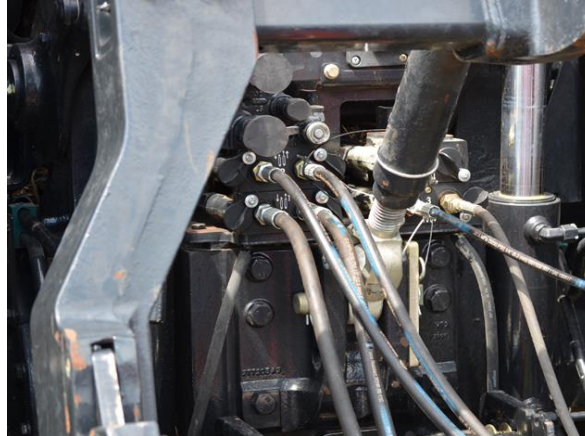
Fuel System Issues: Problems with the parts that transfer fuel to the engine may lead to poor fuel pressure and bad performance of the vehicle. Carburetor is the main part of the fuel system which mixes fuel and together to create the exact right mixture for engine operation. When a tractor is brought in for repair and maintenance, a mechanic will be able to test the system and restore it to its optimal operation. This may require cleaning out the system or replacing faulty parts. Over time, the carburetor may become clogged or break down. Severe corrosion, for example, may require cleaning or rebuilding the carburetor.

Spark Plugs: Problems like hard starts, suboptimal engine performance and excessive fuel consumption may all be related to old or faulty spark plugs. To deal with the problems like hard starts, suboptimal engine performance and excessive fuel consumption, replacement of spark plug or repairing of spark plug is the solution which could be done by mechanics at the proposed unit.

Hydraulic System Services - Tractor

The hydraulics of a tractor provides the muscle for otherwise burdensome manual work. Hydraulics assist in many of the basic functions of a tractor performs, such as brakes and steering. Hydraulics are the life-blood of a tractor, yet they are very vulnerable to contamination and negligence. It is essential to maintain them. Figure-2 shows hydraulic system.

Figure 2 Hydraulic System



Diesel Pump Services

Diesel injectors and pumps are some of the most technically advanced pieces of equipment that are found in modern day tractors. Figure 3 shows a diesel pump of a tractor.

Figure 3 Diesel Pump



Some of the indicators showing failing diesel fuel pump are listed below:

Squeaks, squeals and other high-pitched sounds: If the tractor starts squealing or making unusual, high-pitched noises, this could be a sign that diesel fuel pump is malfunctioning.

Difficulty in accelerating: When the tractor is not getting speed quickly, this could be a sign that diesel fuel pump is having some troubles. The primary cause is the pump not giving the engine an adequate supply of fuel, which makes it difficult to accelerate.

Bad fuel pressure: A tractor that is unable to maintain a good fuel pressure likely has a fuel pump that is not functioning correctly.

Filter issues: If the filter of tractor seems to be malfunctioning, this could indicate diesel fuel pump problems.

Engine stoppages: The engine could bring itself to a halt if it is not getting enough fuel fed into it. This means the diesel fuel pump needs replacement.

Repair and Maintenance of Radiator

Leakages are common in tractor radiators. These leakages can be repaired in the proposed tractor and agriculture equipment repair unit. Figure 4 shows a tractor radiator.

Figure 4 Tractor Radiator



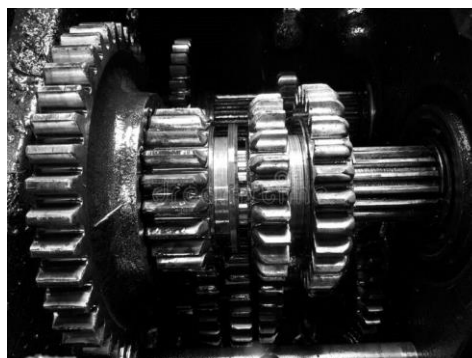
Transmission / Gear services

A few key indicators of problems in transmission and gear box are as follows:

- Tractor Gear problems
- Transmission abnormal sound problems
- Gear box leakage problems

These issues in transmission/gear can be handled at the proposed repair unit. Figure 5 shows a tractor gear box.

Figure 5 Tractor Gear Box



Steering System Repair Service

Steering wheel is an essential part of the tractor which helps in driving. It is a circular frame made of aluminum or magnesium and is usually covered with leather and foam. There may be various problems with a steering wheel which require repair including, slipping of wheel while turning, vibration and difficulty in turning the steering wheel, etc. Figure 6 shows a steering wheel fastened with an anti-slip cord.

Figure 6 Tractor Steering



Crown Wheel Service

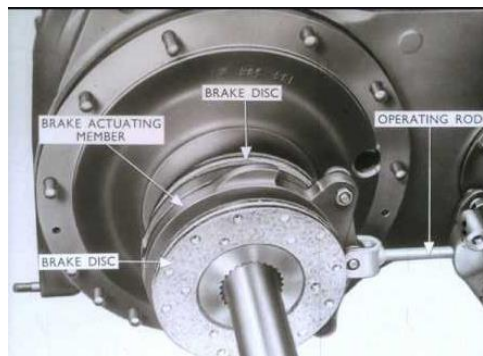
Differential unit is a special arrangement of gears to permit one of the rear wheels of the tractor to rotate slower or faster than the other. The output shaft coming from the gear box is provided with a bevel pinion at the end of the shaft. The bevel pinion is in mesh with a large bevel wheel known as Crown wheel.

Figure 7 Crown Wheel



Brake Service

Braking is an important system in the tractors used to slow down or stop the tractor motion. It is also used to prevent the tractor from moving when it is stationary. For smooth running and control, brakes should be inspected before starting the vehicle. If there is any problem, the tractor must be taken to a repair unit for inspection. To fully inspect all the parts of the braking system (such as brake shoes, discs, drums, boots, seals, and bushings), the brakes need to be fully disassembled by the mechanics. Figure 7 shows parts of brake system in a tractor.

Figure 8 Brake System

Oil Change Service

Oil change has to be performed according to the hours specified for tractors in the machine's owner's manual or at least every six months. Even if the machine is not used heavily, one of the main goals of an oil change is to remove contaminants from the engine. Timely change of engine oil increases the life of tractor's engine. This repair unit also provides the services of oil change. Figure 7 shows a person changing oil.

Figure 9 Oil Change

Repair and Maintenance of Rotavator

Rotavator is a tillage machine designed for preparing land suitable for sowing seeds. It offers the benefits of rapid seedbed preparation and reduced draft compared to conventional tillage. The rotavator can also be repaired in the proposed unit. Figure 10 shows a rotavator being repaired by a mechanic.

Figure 10 Rotavator Repair

Repair and Maintenance of Plough

Plough is the most important agricultural implement since the beginning of history, used to turn and break up soil, to bury crop residues, and to help control weeds. Figure 11 shows a tractor carrying plough, being used to prepare land for cultivation.

Figure 11 Plough Preparing Land for Cultivation



Blades Sharpening: Most repairs are related to the blades of plough and rotavator that are sharpened to be used in soil preparation. These are repaired by welding or replaced with new ones at the repair unit. Figure 12 shows blades of a rotavator and tractor plough.

Figure 12 Blades



Repair and Maintenance of Hydraulic System of Agriculture Trolley

Hydraulic agriculture trolleys are used to transport agriculture products like cotton, wheat, rice, maize, sugarcane, straw, etc. The hydraulic system of these trollies enables them to automatically unload the materials. A faulty hydraulic system can be repaired in the proposed repairing unit. Figure 13 shows a hydraulic trolley.

