FINANCING OPPORTUNITIES

AGRICULTURE IMPLEMENTS MANUFACTURING PUNJAB

Small and Medium Enterprises Development Authority

Government of Pakistan

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The purpose and scope of this information memorandum is to introduce the subject matter and provide a general idea and information in this regard. All the material included in this document is based on data / information gathered from various sources and is based on certain assumptions. 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 factors concerned, and the actual results may differ substantially from the presented information. SMEDA does not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking any activity. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information he / she feels necessary for making an informed decision. The assumptions for this particular study are based on June 2019.

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1 Executive Summary

Agricultural Implements are any kind of machinery and equipment used on a farm to help with farming. Around 500 units are producing agriculture implements in Pakistan out of which 200 units are registered with the trade bodies or chamber of commerce & industries. Majority of the agriculture implements manufacturing units are concentrated in the Punjab region. Sargodha, Faisalabad, Daska, Okara and Hafizabad are the major agricultural implements manufacturing cities in Pakistan. The units are categorized into Large, Medium and Small-Scale Units as per their production capacity.

This particular study entails to analyze the financing requirements and major issues in access to finance of the agriculture implements manufacturers in Punjab. The information is collected through primary survey as well as secondary sources. Presently, industry is operating at 50% of installed production capacity due to high production cost of implements and lack of appropriate financing facilities. The financing need of Agriculture Implements Manufacturer can be categorized into three major categories of Working Capital, Technology Upgradation and Leasing Facility for Farmers.

The major problem faced by the industry is access to finance, in order to meet the working capital requirements and technology upgradation, lack of research & development for product development and designs, low-quality steel and casted products, lack of participation in trade shows, and non-availability of leased implements to farmers. The financial products available in the market are not geared to cater the requirements of the cluster.

A detailed financial model has been developed to analyze the viability of discussed financing options for the industry as well as financial institutions. The findings of the study reveal that large scale industry is feasible if it avails loan for working capital but this type of financing is not feasible for medium and small-scale units as the interest rate is high and volume of sale is not up to the level, which covers the cost of financing. The industry directly needs to upgrade the existing machinery and modernized production to increase production efficiency and cost optimization. According to Industry representatives, CNC Machines, Laser Cutters, DC Welding Plants need to be updated on urgent basis. Subsequently, financial institutions also need to lease the agriculture implements to the farmers in order to increase the sale of the units.

2 Introduction to SMEDA

The Small and Medium Enterprises Development Authority (SMEDA), a premier institution of the Government of Pakistan, was established in 1998 with an objective to provide fresh impetus to the economy of Pakistan through the development of SMEs. With a mission "to assist in employment generation and value addition to the national income, through the development of the SME sector by helping increase the number, scale and competitiveness of SMEs". In order to meet its objectives, SMEDA has carried out 'sectoral research' to identify policy recommendations, provide SMEs with access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives aimed at SME development.

SMEDA offers a broad spectrum of business development services to SMEs which include development of prefeasibility studies, identification of experts and consultants, delivery of need-based capacity building programs in addition to business guidance through help desk services. Steering SME / Entrepreneurial focused research has historically been one of the hallmarks of the organization's professional accomplishments.

3 Aims and Objectives of Study

The prime objective of the study is to analyze the financing requirements of the agriculture implements manufacturing industry in Punjab and identify how the financing needs are presently being met by the manufacturers. The major objectives of the study include;

- To explore and understand the various types of financing needs of the Agricultural Implements Manufacturing Industry
- To identify the nature of relationships between Industry and financial institutions
- To highlight the industry perceptions and knowledge of the existing formal financing structure in Pakistan
- To identify the most significant problems faced by the industry for access to financing and to formulate recommendations to overcome those problems faced by this industry.

4 Brief Introduction of the Industry

Agriculture contributes 18.5 percent to country's Gross Domestic Product (GDP) and provides 38.5 percent employment to national labor force but it remains the backward sector of the economy while high performing agriculture is a key to economic growth and poverty alleviation[1]. Accelerated farm mechanization is an important element to accelerate growth in agriculture sector. Main constraints in increasing agricultural productivity also include non-availability of quality tractors and agricultural machinery at right time and at affordable prices to the farmers' community.

Agricultural Implements are any kind of machinery used on a farm to help with farming. The truly elemental human need for food has often driven the development of technology and machines. Sargodha, Faisalabad, Daska, Okara and Hafizabad are the major agricultural implements manufacturing cities in Pakistan. But the combined Thresher is only manufactured in Sargodha and is famous for its high performance and quality. The major supply of hydraulic trolley and combined Thresher is also being supplied from this region. Almost all the machinery & equipment related to agriculture implements are made in every region, however, the following table shows areas for which they are famous for;

Table 1: Location Wise Product Categorization

Major Cluster	**Products Manufactured**
Sargodha	Combined Thresher (Wheat & Gram), Rotavator, Disc Cultivator, Wheat Wrapper Machine, Sub-soilers, Hydraulic Trolley , Heavy Cane Loader, Trolley, etc
Faisalabad	Combined Thresher, Rotavator, Cultivator, Wheat Wrapper Machine, Hydraulic Trolley, Trolley, Thrasher (Wheat and Rice), Seed Drillers, Wheat Straw Chopper, Laser Land Leveler, etc
Daska	Reapers, Threshers, Harvesters, Cultivators, Harrows, Rotavator, Fodder Choppers, Zero Tillage Seed Drills, Wheat Straw Chopper and Rice Stubble Chopper, Plough, Hooks and Land Laser levelers
Okara	Thresher, Digger, Front Blade, Front Loader, Cultivators, Seed Drill, Potato Equipment, Trolley, Laser Leveler, Plough, etc.
Hafizabad	Wheat Straw Chopper, Disk Rotavator, Trolley, Fodder Chopper, etc

Raw materials required for implements manufacturing can be divided into three broad categories:

- Mild (structural) steel section, e.g. flats, bars, sheets, squares, pipes, plates, and round

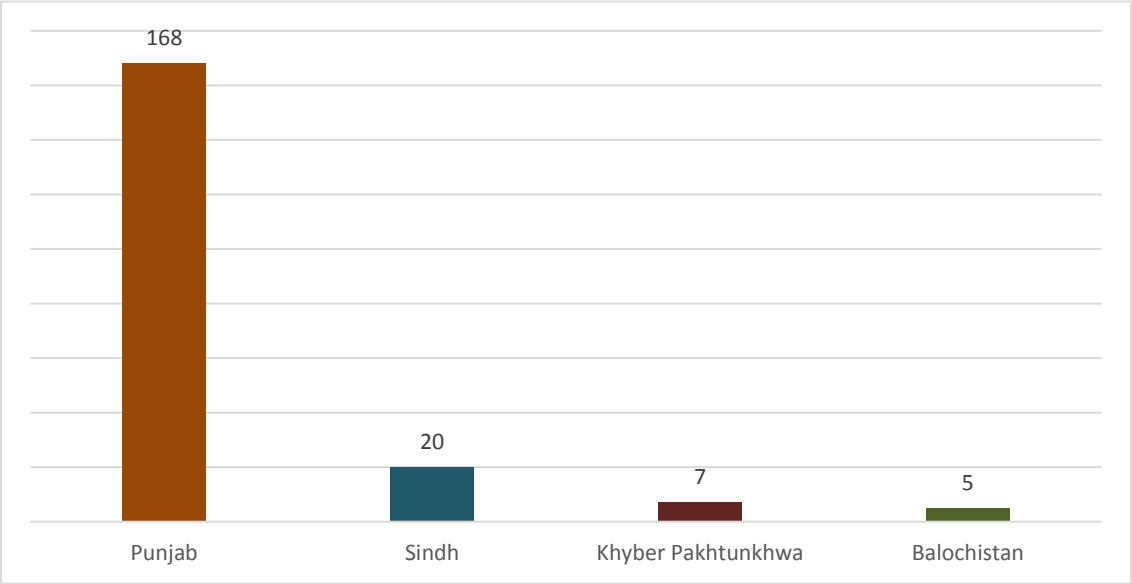
[1] Economic Survey of Pakistan 2018-19

- Casted products like bearing brackets, v-shape pulley, round circle weight, wheel hub, bush, bracket tikki, blades, harrow disc, cultivator shovel, cultivator tynes and springs etc.
- Other standard parts including bearings, gears, chains, paints, nut bolts etc.

4.1 Industry Information

Around 500 units are producing agriculture implements in Pakistan but only 200 units are registered with Pakistan Agricultural Machinery and Implements Manufacturer Association (PAMIMA). Detail of province wise registered agriculture implements manufacturers with association are given in graph below;

Figure 1: Province Wise Manufacturers of Agri-Implemnts



Source: PAMIMA

As per industry practice, the units which have the capacity to produce over 1,000 units a year will be considered as large-scale unit. The units that have capacity to produce around 500 units a year will be considered as medium-scale units and the units which have the capacity to produce less than 200 units a year will be considered as small-scale units.

Table 2: Industry Categorization

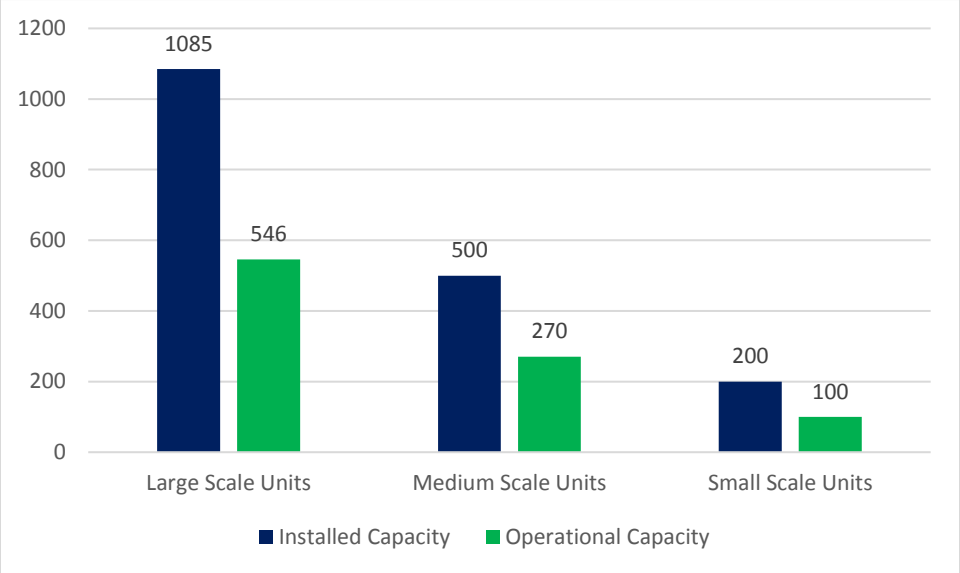
Description	Large Scale Unit	Medium Scale Unit	Small Scale Unit
Installed Capacity (No. of Units)	1,000	500	200
Avg. No of Employees	40~50	20~30	3~5

Books of Accounts	Formal	Semi-Formal	No Formal Accounts
Having Bank Accounts (in the name of Business)	Yes	Yes	No
Area (Kanals)	6~10	3~6	Less than 3
Plant and Machinery Worth on Average (Rs.)	3,500,000	1,500,000	500,000

4.2 Installed and Operational Capacities

A survey has been conducted with the help of PAMIMA on which various units were visited and information was collected. On that information, Installed and Operational Capacities of these units (Average of last 3 years) are given in graph below;