Figure 13 Hydraulic Trolley**B. Types of Machinery and Repair Tools**

Machinery and equipment required for setting up of tractor/agricultural equipment repair unit are briefly discussed below:

Air Compressor

An air compressor is a pneumatic device that converts power, using an electric motor, into potential energy stored in pressurized air (i.e., compressed air). By one of several methods, an air compressor forces more and more air into a storage tank, increasing the pressure. It is used to fill the tire tubes with air and also in cleaning dirt and dust from different parts of the vehicle while repairing. Figure 14 shows an air compressor.

Figure 14 Air Compressor

Pliers Set

Pliers are the hand tools used to hold objects firmly. They are also useful for bending and compressing a wide range of materials. Figure 15 shows a pliers set.

Figure 15 Pliers Set

**Hex Keys**

Hex key, also known as an Allen key, is a simple tool used to drive bolts and screws with hexagonal sockets in their heads. From standard keys in chrome vanadium steel to extra-long with ballpoint heads in chrome molybdenum steel, there is a wide variety to choose from. Figure 16 shows hex keys.

Figure 16 Hex Keys

**Spanners Set**

Spanners are usually operated by hand for tightening bolts and nuts. Some wrenches have ends with straight-sided slots that fit over the part being tightened; these tools are known as open-end wrenches and are made in various sizes to fit specific bolt and nut sizes. Figure 17 shows spanners set.

Figure 17 Spanners set**Sockets and Ratchets**

Instead of needing a separate wrench for each size fastener, only a separate socket is needed. The ratcheting mechanism of a socket wrench makes the task of tightening or loosening nuts faster and easier compared to a conventional wrench. This feature is particularly advantageous when working in cramped spaces. Figure 18 shows socket and ratchets.

Figure 18 Socket and Ratchets**Screwdriver Sets**

Screwdrivers are used to insert screws and to remove them. These are defined by size and the tip of the screwdriver. Figure 19 and Figure 20 show screwdriver set and their types respectively.

Figure 19 Screwdriver Sets**Figure 20 Types of Screwdrivers**

Cutters and Pincers

Pliers and pincers are made in various shapes and sizes and are used for different purposes. Some are used for gripping something round like a pipe or rod, some are used for twisting wires, and others are designed to be used for a combination of tasks including cutting wire. Figure 21 shows cutters and pincers.

Figure 21 Cutter and Pincer

Jack rod

Jack Rod is used to lift the equipment/tractor. The purpose of jack is to do the job with a lesser effort than the load so that it works as a force multiplier. Figure 22 shows jack rods.

Figure 22 Jack Rods



5.1. Installed and Operational Capacities

Based on 3 mechanics working in single shift of 12 hours a day for 300 days in a year, the proposed business will have maximum capacity of serving 3,184 jobs of mechanical work in a year. For electrical related services, the service capacity has been calculated based on one electrician working with the same schedule. The proposed unit would entertain 720 jobs of electrical work during a year at maximum capacity. However, during 1st year of operation, the proposed business is expected to attain 60% of its installed capacity, the unit shall serve 1,910 jobs of mechanical nature and 432 orders related to electrical works during first year at 60% capacity utilization. Table 1 shows available man hours and Table 2 shows the installed and operational capacities of the proposed unit.

Table 1 Man Hours

| Personnel | No of Persons Skilled | Total Man Hours |
|------------------|-----------------------|-----------------|
| Mechanics | 3 | 10,800 |
| Auto Electrician | 1 | 3,600 |
| | | 14,400 |

Table 2 Installed and Operational Capacity

| Services | Service Ratio | Working Hours | Average Man hours/ Repair Service | Annual Capacity (No of Orders) | Initial year Capacity @ 60% |
|--------------------------------|---------------|---------------|-----------------------------------|--------------------------------|-----------------------------|
| Mechanical Services | | | | | |
| Tractor Repair Services | | | | | |

| | | | | | | |
|---|----------|-------------|---------------|----------|--------------|--------------|
| Engine Service | Overhaul | 2% | 288 | 12 | 24 | 14 |
| Steering Repair Service | System | 3% | 432 | 5 | 86 | 52 |
| Hydraulic Repair Service | System | 3% | 432 | 4 | 108 | 65 |
| Transmission/ Repair Services | Gear | 4% | 576 | 4 | 144 | 86 |
| Crown Wheel Service | | 3% | 432 | 5 | 86 | 52 |
| Radiator Service | | 5% | 720 | 3 | 240 | 144 |
| Diesel Pump Replacement Service | | 3% | 432 | 6 | 72 | 43 |
| Brake Service | | 5% | 720 | 6 | 120 | 72 |
| Oil Change Service | | 5% | 720 | 4 | 180 | 108 |
| Tuning - Tractor | | 4% | 576 | 3 | 192 | 115 |
| Fuel System Issues Services | | 5% | 720 | 3 | 240 | 144 |
| Carburetor Services | | 8% | 1,152 | 3 | 384 | 230 |
| Other Agri Equipment Repair Services | | | | | | |
| Blade Sharpening Services | | 6% | 864 | 4 | 216 | 130 |
| Rotavator Services | Repair | 5% | 720 | 6 | 120 | 72 |
| Plough Services | Repair | 5% | 720 | 4 | 180 | 108 |
| Repair of Hydraulic Trolleys | | 4% | 576 | 8 | 72 | 43 |
| Miscellaneous Services | | 5% | 720 | 1 | 720 | 432 |
| Mechanical Services (A) | | 75% | 10,800 | | 3,184 | 1,910 |
| Electrical Maintenance Services (B) | | 25% | 3,600 | 5 | 720 | 432 |
| Total (A+B) | | 100% | 14,400 | | 3,904 | 2,342 |

It has been assumed that 70% of repairs are done by replacing old parts with new ones. It has been further assumed that 1 additional part would be replaced for every requirement of new general part and 2 additional parts would be replaced for every

electrical replacement. It means that 4,458 ($3,184 \times 0.7 \times 2$) of general and 1,512 ($720 \times 0.7 \times 3$) of electrical repairs will be done by replacing the old parts. On the basis of this assumption, Table 2 shows annual demand of spare parts; in line with the market information.

Table 3 Demand for General Spare Parts

| Cost Item | Demand Ratio | Annual Demand @ 100% | Margin | Sale Price / Unit (PKR) | Cost / Unit (PKR) |
|-----------------------------|--------------|----------------------|--------|-------------------------|-------------------|
| Oil Filter | 4% | 178 | 15% | 650 | 520 |
| Air Filter | 4% | 178 | 15% | 1,500 | 1,200 |
| Belts | 6% | 268 | 15% | 400 | 320 |
| Clutch and Clutch plates | 4% | 178 | 15% | 7,000 | 5,600 |
| Tractor Power Steering Kit | 1% | 44 | 15% | 20,000 | 16,000 |
| Rear PTO Cover Plate | 3% | 134 | 15% | 3,000 | 2,400 |
| Hydraulic Filter | 2% | 90 | 15% | 430 | 344 |
| Sport Front Axle | 1% | 44 | 15% | 32,000 | 25,600 |
| Tractor Bearing | 2% | 90 | 15% | 200 | 160 |
| Canopy | 1% | 44 | 15% | 16,500 | 13,200 |
| Tractor Lower Link Assembly | 2% | 90 | 15% | 3,000 | 2,400 |
| Brake Drum Assembly | 2% | 90 | 15% | 1,200 | 960 |
| Pre Air Cleaner | 3% | 134 | 15% | 530 | 424 |
| Instrument Cluster | 3% | 134 | 15% | 2,400 | 1,920 |
| Fly Wheel Assembly | 2% | 90 | 15% | 5,685 | 4,548 |
| Differential Casing | 3% | 134 | 15% | 4,500 | 3,600 |
| Connecting Rod | 2% | 90 | 15% | 1,933 | 1,546 |
| Key Switch | 5% | 222 | 15% | 415 | 332 |
| Steering Knuckle | 2% | 90 | 15% | 1,666 | 1,333 |
| Axle Shaft | 2% | 90 | 15% | 5,215 | 4,172 |
| Steering Wheel | 2% | 90 | 15% | 1,035 | 828 |
| Gear Driven 3rd | 3% | 134 | 15% | 2,600 | 2,080 |
| Gear Driven 4th | 2% | 90 | 15% | 2,465 | 1,972 |
| Reverse Gear (1st and 2nd) | 2% | 90 | 15% | 2,610 | 2,088 |