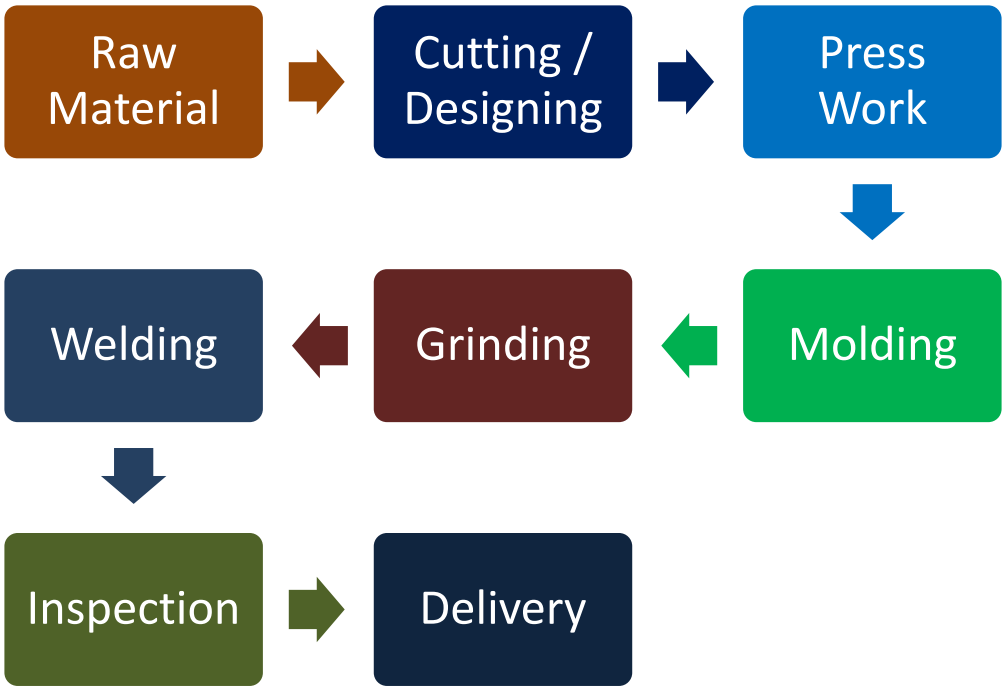
Figure 2: Installed and Operational Capacity of the Units (No. of Units Producing)



All the units are achieving 50% of installed capacity from the last 3 years.

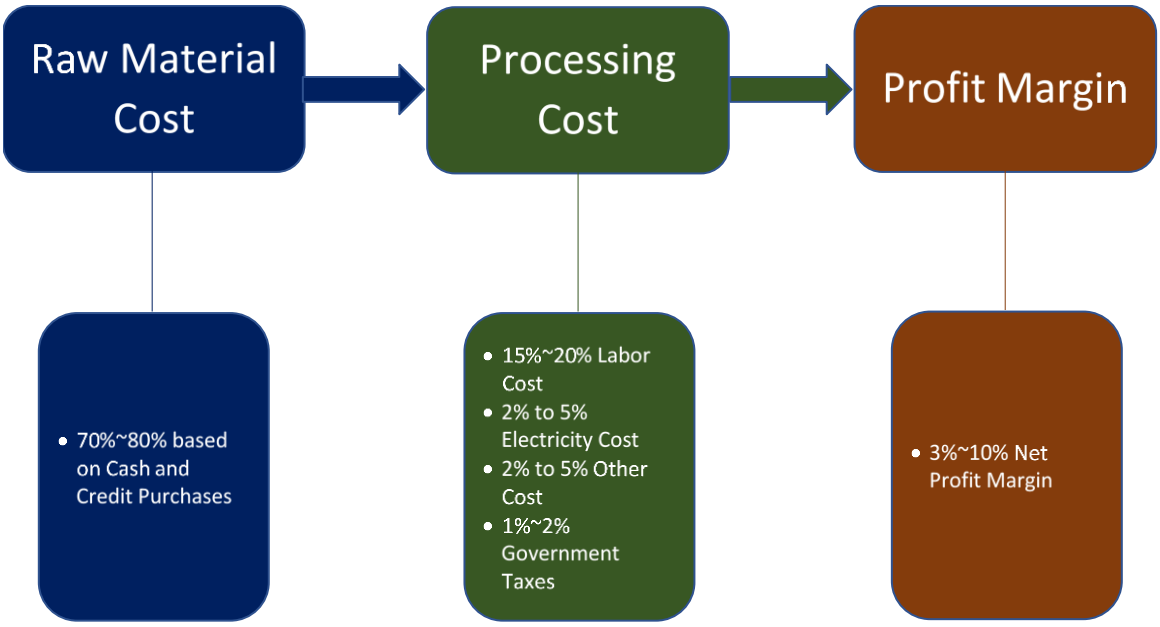
4.3 Production Process Flow

Figure 3: Production Process Flow of the Industry



4.4 Production Cost Composition

Figure 4: Value Proposition of the Production



Source: SMEDA assumptions on the basis of information collected from industry.

5 Import and Export of Agriculture Implements[2]

Trade deficit of Agriculture Implements is increasing due to large imports in recent years. The data for Import and Export is given in following tables;

Table 3: Pakistan Import from World (Amount in USD 000)

Exporters	2014	2015	2016	2017	2018
World	3,501	3,127	3,686	6,018	7,232
China	401	539	782	1,448	3,755
France	986	1,146	1,035	485	1,002
India	162	48	18	37	617
United States of America	1,158	476	1,159	2,283	573
Thailand	-	-	-	515	249
Other Countries	794	918	692	1,250	1,036