| | | | | | |
|----------------------|-------------|--------------------------|-----|-------|-------|
| Switch Neutral | 2% | 90 | 15% | 360 | 288 |
| Oil Pressure Switch | 4% | 178 | 15% | 175 | 140 |
| High Low Gear Sleeve | 2% | 90 | 15% | 760 | 608 |
| Sleeve Lift Control | 2% | 90 | 15% | 1,170 | 936 |
| Pipe Silencer | 3% | 134 | 15% | 1,850 | 1,480 |
| Leveling Lift Rod | 2% | 90 | 15% | 1,153 | 922 |
| Fuel Sending Unit | 2% | 90 | 15% | 360 | 288 |
| Cover Sleeve | 2% | 90 | 15% | 680 | 544 |
| Thrust Washer | 2% | 90 | 15% | 130 | 104 |
| Pin Journal | 3% | 134 | 15% | 320 | 256 |
| Rod Lift Piston | 2% | 90 | 15% | 330 | 264 |
| Hub Front Wheel | 1% | 44 | 15% | 1,580 | 1,264 |
| Air Cleaner | 3% | 134 | 15% | 2,000 | 1,600 |
| Intake Valve Small | 2% | 90 | 15% | 215 | 172 |
| Intake Valve Large | 3% | 134 | 15% | 215 | 172 |
| PTO Gear Sleeve | 2% | 90 | 15% | 430 | 344 |
| Total | 100% | 4,474² | | | |

Table 4 Demand for Electrical Spare Parts

| Cost Item | Demand Ratio | Annual Demand @ 100% | Margin | Sale Price / Unit | Cost / Unit |
|----------------------------|--------------|----------------------|--------|-------------------|-------------|
| Head Lights | 5% | 75 | 15% | 575 | 460 |
| Back lights | 6% | 90 | 15% | 500 | 400 |
| Indicators | 7% | 105 | 15% | 400 | 320 |
| Bulb | 10% | 150 | 15% | 200 | 160 |
| Holders | 5% | 75 | 15% | 700 | 560 |
| Plough Lamp | 4% | 60 | 15% | 500 | 400 |
| Meter Cable | 5% | 75 | 15% | 350 | 280 |
| Head Light Single | 5% | 75 | 15% | 520 | 416 |
| Ignition Distributer | 2% | 30 | 15% | 5,000 | 4000 |
| Magneto in ignition system | 2% | 30 | 15% | 700 | 560 |

² Difference due to rounding off.

| | | | | | |
|---------------------|-------------|--------------------------|-----|-------|------|
| Ignition Coil Parts | 3% | 45 | 15% | 2,500 | 2000 |
| Ignition Box | 4% | 60 | 15% | 2,400 | 1920 |
| Ignition Switch | 5% | 75 | 15% | 2,000 | 1600 |
| Starter | 5% | 75 | 15% | 1,400 | 1120 |
| Starter Solenoid | 3% | 45 | 15% | 3,500 | 2800 |
| Starter Drive | 4% | 60 | 15% | 700 | 560 |
| Alternator Fan | 4% | 60 | 15% | 800 | 640 |
| Spark Plug | 6% | 90 | 15% | 1,080 | 864 |
| Radiator Fan | 5% | 75 | 15% | 2,500 | 2000 |
| Tractor Fuse Box | 6% | 90 | 15% | 400 | 320 |
| Armature | 4% | 60 | 15% | 400 | 320 |
| Total | 100% | 1,500³ | | | |

6 CRITICAL FACTORS

The following factors should be taken into account while making the investment decision:

- Technical know-how and basic knowledge of the entrepreneur
- Availability of skilled workforce
- Supervision of the process at every level
- Timely processing and delivery

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The demand for repair and maintenance of tractor/ agricultural equipment will be mostly in those cities/towns of Pakistan where agriculture activity is carried out. Therefore, the geographical potential for investment in this business is in the cities like Lahore, Peshawar, Rawalpindi, Quetta, Faisalabad, Mardan, Sahiwal, Sukkur, Toba Tek Singh, Bahawalpur, Peshawar, Sialkot, Hyderabad, Bahawalnagar, Gujranwala, Multan, Sanghar, Sheikhpura, Narowal, Larkana, Dadu, Mardan, Mirpur Khas and other similar cities/towns of Pakistan.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

The services related to tractor / agricultural equipment repair and maintenance are used by the people who are involved in agriculture activities such as land preparation,

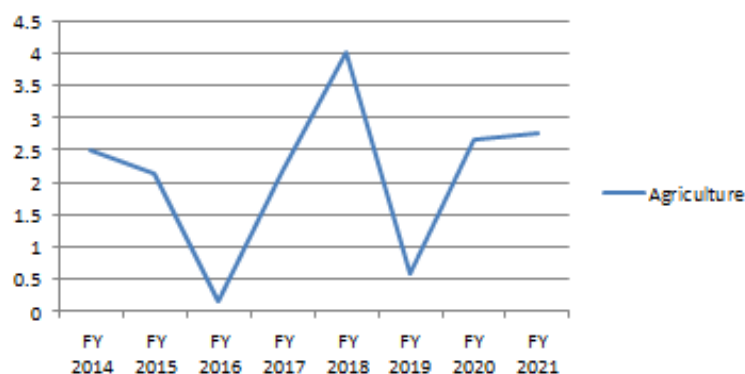
³ Difference due to rounding off.

ploughing, sowing, manure application, weeding, harvesting, collection of harvested crops, de-husking, threshing, transportation, storage and making bundles. These services are mostly used by vehicle owners and farmers who are very keen to maintain their tractor and agricultural equipment to obtain best performance from them; because their earning depends on these. This includes maintaining the tractor's engine as well as its exterior look and repair and maintenance of agricultural equipment.

The agriculture sector's performance during 2020-21 broadly stands encouraging as it grew by 2.77 percent against the target of 2.8 percent. The growth of major crops (wheat, rice, sugarcane, maize and cotton) during the year was 4.65 percent. The production of major Kharif crops, such as sugarcane, maize and rice, indicated considerable improvement compared to last year and surpassed the production targets.

Figure 23 shows the trend of growth in agriculture sector each year from 2014-21 with respect to base year 2005-06⁴. The agriculture sector's performance during 2020-21 broadly stands encouraging as it grew by 2.77 percent. The increase in agricultural produce shows that tractors and other agricultural equipment have also been used extensively to prepare, grow and harvest the produce. It further shows that the equipment would also need services of such units that would help in repair of these equipment due to their wear and tear.

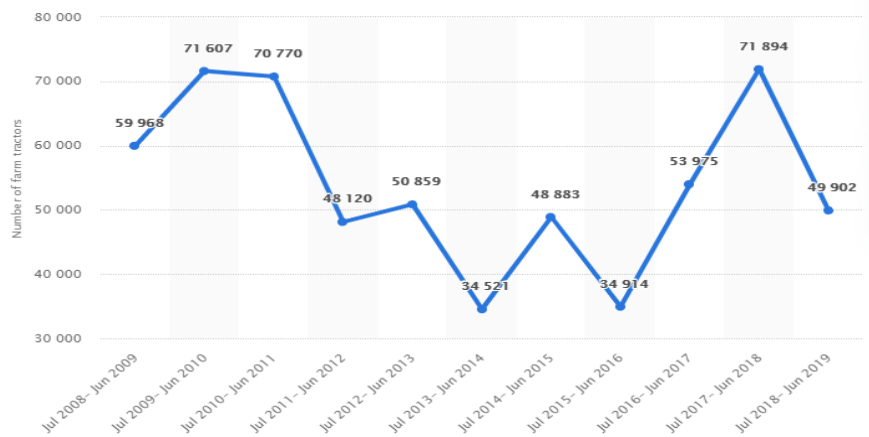
Figure 23 Growth in Agriculture Sector



Pakistan produces a large number of tractors every year. Figure 24 shows the production of tractors each year.⁵

⁴ https://www.finance.gov.pk/survey/chapters_21/02-Agriculture.pdf

⁵ <https://www.statista.com/>

Figure 24 Production of Tractors

Due to the global pandemic during last years, the production of tractors has slowed down. It is expected that after normalization of the situation, the activities would go at a faster pace. The government has also announced packages like Kissan Cards to encourage small farmers that would help them in buying agricultural implements and other equipment. This will further increase the demand for tractors and other agricultural equipment. The incremental and existing equipment's repair and maintenance requirement provides opportunity to invest in establishing new repair units near agricultural land and the existing units may also be expanded to meet the market demand.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of the Setting up Tractor/Agricultural Equipment Repair Unit. Various costs and revenue related assumptions, along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as Annexure.

Project is proposed to be financed through 100% equity. Total project cost has been estimated to be PKR 4 million which comprises of capital investment of PKR 2.8 million and working capital of PKR 1.2 million.

9.1. Initial Project Cost Estimates

The details of initial project cost calculated for the Tractor/Agricultural Equipment Repair Unit are shown in Table 5.

Table 5 Initial Project Cost

| Cost Item | Cost (PKR) | Details Reference |
|---------------------------|-------------------|--------------------------|
| Land | - | 9.1.1 |
| Building / Infrastructure | 171,836 | 9.1.2 |
| Machinery & Repair Tools | 604,050 | 9.1.3 |
| Office Equipment | 307,000 | 9.1.4 |
| Furniture and Fixture | 438,000 | 9.1.5 |
| Office Vehicle | 80,800 | 9.1.6 |
| Pre-operating Costs | 179,446 | 9.1.7 |
| Security against Building | 421,875 | 9.1.8 |
| Total Capital Cost | 2,203,007 | |
| Working Capital | 1,190,859 | 9.1.9 |
| Total Project Cost | 3,393,866 | |

9.1.1. Land

Tractor/Agricultural Equipment Repair Unit will be established in a rented space to avoid the high cost of land. Suitable location for setting up a unit like this can be easily found on rent. Therefore, no land cost has been added to the project cost. Total space requirement for the proposed manufacturing unit has been estimated as 5,625 sq. feet. The required land breakup is shown in Table 6.

Table 6 Land Area Breakup

| Description | % Break-Up | Numbers | Area Sq. Ft. |
|---------------------------------|-------------------|----------------|---------------------|
| Executive Office / Owner Office | 3% | 1 | 150 |
| Workshop Area | 43% | 1 | 2,400 |
| Waiting Area | 3% | 1 | 150 |
| Store Room | 5% | 1 | 296 |
| Kitchen | 1% | 1 | 64 |
| Washrooms | 2% | 3 | 90 |
| Open Area | 44% | 1 | 2,475 |
| Total | 100% | | 5,625 |

9.1.2. Building

There will be no cost of building since the proposed business will be started in the rented premises. However, there will be a renovation cost required to make the building ready to use for the business. The proposed project requires estimated electricity load of around 3 KW for which an electricity connection under the General Supply Tariff-Commercial A-2 single phase will be required. Cost of such electricity connection has not been included in the project cost, since electricity connection is generally available in such places, which are offered for rent. Building rent of PKR 140,625 per month has been included in the operating cost. Building renovation cost is shown in Table 7.

Table 7 Renovation Cost Details

| Cost Item | Unit of Measurement | Total Units | Cost/Unit | Total Cost (PKR) |
|------------------------------------|---------------------|-------------|-----------|------------------|
| Paint Cost | Liter | 73 | 500 | 36,612 |
| Labor Cost | Sq. Feet | 7,322 | 10 | 73,224 |
| Curtains | No. | 2 | 8,000 | 16,000 |
| Blinds | No. | 2 | 3,000 | 6,000 |
| Repair Pits | No. | 2 | 20,000 | 40,000 |
| Total Renovation Cost (PKR) | | | | 171,836 |

9.1.3. Machinery and Repair Tools Requirement

Table 8 provides details of machinery and Repair Tools required for the project.

Table 8 Machinery and Repair Tools Requirement

| Cost Item | Unit(s) | Unit Cost (PKR) | Total Cost (PKR) |
|------------------------------|---------|-----------------|------------------|
| Vehicle Lifts | 2 | 150,000 | 300,000 |
| Hoist / Chain Pulley | 3 | 25,000 | 75,000 |
| Welding Plant | 2 | 20,000 | 40,000 |
| Air Compressor (8 Bar, 750W) | 1 | 10,000 | 10,000 |
| Battery Tool Kit | 3 | 9,500 | 28,500 |
| Electrical Tool Kit | 2 | 6,500 | 13,000 |
| Sockets & Ratchets | 2 | 5,000 | 10,000 |

| | | | |
|--|---|-------|----------------|
| Inductance, Capacitance and Resistance Measuring Meter (LCR Meter) | 2 | 5,000 | 10,000 |
| Grinder | 5 | 4,500 | 22,500 |
| Jack Stands | 4 | 4,000 | 16,000 |
| Screwdriver Sets | 4 | 3,000 | 12,000 |
| Hydraulic Jack | 4 | 3,000 | 12,000 |
| Oil Change Wrenches | 4 | 3,000 | 12,000 |
| Spanners Set | 4 | 2,500 | 10,000 |
| Digital Clamp Meter | 2 | 2,500 | 5,000 |
| Pliers Set | 4 | 2,000 | 8,000 |
| Air Pressure Gauge - Large | 1 | 2,000 | 2,000 |
| Latex gloves (Pack of 100) | 1 | 1,400 | 1,400 |
| Hex Keys | 4 | 1,000 | 4,000 |
| Cutters | 5 | 1,000 | 5,000 |
| Pincers | 5 | 1,000 | 5,000 |
| Air Pressure Gauge - Small | 2 | 500 | 1,000 |
| Oil drain pan | 3 | 350 | 1,050 |
| Funnel | 3 | 200 | 600 |
| Total Cost (PKR) | | | 604,050 |

9.1.4. Office Equipment Requirement

Table 9 presents the office equipment requirement proposed for the unit.

Table 9 Office Equipment Requirement

| Cost Item | Units | Unit Cost(PKR) | Total Cost(PKR) |
|------------------|-------|----------------|-----------------|
| Air Conditioners | 1 | 90,000 | 90,000 |
| Desktop Computer | 1 | 30,000 | 30,000 |
| Printer | 1 | 20,000 | 20,000 |
| Water Dispenser | 2 | 20,000 | 40,000 |

| | | | |
|-----------------------------|---|--------|----------------|
| Security System (2 MP Cams) | 6 | 2,000 | 12,000 |
| DVR | 1 | 12,000 | 12,000 |
| LED TV | 1 | 40,000 | 40,000 |
| Wi-Fi/ Internet Connection | 1 | 5,000 | 5,000 |
| Pedestal Fan | 5 | 6,000 | 30,000 |
| Ceiling Fan | 4 | 5,000 | 20,000 |
| Exhaust Fan | 4 | 2,000 | 8,000 |
| Total Cost (PKR) | | | 307,000 |

9.1.5. Furniture and Fixture Requirement

Table 10 gives details of the furniture and fixture required for the project.