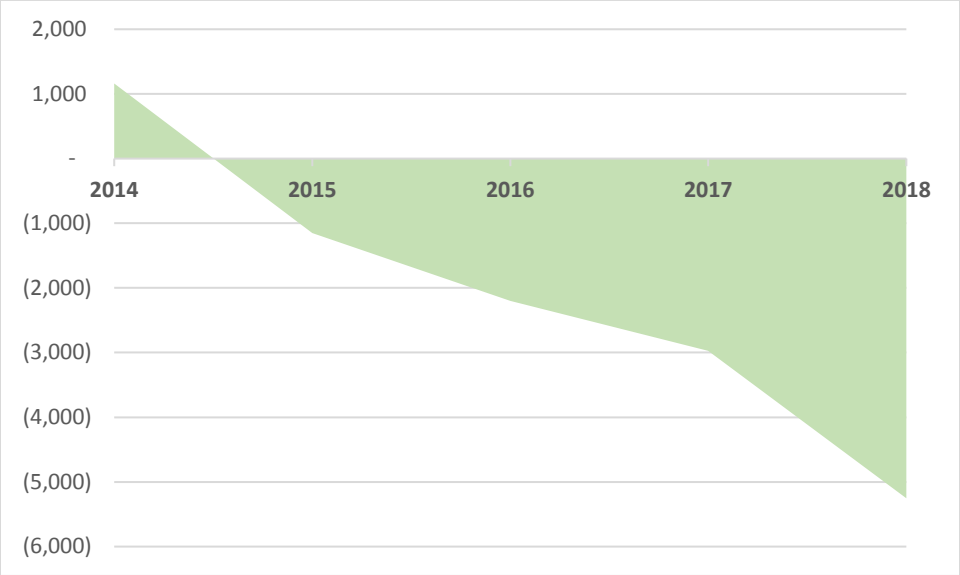
Table 4: Pakistan Export to World (Amount in USD 000)

Importers	2014	2015	2016	2017	2018
World	4,662	1,973	1,483	3,047	1,979
Nigeria	1,385	685	135	1,581	773
Botswana	365	140	67	483	307
South Africa	743	145	148	81	292
Kenya	539	241	284	264	132
Sri Lanka	-	80	142	62	97
Other Countries	1,630	682	707	576	378

The difference between imports and exports of Agriculture Implements during the last five years is exhibited in the following graph;

[2] Trademap (Hs Code: 8432, Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports- ground rollers.)

Figure 5: Import and Export Balance (Amount in USD 000)



6 Financing Need of Agriculture Implements Manufacturer

An informal credit system prevails in the cluster which usually varies from season to season. No special financing scheme for manufacturers of Agriculture Implements has been introduced by any of the financial institution. The financial products available in the market are not geared to cater the specific requirements of the cluster. The financial institutions are reluctant to offer customized financial products to SMEs in the sector. An inadequate level of education of entrepreneurs is also an obstacle to accept the financial products offered by financial institutions.

The financing need of Agriculture Implements Manufacturers can be categorized into three major categories;

1. Working Capital Requirement
2. Technology Up-gradation of the Units
3. Implements Leasing Options for Farmers

All the figures in this study are based on primary data gathered from the industry and certain key assumptions on which all the calculations are projected. The financial model has been developed to analyze the possible financing options along with the following assumptions;

Table 5: Sale of Agriculture Implements (No. of Units)

Description	Large Scale Industry	Medium Scale Industry	Small Scale Industry
Large Agriculture Implements	150	50	10
Medium Agriculture Implements	150	100	40
Small Agriculture Implements	200	150	50

Total	**500**	**300**	**100**

Table 6: Industry Categorization and Costing*

Description	Large Agriculture Implements	Medium Agriculture Implements	Small Agriculture Implements
Weight Categorization (Kgs)	1,000 ~2,000	500~1,000	Less Than 500
Avg. weight (Kgs)	1,775	500	313
Raw Material Cost (On Credit) Rs.	239,625	75,000	42,969
Raw Material Cost (On Cash) Rs.	213,000	65,000	37,500
Electricity and Labor Cost Per Implement (Rs.)	50,175	18,000	9,313
Sale Price Per Unit (Rs.)	303,528	95,450	54,266

* The above information is derived from industry sources during visit of these units

Profitability of each option is calculated with certain assumptions and attached in annexures.

6.1 Working Capital Requirement

The suppliers of raw material are easily available in the clusters; however, the availability of raw material is often scarce or uncertain due to fluctuation in prices and the manufacturers have to face numerous difficulties to maintain the demand.

Majority of the manufacturers are purchasing raw material on credit basis which costs them 8 to 12 percent higher. After interviewing with the industry manufacturers, it was noted that there is also need of finance for purchases of raw material to avoid extra price. In order to do that, a detailed profitability is checked with the comparison between working capital from financial institutions and raw material purchases on credit.

Following assumptions are taken while calculating the profitability of the units.

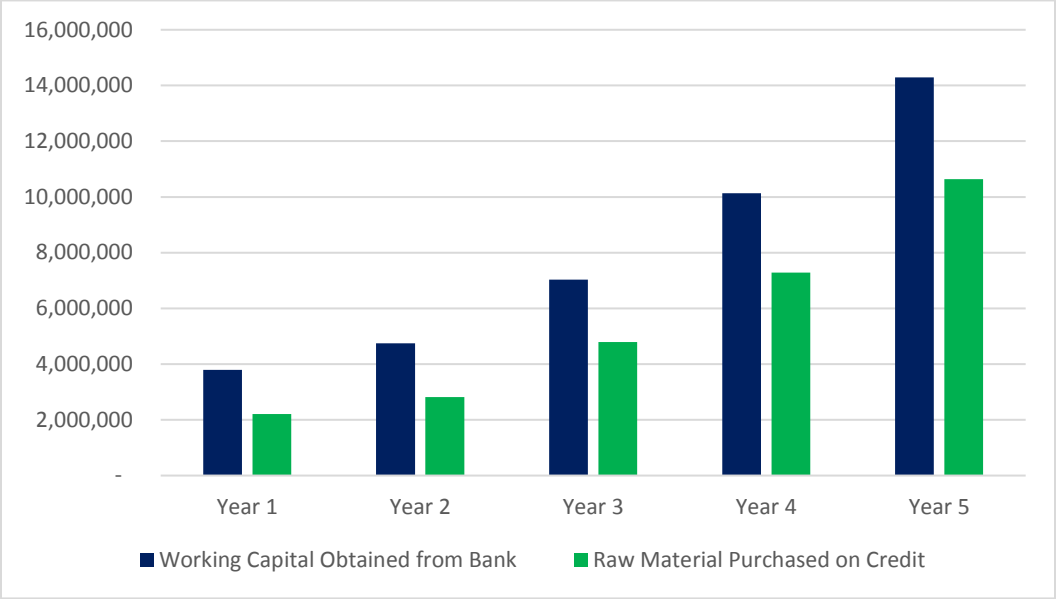
Table 7: Financial Assumptions for Large, Medium and Small Scale Units