Table 10 Furniture and Fixtures Requirement

| Cost Item | Units | Unit Cost (PKR) | Total Cost (PKR) |
|-------------------------|-------|-----------------|------------------|
| Executive Chairs | 1 | 20,000 | 20,000 |
| Executive Table | 1 | 30,000 | 30,000 |
| Cot (Charpai) | 4 | 5,000 | 20,000 |
| Visitors' Chairs | 6 | 8,000 | 48,000 |
| Sofa Set | 1 | 35,000 | 35,000 |
| Wooden Cabinets | 1 | 10,000 | 10,000 |
| Racks | 20 | 10,000 | 200,000 |
| Tool Boards | 5 | 15,000 | 75,000 |
| Total Cost (PKR) | | | 438,000 |

9.1.6. Vehicle Requirement

Details of vehicles required for the project is given in Table 11.

Table 11 Vehicle Requirement

| Cost Item | Unit(s) | Total Cost (PKR) |
|------------|---------|------------------|
| Motorcycle | 1 | 80,800 |

9.1.7. Pre-Operating Cost Requirement

Details of pre operating cost required for the repair unit is given in following table.

Table 12 Pre-Operating Cost Requirement

| Particulars | No. | Hiring Before Year 0 (Months) | Unit Cost (PKR) | Total (PKR) |
|------------------------------|-----|-------------------------------|-----------------|----------------|
| Mechanic | 3 | 1 | 30,000 | 90,000 |
| Security Guard | 2 | 1 | 20,000 | 40,000 |
| Utilities Cost for one month | | | 49,446 | 49,446 |
| Total Cost (PKR) | | | | 179,446 |

9.1.8. Advance against Building Rent

Details of advance security against building rent for the project is given in Table 13.

Table 13 Advance against Building Rent

| Cost Item | Months | Unit Cost (PKR) | Total Cost (PKR) |
|-------------------------|--------|-----------------|------------------|
| Advance Security | 3 | 140,625 | 421,875 |
| Total Cost (PKR) | | | 421,875 |

9.1.9. Working Capital Requirement

Details of working capital required for the project is given in Table 14.

Table 14 Working Capital Requirement

| Cost Item | Total Cost (PKR) |
|---|------------------|
| Consumable's Inventory | 57,400 |
| Spare parts inventory | 492,834 |
| Upfront Building Rent | 140,625 |
| Cash | 500,000 |
| Total Initial Working Capital Cost (PKR) | 1,190,859 |

9.2. Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study, which is shown in Table 15.

Table 15 Financial Feasibility Analysis

| Description | Project |
|------------------------|------------|
| IRR | 79% |
| NPV (PKR) | 22,233,303 |
| Payback Period (years) | 1.91 |

| | |
|----------------------------|-----|
| Projection Years | 10 |
| Discount rate used for NPV | 15% |

9.3. 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 16.

Table 16 Financial Feasibility Analysis with 50% Debt

| Description | Project |
|----------------------------|------------|
| IRR | 79% |
| NPV (PKR) | 25,722,283 |
| Payback Period (years) | 1.89 |
| Projection Years | 10 |
| Discount rate used for NPV | 13% |

9.4. Breakeven Analysis

Table 17 shows calculation of break-even analysis.

Table 17 Breakeven Analysis

| Description | Amount First Year (PKR) | Ratios |
|---------------------------------------|-------------------------|--------|
| Sales (PKR) | 15,228,153 | 100% |
| Variable Cost (PKR) | 10,358,277 | 68% |
| Contribution (PKR) | 4,869,876 | 32% |
| Fixed Cost (PKR) | 4,043,540 | 27% |
| Contribution Margin | 32% | |
| Breakeven Revenue (PKR) | 12,644,192 | |
| Contribution Margin Per Service (PKR) | 2,079 | |
| Breakeven No of Jobs | 1,945 | |
| Breakeven Capacity | 50% | |

9.5. Revenue Generation

Based on 60% capacity utilization, sales revenue during the first year of operations is shown in Table 18. These include service charges for repair or replacement and sale

of parts. It does not include charges of outsourced services i.e., lathe work etc., that is paid directly by the client.

Table 18 Revenue Generation - Services

| Services | Services Rendered (Orders) | Charges per service/order (PKR) | Total Revenue (PKR) |
|---|-----------------------------------|--|----------------------------|
| Mechanical Services | | | |
| <i>Tractor Repair Services</i> | | | |
| Engine Overhaul Service | 14 | 12,000 | 168,000 |
| Steering System Repair Service | 52 | 3,000 | 156,000 |
| Hydraulic System Repair Service | 65 | 4,000 | 260,000 |
| Transmission/ Gear Repair Services | 86 | 10,000 | 860,000 |
| Crown Wheel Service | 52 | 5,000 | 260,000 |
| Radiator Service | 144 | 2,000 | 288,000 |
| Diesel Pump Replacement Service | 43 | 2,500 | 107,500 |
| Brake Service | 72 | 3,500 | 252,000 |
| Oil Change Service | 108 | 500 | 54,000 |
| Tuning - Tractor | 115 | 4,000 | 460,000 |
| Fuel System Issues Services | 144 | 5,000 | 720,000 |
| Carburetor Services | 230 | 3,500 | 805,000 |
| Other Agri Equipment Repair Services | | | |
| Blade Sharpening Services | 130 | 2,000 | 260,000 |
| Rotavator Repair Services | 72 | 5,000 | 360,000 |
| Plough Repair Services | 108 | 5,000 | 540,000 |
| Repair of Hydraulic Trollies | 43 | 8,000 | 344,000 |
| Miscellaneous Services | 432 | 500 | 216,000 |

| | | | |
|---|------------|--------------|------------------|
| Mechanical Services (A) | | | 1,720,000 |
| | | | |
| Electrical System Maintenance Services (B) | 432 | 5,000 | 2,160,000 |
| | | | |
| Total Revenue Repair Services C = (A+B) | | | 8,270,500 |

Table 19 Revenue Generation – Spare Parts

| Parts | Units Sold | Sale Price (PKR) | Revenue (PKR) |
|-----------------------------|-------------------|-------------------------|----------------------|
| General Parts | | | |
| Oil Filter | 107 | 650 | 69,550 |
| Air Filter | 107 | 1,500 | 160,500 |
| Belts | 161 | 400 | 64,400 |
| Clutch and Clutch plates | 107 | 7,000 | 749,000 |
| Tractor Power Steering Kit | 26 | 20,000 | 520,000 |
| Rear PTO Cover Plate | 80 | 3,000 | 240,000 |
| Hydraulic Filter | 54 | 430 | 23,220 |
| Sport Front Axle | 26 | 32,000 | 832,000 |
| Tractor Bearing | 54 | 200 | 10,800 |
| Canopy | 26 | 16,500 | 429,000 |
| Tractor Lower Link Assembly | 54 | 3,000 | 162,000 |
| Brake Drum Assembly | 54 | 1,200 | 64,800 |
| Pre Air Cleaner | 80 | 530 | 42,400 |
| Instrument Cluster | 80 | 2,400 | 192,000 |
| Fly Wheel Assembly | 54 | 5,685 | 306,990 |
| Differential Casing | 80 | 4,500 | 360,000 |
| Connecting Rod | 54 | 1,933 | 104,382 |
| Key Switch | 133 | 415 | 55,195 |
| Steering Knuckle | 54 | 1,666 | 89,964 |
| Axle Shaft | 54 | 5,215 | 281,610 |
| Steering Wheel | 54 | 1,035 | 55,890 |
| Gear Driven 3rd | 80 | 2,600 | 208,000 |