Description	Large Scale Unit	Medium Scale Unit	Small Scale Unit
Working Capital Required (Months)	1	1	1
Markup (KIBOR + 3% Spread) **	16.63%	16.63%	16.63%
Amount of Working Capital (Rs.)			
Year 1	4,100,000	1,897,917	550,417
Year 2	5,233,617	2,436,408	714,633
Year 3	6,667,302	3,120,893	920,306
Year 4	8,500,321	3,992,279	1,175,495
Year 5	10,819,272	5,123,679	1,494,175

** KIBOR for 1 year

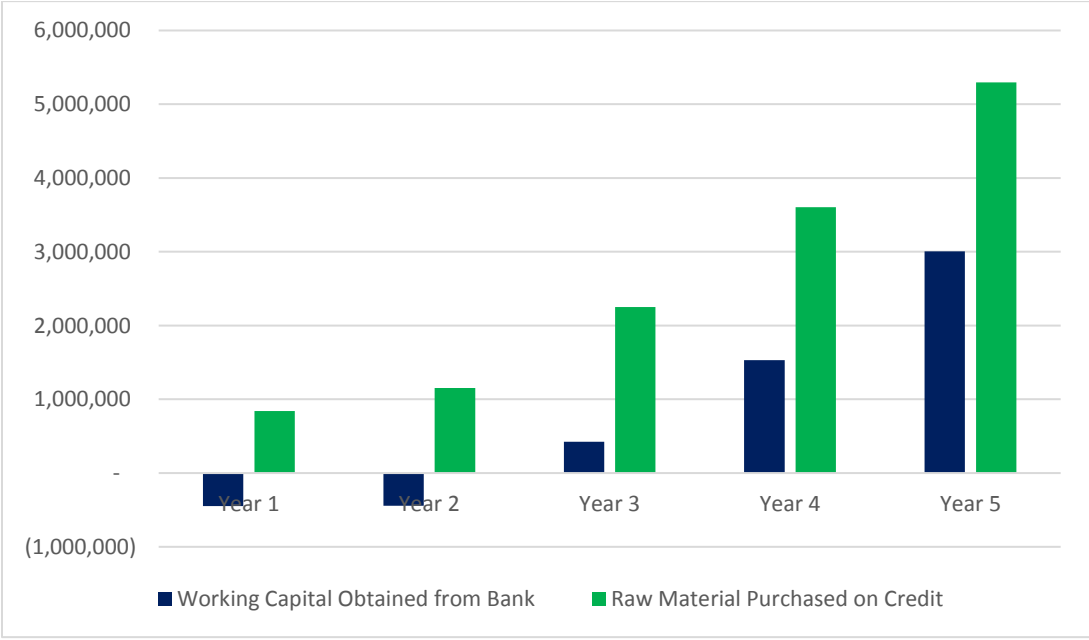
After calculating profitability of the Large-scale unit, the profit of the unit can increase up to 44%[3] if it avails the loan for working capital. The detail is given in following graph;

Figure 6: Comparison of the Estimated Profits with Working Capital Loan – Large Unit



The profitability of medium scale unit for first 2 years is negative, as it has to increase the sale to 400 plus units. However, the results are showing that such units cannot meet the higher interest rates of financing institutions. The detail can be seen in the following graph;

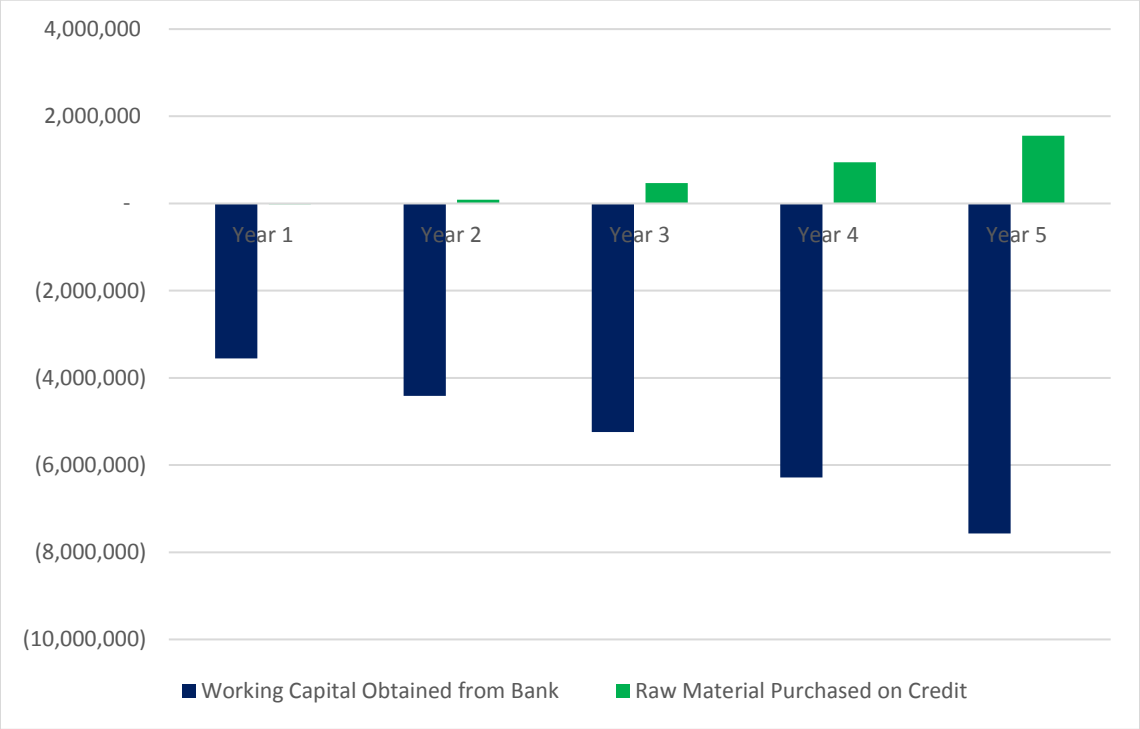
Figure 7: Comparison of the Estimated Profits with Working Capital Loan – Medium Unit



[3] Take average of the 5 years profit and calculate the profit for both options

The working capital is not profitable for small units as the financing cost is high and sale of such units are not up to that level which can cover its operational overheads.