| | | | |
|--|-----|-------|---------|
| Gear Driven 4th | 54 | 2,465 | 133,110 |
| Reverse Gear (1st and 2nd) | 54 | 2,610 | 140,940 |
| Switch Neutral | 54 | 360 | 19,440 |
| Oil Pressure Switch | 107 | 175 | 18,725 |
| High Low Gear Sleeve | 54 | 760 | 41,040 |
| Sleeve Lift Control | 54 | 1,170 | 63,180 |
| Pipe Silencer | 80 | 1,850 | 148,000 |
| Leveling Lift Rod | 54 | 1,153 | 62,262 |
| Fuel Sending Unit | 54 | 360 | 19,440 |
| Cover Sleeve | 54 | 680 | 36,720 |
| Thrust Washer | 54 | 130 | 7,020 |
| Pin Journal | 80 | 320 | 25,600 |
| Rod Lift Piston | 54 | 330 | 17,820 |
| Hub Front Wheel | 26 | 1,580 | 41,080 |
| Air Cleaner | 80 | 2,000 | 160,000 |
| Intake Valve Small | 54 | 215 | 11,610 |
| Intake Valve Large | 80 | 215 | 17,200 |
| PTO Gear Sleeve | 54 | 430 | 23,220 |
| Electrical and Electronic Parts | | | |
| Head Lights | 45 | 575 | 25,875 |
| Back lights | 54 | 500 | 27,000 |
| Indicators | 63 | 400 | 25,200 |
| Bulb | 90 | 200 | 18,000 |
| Holders | 45 | 700 | 31,500 |
| Plough Lamp | 36 | 500 | 18,000 |
| Meter Cable | 45 | 350 | 15,750 |
| Head Light Single | 45 | 520 | 23,400 |
| Ignition Distributer | 18 | 5,000 | 90,000 |
| Magneto in ignition system | 18 | 700 | 12,600 |
| Ignition Coil Parts | 27 | 2,500 | 67,500 |
| Ignition Box | 36 | 2,400 | 86,400 |
| Ignition Switch | 45 | 2,000 | 90,000 |

| | | | |
|----------------------------------|----|-------|-------------------|
| Starter | 45 | 1,400 | 63,000 |
| Starter Solenoid | 27 | 3,500 | 94,500 |
| Starter Drive | 36 | 700 | 25,200 |
| Alternator Fan | 36 | 800 | 28,800 |
| Spark Plug | 54 | 1,080 | 58,320 |
| Radiator Fan | 45 | 2,500 | 112,500 |
| Tractor Fuse Box | 54 | 400 | 21,600 |
| Armature | 36 | 400 | 14,400 |
| Total (PKR) (D) | | | 6,957,653 |
| | | | |
| Total Revenue (PKR) (C+D) | | | 15,228,153 |

9.6. Variable Cost Estimate

Variable costs of the project have been provided in Table 20.

Table 20 Variable Cost Estimate

| Description of Costs | Amount (PKR) |
|---|-------------------|
| Staff salaries | 2,640,000 |
| Utilities Direct | 311,472 |
| Consumables | 688,800 |
| Spare parts | 5,914,005 |
| Communications expense (phone, internet etc.) | 66,000 |
| Office vehicles running expense | 78,000 |
| Office expenses (stationery, entertainment, etc.) | 660,000 |
| Total Cost (PKR) | 10,358,277 |

Table 21 Direct Labor

| Post | No of personnel | Monthly Salary (PKR) | Total Direct Labor Cost (PKR) |
|-------------------|-----------------|----------------------|-------------------------------|
| Labor - Mechanics | 3 | 30,000 | 1,080,000 |
| Auto Electrician | 1 | 30,000 | 360,000 |
| Labor – Helpers | 5 | 20,000 | 1,200,000 |

| | | | |
|--------------------------------|--|--|------------------|
| Total Direct Labor Cost | | | 2,640,000 |
|--------------------------------|--|--|------------------|

Table 22 Variable Cost Assumptions

| Description of Costs | Details |
|---|------------------------------|
| Margin on spare parts | 15% of sale price |
| Communications expense (phone, etc.) | 5% of administration expense |
| Office expenses (stationery, entertainment, etc.) | 25% of Staff Salaries |

9.7. Fixed Cost Estimate

Table 23 shows the estimated fixed cost of the project.

Table 23 Fixed Cost Estimate

| Description of Costs | Amount (PKR) |
|-------------------------------------|------------------|
| Management Staff | 1,320,000 |
| Administration benefits expense | 396,000 |
| Building rental expense | 1,687,500 |
| Utilities | 281,882 |
| Depreciation expense | 322,269 |
| Amortization of pre-operating costs | 35,889 |
| Total Cost (PKR) | 4,043,540 |

Table 24 Management Staff Salary

| Post | Number of Person | Monthly Salary (PKR) | Annual Salary (PKR) |
|------------------------------------|------------------|----------------------|---------------------|
| Supervisor | 1 | 40,000 | 480,000 |
| Store keeper cum Admin cum Cashier | 1 | 30,000 | 360,000 |
| Security Guard | 2 | 20,000 | 480,000 |
| Total Cost (PKR) | | | 1,320,000 |

Table 25 Fixed Cost Assumptions

| Description of Costs | Details |
|---------------------------------|-------------------------------|
| Administration benefits expense | 10% of administration expense |

| | |
|--|-----------------|
| Depreciation expense | |
| Renovation | 10% of Cost |
| Machinery/Vehicle/Equipment/Furniture & Fixtures | 15% of Cost |
| Repairing Tools | 30% of the Cost |

9.8. Human Resource Requirement

For the 1st year of operations, the Tractor/Agricultural Equipment Repair Unit shall require the workforce at a salary cost shown in Table 26.

Table 26 Human Resource Requirement

| Post | No. of Employees | Monthly Salary (PKR) | Annual Salary (PKR) |
|------------------------------------|------------------|----------------------|---------------------|
| Mechanics | 3 | 30,000 | 1,080,000 |
| Auto Electrician | 1 | 30,000 | 360,000 |
| Helpers | 5 | 20,000 | 1,200,000 |
| Store keeper cum Admin cum Cashier | 1 | 30,000 | 360,000 |
| Security Guard | 2 | 20,000 | 480,000 |
| Total | | | 3,960,000 |

10 CONTACT DETAILS

Names of some relevant suppliers of machinery and equipment are provided in Table 27.