Figure 8: Comparison of the Estimated Profits with Working Capital Loan – Small Unit



6.2 Technology Up-gradation of the Units

After interviewing with the industry stakeholders, following machinery and equipment is identified for the up-gradation of the units, in order to meet the quality standards as well as export market requirements.

Table 8: Machinery and Equipment Required for Medium to Large Scale Units

Required Machinery Per Unit	Quantity	Cost Per Machine (Rs.)	Cost (Rs.)
CNC Machine (Used)	2	2,000,000	4,000,000
Lathe Machine	4	1,000,000	4,000,000
Welding Plant	5	100,000	500,000
Laser Cutter	1	4,000,000	4,000,000
Total			**12,500,000**

Table 9: Machinery and Equipment Required for Small Scale Units

Required Machinery Per Unit	Quantity	Cost Per Machine (Rs.)	Cost (Rs.)
CNC Machine (Used)	1	2,000,000	2,000,000

Lathe Machine	1	1,000,000	1,000,000
Welding Plant	1	100,000	100,000
Total			**3,100,000**

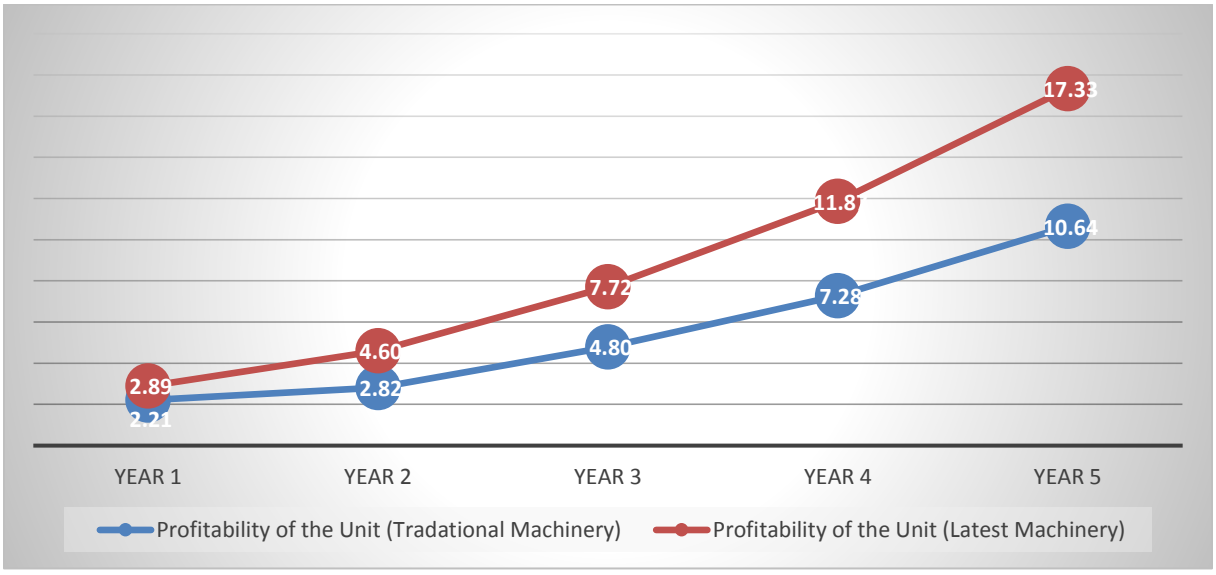
According to Industry Sources, the above machinery & equipment can reduce the electricity cost up to 25% and enhance production efficiency up to 10% (decrease in raw material waste and labor cost). Following Financial Assumptions are taken while calculating the profitability of the units;

Table 10: Financial Assumptions for Technology Up-gradation of Large and Medium Scale Units

Description	**Detail**
Loan Required for Machinery & Equipment for Medium and Large-Scale Unit (Rs.)	12,500,000
Loan Required for Machinery & Equipment for Small-Scale Unit (Rs.)	3,100,000
Decrease in Energy Cost	25%
Increase in Production Efficiency	10%
Mark up (KIBOR + 3%)	17.07%
Tenure of the Lease (Years)	5
No. of Installments Per Year	12
Raw Material Purchased	On Credit

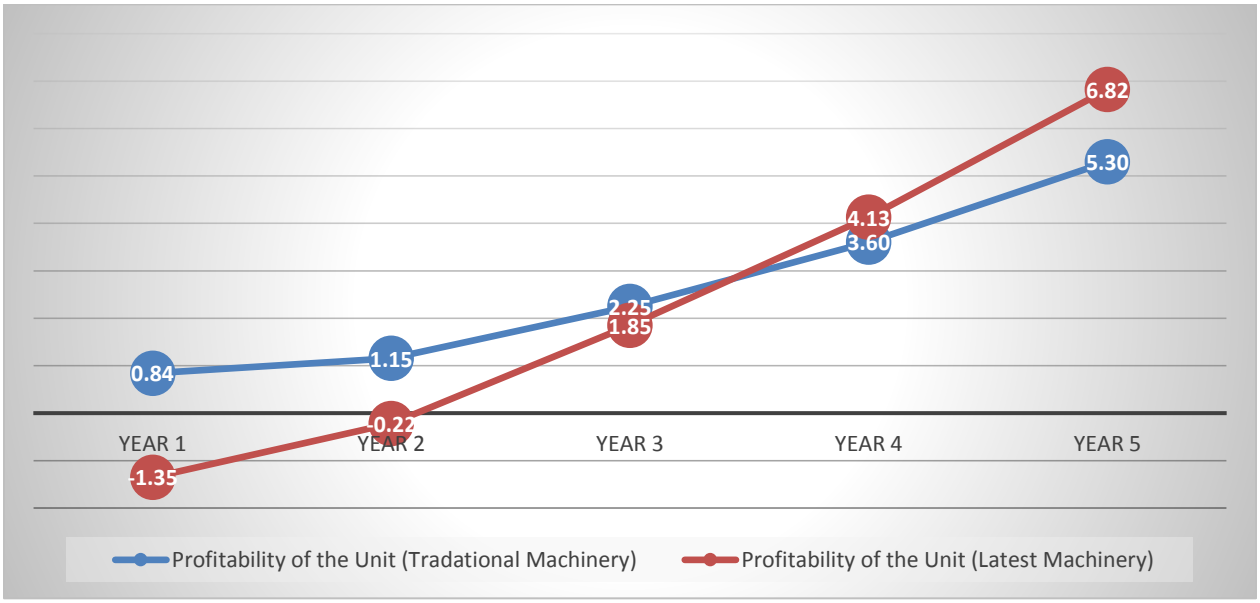
Based on the above assumptions, the results are showing that the profitability of Large-Scale Unit is high if it avails the loan for Machinery & Equipment upgradation. The following graph shows the profitability comparison for both options;

Figure 9: Comparison of Profits for Large Scale Unit (amount in Rs. Million)



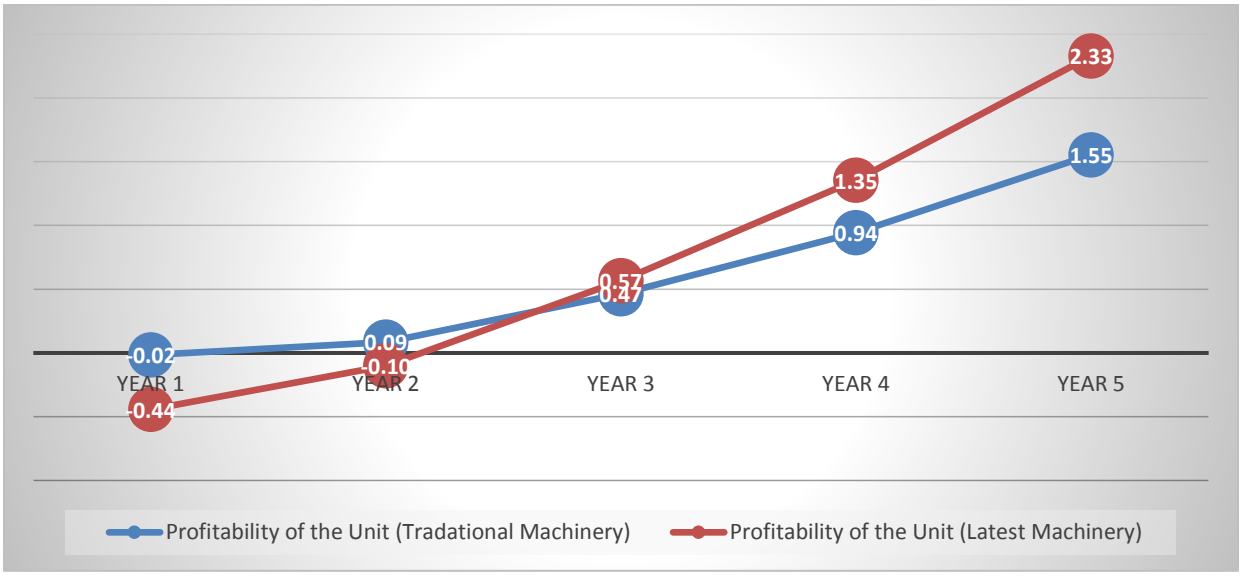
The profitability of Medium-Scale Unit is given in the graph below, showing higher profit in 4th year as compared with traditional machinery set up. Reason for this is volume of sale that covers instalment cost of the Machinery & Equipment Up-gradation.

Figure 10: Comparison of Profits for Medium Scale Unit (amount in Rs. Million)



Small-Scale Unit will cross its profit in 3rd year after upgradation of machinery & equipment. The comparison of both options is given in following graph for better understanding;

Figure 11: Comparison of Profits for Small Scale Unit (amount in Rs. Million)



6.3 Agriculture Implements Leasing Options for Farmers

After interviewing with the industry stakeholders, all were agreed that banks should provide lease option to farmers, that will also increase their sales as well as the profitability. Based on following assumptions per implement leasing instalment for farmer would be;

Table 11: Financial Assumptions for Leasing of Agri-Implemnts

Description	**Detail**
Mark up (KIBOR + 3%)	17.07%
Tenure of the Lease (Years)	5
No. of Installments Per Year	12
Installment Per Month (Rs.)	
Large Scale Implement	Rs. 8,317
Medium Scale Implement	Rs. 2,662
Small Scale Implement	Rs. 1,510

The farmers are relying on the rented Agri Implements which cost high to them. If banks are ready to lease the implements it will increase the sale of these equipment along with mechanization of farms.

7 Key Findings and Recommendations

The issues have been identified through the meetings with stakeholders including associations and industrial surveys in the cluster. Based on that data / information gathered from industry, following recommendations have been proposed for industry, financial institutions and as well as for government authorities.

a) Access to Finance

Access to Finance is one of the key constraints for the growth and development of agricultural implements industry. Most of the industry entrepreneurs are not aware of the requirements of complex bank loaning systems and heavy documentation requirement; therefore, they are generally hesitant to approach the banks for loaning needs. The requirements of collateral and public religious take on the interest kept the public away from obtaining finance facilities. Further, the markup offered by the banks does not meet their business requirements, as their return on investment is quite low as compared to heavy markup rates being charged by commercial banks.