Table 27 Suppliers of Machinery and Equipment

| Item | Origin/City | Supplier Name | Contact Number |
|----------------|-------------|------------------------------------|----------------|
| Air Compressor | Karachi | Inter Scan | 02134532131 |
| Air Compressor | Lahore | JS Enterprises | 0320-3131111 |
| Tools | Peshawar | Asghar Doors ,Windows And Hardware | 0333 9248248 |
| Tools | Lahore | Chaudhry Brothers Tool store | 04237661843 |
| Tools | Karachi | Burhani Tools Centre | 0317 2426464 |

| | | | |
|-------------------|-------------------|---------------------------------|---------------|
| Tools | Quetta | Abdullah Hardware Store | 081 2451284 |
| Jack and Jack rod | Karachi | Toolbazaar.pk | 03 111444 084 |
| Tools | Muzaffarabad AJK | Saad Traders | 0300 5071921 |
| Tools | Gilgit and Skardu | MH Tools Machinery and Hardware | 0355 5121165 |

11 USEFUL WEB LINKS

Table 28 Useful Web Links

| Name of Organization | Website |
|---|---|
| Small and Medium Enterprises Development Authority (SMEDA) | www.smeda.org.pk |
| National Business Development Program | www.nbdp.org.pk |
| Government of Pakistan | www.pakistan.gov.pk |
| Ministry of Industries and Production | www.moip.gov.pk |
| Trade Development Authority of Pakistan | www.tdap.gov.pk |
| Pakistan Automotive Manufacturers Association | www.pama.org.pk |
| Government of Punjab | www.punjab.gov.pk |
| Government of Sindh | www.sindh.gov.pk |
| Government of Khyber Pakhtunkhwa | www.kp.gov.pk |
| Government of Balochistan | www.balochistan.gov.pk |
| Government of Gilgit-Baltistan | www.gilgitbaltistan.gov.pk |
| Government of Azad Jammu and Kashmir | https://www.ajk.gov.pk |
| Pakistan Economic Survey | https://www.finance.gov.pk/ |
| Pakistan Association of Automotive Parts & Accessories Manufacturers (PAPAAM) | https://www.paapam.com/ |
| Millat Tractors Limited | https://www.millat.com.pk/ |
| Fiat Tractors | https://www.cnhindustrial.com/ |
| Al Ghazi Tractors | https://www.alghazitractors.com |

12 ANNEXURES

12.1 Income Statement

| Income Statement | | | | | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| Revenue | | | | | | | | | | |
| Electrical System Maintenance Services | 2,160,000 | 2,773,680 | 3,489,025 | 4,320,286 | 4,755,194 | 5,233,884 | 5,760,761 | 6,340,678 | 6,978,973 | 7,681,523 |
| Mechanical Service Revenue | 6,110,500 | 7,856,008 | 9,884,966 | 12,249,476 | 13,482,590 | 14,839,838 | 16,333,715 | 17,977,975 | 19,787,758 | 21,779,726 |
| Revenue from Spare parts | 6,957,653 | 9,008,259 | 11,266,437 | 14,036,317 | 15,449,306 | 17,004,536 | 18,716,327 | 20,600,437 | 22,674,214 | 24,956,752 |
| Total | 15,228,153 | 19,637,947 | 24,640,428 | 30,606,079 | 33,687,091 | 37,078,258 | 40,810,803 | 44,919,090 | 49,440,945 | 54,418,000 |
| <i>Cost of sales</i> | | | | | | | | | | |
| Staff salaries | 2,640,000 | 2,896,080 | 3,177,000 | 3,485,169 | 3,823,230 | 4,194,083 | 4,600,910 | 5,047,198 | 5,536,776 | 6,073,843 |
| Utilities Direct | 311,472 | 312,773 | 314,192 | 315,739 | 317,426 | 319,265 | 321,271 | 323,458 | 325,842 | 328,442 |
| Consumables | 688,800 | 758,139 | 834,459 | 918,461 | 1,010,919 | 1,112,685 | 1,224,695 | 1,347,981 | 1,483,678 | 1,633,035 |
| Spare parts | 5,914,005 | 7,657,020 | 9,576,471 | 11,930,870 | 13,131,910 | 14,453,856 | 15,908,878 | 17,510,371 | 19,273,082 | 21,213,239 |
| Total cost of sales | 9,554,277 | 11,624,012 | 13,902,122 | 16,650,238 | 18,283,486 | 20,079,890 | 22,055,753 | 24,229,008 | 26,619,378 | 29,248,559 |
| Gross Profit | 5,673,876 | 8,013,935 | 10,738,306 | 13,955,841 | 15,403,605 | 16,998,368 | 18,755,049 | 20,690,082 | 22,821,567 | 25,169,441 |
| | 37% | 41% | 44% | 46% | 46% | 46% | 46% | 46% | 46% | 46% |
| <i>General administration & selling expenses</i> | | | | | | | | | | |
| Management Staff | 1,320,000 | 1,448,040 | 1,588,500 | 1,742,584 | 1,911,615 | 2,097,042 | 2,300,455 | 2,523,599 | 2,768,388 | 3,036,922 |
| Administration benefits expense | 396,000 | 434,412 | 476,550 | 522,775 | 573,485 | 629,113 | 690,136 | 757,080 | 830,516 | 911,076 |
| Building rental expense | 1,687,500 | 1,856,250 | 2,041,875 | 2,246,063 | 2,470,669 | 2,717,736 | 2,989,509 | 3,288,460 | 3,617,306 | 3,979,037 |
| Utilities | 281,882 | 283,060 | 284,344 | 285,744 | 287,271 | 288,935 | 290,750 | 292,729 | 294,887 | 297,240 |
| Communications expense (phone, internet etc.) | 66,000 | 72,402 | 79,425 | 87,129 | 95,581 | 104,852 | 115,023 | 126,180 | 138,419 | 151,846 |
| Office vehicles running expense | 78,000 | 85,852 | 94,494 | 104,007 | 114,477 | 126,001 | 138,685 | 152,646 | 168,012 | 184,926 |
| Office expenses (stationery, entertainment, etc.) | 660,000 | 724,020 | 794,250 | 871,292 | 955,808 | 1,048,521 | 1,150,227 | 1,261,799 | 1,384,194 | 1,518,461 |
| Depreciation expense | 322,269 | 322,269 | 322,269 | 439,816 | 379,411 | 379,411 | 492,736 | 536,563 | 536,563 | 739,932 |
| Amortization of pre-operating costs | 35,889 | 35,889 | 35,889 | 35,889 | 35,889 | - | - | - | - | - |
| Subtotal | 4,847,540 | 5,262,194 | 5,717,596 | 6,335,300 | 6,824,205 | 7,391,610 | 8,167,522 | 8,939,056 | 9,738,286 | 10,819,440 |
| Operating Income | 826,336 | 2,751,741 | 5,020,710 | 7,620,541 | 8,579,400 | 9,606,758 | 10,587,528 | 11,751,026 | 13,083,281 | 14,350,002 |
| Gain / (loss) on sale of office equipment | - | - | - | - | - | - | 76,750 | - | - | - |
| Gain / (loss) on sale of office vehicles | - | - | - | - | - | - | 20,200 | - | - | - |
| Earnings Before Interest & Taxes | 826,336 | 2,751,741 | 5,020,710 | 7,620,541 | 8,579,400 | 9,606,758 | 10,684,478 | 11,751,026 | 13,083,281 | 14,350,002 |
| Earnings Before Tax | 826,336 | 2,751,741 | 5,020,710 | 7,620,541 | 8,579,400 | 9,606,758 | 10,684,478 | 11,751,026 | 13,083,281 | 14,350,002 |
| Tax | 41,317 | 320,348 | 926,213 | 1,787,188 | 2,122,789 | 2,482,365 | 2,859,566 | 3,232,858 | 3,699,148 | 4,142,500 |
| NET PROFIT/(LOSS) AFTER TAX | 785,019 | 2,431,393 | 4,094,498 | 5,833,352 | 6,456,611 | 7,124,393 | 7,824,911 | 8,518,168 | 9,384,133 | 10,207,502 |

12.2 Balance Sheet

| 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 | 500,000 | 1,427,437 | 3,365,433 | 5,401,400 | 9,264,473 | 12,800,068 | 15,060,828 | 16,959,974 | 20,129,386 | 21,919,546 | 29,644,866 |
| Consumables inventory | 57,400 | 69,222 | 83,480 | 100,673 | 121,408 | 146,414 | 176,570 | 212,937 | 256,795 | 309,685 | - |
| Spare parts inventory | 492,834 | 682,751 | 913,675 | 1,217,986 | 1,434,438 | 1,689,357 | 1,989,578 | 2,343,152 | 2,759,562 | 3,249,973 | - |
| Pre-paid building rent | 140,625 | 154,688 | 170,156 | 187,172 | 205,889 | 226,478 | 249,126 | 274,038 | 301,442 | 331,586 | - |
| Total Current Assets | 1,190,859 | 2,334,098 | 4,532,744 | 6,907,231 | 11,026,209 | 14,862,317 | 17,476,102 | 19,790,102 | 23,447,184 | 25,810,791 | 29,644,866 |
| <i>Fixed assets</i> | | | | | | | | | | | |
| Land | - | - | - | - | - | - | - | - | - | - | - |
| Building/Infrastructure | 171,836 | 154,652 | 137,469 | 120,285 | 103,102 | 85,918 | 68,734 | 51,551 | 34,367 | 17,184 | (0) |
| Furniture & fixtures | 438,000 | 372,300 | 306,600 | 240,900 | 175,200 | 109,500 | 43,800 | 667,338 | 567,237 | 467,136 | 367,036 |
| Office vehicles | 80,800 | 68,680 | 56,560 | 44,440 | 32,320 | 20,200 | 8,080 | 123,107 | 104,641 | 86,175 | 67,709 |
| Office equipment | 307,000 | 260,950 | 214,900 | 168,850 | 122,800 | 76,750 | 30,700 | 581,952 | 494,660 | 407,367 | 320,074 |
| Repair Tools | 604,050 | 422,835 | 241,620 | 854,931 | 556,168 | 317,810 | 1,124,518 | 731,546 | 418,026 | 1,479,115 | 962,226 |
| Security against building | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 | 421,875 |
| Total Fixed Assets | 2,023,561 | 1,701,292 | 1,379,024 | 1,851,281 | 1,411,465 | 1,032,053 | 1,697,708 | 2,577,369 | 2,040,806 | 2,878,852 | 2,138,919 |
| <i>Intangible assets</i> | | | | | | | | | | | |
| Pre-operation costs | 179,446 | 143,557 | 107,668 | 71,778 | 35,889 | - | - | - | - | - | - |
| Total Intangible Assets | 179,446 | 143,557 | 107,668 | 71,778 | 35,889 | - | - | - | - | - | - |
| TOTAL ASSETS | 3,393,866 | 4,178,947 | 6,019,435 | 8,830,291 | 12,473,563 | 15,894,370 | 19,173,810 | 22,367,471 | 25,487,991 | 28,689,642 | 31,783,785 |
| Liabilities & Shareholders' Equity | | | | | | | | | | | |
| <i>Current liabilities</i> | | | | | | | | | | | |
| Accounts payable | - | 157,066 | 178,042 | 202,805 | 226,120 | 252,354 | 281,909 | 315,248 | 352,905 | 395,494 | 303,692 |
| Total Current Liabilities | - | 157,066 | 178,042 | 202,805 | 226,120 | 252,354 | 281,909 | 315,248 | 352,905 | 395,494 | 303,692 |
| <i>Other liabilities</i> | | | | | | | | | | | |
| Total Long Term Liabilities | - | - | - | - | - | - | - | - | - | - | - |
| <i>Shareholders' equity</i> | | | | | | | | | | | |
| Paid-up capital | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 | 3,393,866 |
| Retained earnings | - | 628,015 | 2,447,527 | 5,233,619 | 8,853,577 | 12,248,150 | 15,498,035 | 18,658,357 | 21,741,220 | 24,900,282 | 28,086,227 |
| Total Equity | 3,393,866 | 4,021,881 | 5,841,393 | 8,627,485 | 12,247,443 | 15,642,016 | 18,891,901 | 22,052,223 | 25,135,086 | 28,294,148 | 31,480,093 |
| TOTAL CAPITAL AND LIABILITIES | 3,393,866 | 4,178,947 | 6,019,435 | 8,830,291 | 12,473,563 | 15,894,370 | 19,173,810 | 22,367,471 | 25,487,991 | 28,689,642 | 31,783,785 |

12.3 Cash Flow Statement

| 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 | | 785,019 | 2,431,393 | 4,094,498 | 5,833,352 | 6,456,611 | 7,124,393 | 7,824,911 | 8,518,168 | 9,384,133 | 10,207,502 | |
| Add: depreciation expense | | 322,269 | 322,269 | 322,269 | 439,816 | 379,411 | 379,411 | 492,736 | 536,563 | 536,563 | 739,932 | |
| amortization of pre-operating costs | | 35,889 | 35,889 | 35,889 | 35,889 | 35,889 | - | - | - | - | - | |
| Consumables inventory | (57,400) | (11,822) | (14,257) | (17,194) | (20,735) | (25,006) | (30,156) | (36,367) | (43,857) | (52,890) | 309,685 | |
| Raw material inventory | (492,834) | (189,917) | (230,924) | (304,311) | (216,452) | (254,919) | (300,221) | (353,575) | (416,409) | (490,411) | 3,249,973 | |
| Pre-paid building rent | (140,625) | (14,063) | (15,469) | (17,016) | (18,717) | (20,589) | (22,648) | (24,913) | (27,404) | (30,144) | 331,586 | |
| Accounts payable | | 157,066 | 20,977 | 24,763 | 23,315 | 26,234 | 29,555 | 33,339 | 37,657 | 42,589 | (91,802) | |
| Cash provided by operations | 500,000 | (690,859) | 1,084,441 | 2,549,877 | 4,138,898 | 6,076,468 | 6,597,632 | 7,180,335 | 7,936,132 | 8,604,716 | 9,389,840 | 14,746,877 |
| Financing activities | | | | | | | | | | | | |
| Issuance of shares | 3,393,866 | - | - | - | - | - | - | - | - | - | - | |
| Purchase of (treasury) shares | | | | | | | | | | | | |
| Cash provided by / (used for) financing activities | 3,393,866 | - | - | - | - | - | - | - | - | - | - | |
| Investing activities | | | | | | | | | | | | |
| Capital expenditure | - | (2,203,007) | - | - | (794,526) | - | - | (1,045,066) | (1,372,397) | - | (1,374,608) | - |
| Acquisitions | | | | | | | | | | | | |
| Cash (used for) / provided by investing activities | (2,203,007) | - | - | (794,526) | - | - | (1,045,066) | (1,372,397) | - | (1,374,608) | - | |
| | | | | | | | | | | | | |
| NET CASH | 500,000 | 1,084,441 | 2,549,877 | 3,344,372 | 6,076,468 | 6,597,632 | 6,135,269 | 6,563,735 | 8,604,716 | 8,015,231 | 14,746,877 | |

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Table 29 Operating Cost Assumptions

| Description | Details |
|------------------------------------|---------|
| Building rent growth rate | 10% |
| Inflation growth rate | 10.1% |
| Wage growth rate | 9.7% |
| Electricity price growth rate | 9.0% |
| Office equipment price growth rate | 9.6% |
| Office vehicle price growth rate | 6.2% |

13.2 Revenue Assumptions

Table 30 Revenue Assumptions

| Description | Details |
|-----------------------------------|---------|
| Sale price growth rate | 10.1% |
| Initial year capacity utilization | 60% |
| Capacity growth rate | 10% |
| Maximum capacity utilization | 90% |

13.3 Financial Assumptions

Table 31 Financial Assumptions

| Description | Details |
|--------------------------------------|---------|
| Project life (Years) | 10 |
| Debt: Equity | 0:100 |
| Discount Rate (100% Equity) | 15% |
| Discount Rate (50:50, Debt: Equity) | 13% |

Small and Medium Enterprises Development Authority

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|---|--|--|---|
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