The financing need of Agriculture Implements Manufacturers can be categorized into three major categories;

- **Working Capital Requirement:** Normally Raw Material is purchased from the market on the credit basis, which costs 8 to 12 percent higher than the market price.
- **Machinery & Equipment Requirement:** The up-gradation of the Machinery has become essential in order to avoid the extra cost of production.
- **Agriculture Implements Leasing Options:** The sale of agriculture implements can be increased if financial institutions develop products to provide leasing options for farmers.

The following measures may be considered by the Financial Institutions and Government Departments for meeting the requirements of industry;

- Special financial schemes may be introduced by the Government through financial institutions to allow the manufacturers to obtain finance through subsidized interest rates with a very less amount of paperwork.
- Industries may be provided with guidance on Islamic mode of financing and grant of financing facilities with easier requirement of collateral. Moreover, financing programs may be introduced to facilitate upgrading of machinery with easy conditions as to payback and collateral requirements.
- Financial Institutions may introduce leasing schemes for farmers on easy instalments. Such schemes will increase the sales of the units and lead to farm mechanization.

b) Participation in Local and International Agriculture Exhibitions

Normally, manufacturers display their products in their workshops or in the showrooms. The products need to display in local exhibitions or international trade shows. But due to lack of awareness and high cost associated in shifting machines to such exhibitions, manufacturers are reluctant in appearing such exhibitions.

The following measures may be considered by the Government Departments, Business Chambers and Financial Institutions;

- TDAP may organize such exhibitions and offer subsidized rates for the agriculture implements manufacturers.
- Government or local business chambers may arrange helpful visits for manufacturers to international markets for promoting the local agriculture implement industry.
- Financial Institutions may provide priority financing on subsidized rates, if the manufacturers receive large orders from local or international market in order to meet the product delivery on time.

c) Raw Material Requirement

Steel and casted products are major raw material for manufacturing of agriculture implements. Industry faces problems about available quality of steel sheets and casted products. Shortage of raw material arises in peak season and the prices become high. Some standard parts like chains, blades, discs, bearings, etc. are purchased from importers in Lahore and Karachi and their prices also fluctuate. Mixed quality of steel is available in market due to non-availability of any required grade and characteristics of steel. Further, quality of casted products also varies from implement to implement due to use of primitive sand-based method of casting by casting units and unawareness about material properties like heating requirement.

There is no mechanism of testing of raw material used in implements manufacturing and this leads to variation in quality of raw material. Now a days, only a few manufacturers use digital meters for testing while competitive countries use metallurgy testing techniques. The use of low-quality steel and casted products results in high rejection rate, loss of customer confidence, increased repair and maintenance and disposal cost.

The following measures may be taken by the Government Agencies, Business Chambers and Financial Institutions for improvement in casted raw material;

- Raw material locally produced can be improved with the installation of new technology. Government may make policies to encourage the local raw material manufacturers to produce high quality steel sheets and casted products etc.
- Government institution i.e. TDAP may arrange trade shows or send delegations to the international trade exhibitions where different raw materials for the agricultural

implement manufacturing are available. This will result in cheap and quality supply of materials to the manufacturers.

- SMEDA already handed over the project "Foundry Service Centre, Lahore" to UET, Lahore. This project was designed to test (virtually and physically) such raw materials and designs. Further, PCSIR, TUESDEC and PITAC may develop a plan to provide raw material testing facilities to ascertain the quality at low cost or on cost sharing basis.

d) Outdated Machinery & Equipment

Machinery & Equipment used in agriculture implements industry is outdated and needs to be replaced with the new and latest technology in order to avoid the lower productivity and increased cost of production. It was observed that majority of the manufacturers are not achieving even 60% of their installed capacity and are limited by the factor of outdated technology and energy shortages.

During the interviews with the industry stake holders, list of machines required for upgradation of the units have been compiled and given in the Machinery & Equipment Section along with financial and production benefits. Furthermore, local agriculture implement industry cannot compete with international productivity due to usage of old / used machinery and weak production process flow management.

The following measures may be taken by industries in collaboration with Financial and Government Institutions present in cluster for improvement of processes and development of overall industry;

- Machinery & Equipment (i.e. Welding Plant, Lathe Machines, Manual Cutter, Manual Press) may be replaced on priority basis with new DC Welding Plant, CNC Machines, Laser Cutter in order to enhance implement quality and save energy to avoid high product cost.
- Manufacturers may check calibration and alignment errors in machines and remove them on timely basis to reduce variation in production / assembling process.
- Manufacturers need to have quality standards in order to attract the international buyers and meet the export market standards.
- Financial Institutions may finance for machinery & equipment upgradation on subsidize interest rate and consider this sector as priority.
- Government institutes like SMEDA, TUSDEC, and PSIC may create awareness about latest technology among cluster enterprises.

e) Research & Development of Agriculture Implement Products

There is no research and development exist in the product development and design in the industry. Agricultural implement industry is currently copying designs of the products from international market. The industry has a massive scope for technology and innovation intervention. Further, it is pertinent to mention here that research & development has not only been limited on the engineering side but also on the design and product development.

Proper investment on R&D and innovation will lead to product diversification, market research, knowledge of new technology and techniques, which is essential at this time due to increasing cases of violation of intellectual property rights both in Pakistan and International markets.

The following measures may be taken by the Government Agencies, Business Chambers and Financial Institutions for improvement in research and development;

- Common Facility Centers like Cluster Development Centre for Metallurgy, Casting, Dies and Agriculture Implements at Daska, Foundry Service Centre at Lahore, etc. must be equipped to cater for all these requirements of the industry as a one stop solution.
- Government institutes like PSIC, SMEDA, TUSDEC, PCSIR in collaboration with industry stakeholders may invest in research and development to develop and strengthen innovative techniques and design instead of copycatting exercises.
- Industry may also go for product diversification to capture national and international market by expanding the product range.

8 Different Profitability Scenarios*

Annexure - I: Profitibility after Machinery Upgradation - Large Scale Unit

Revenue (Rs.)	Year 1	Year 2	Year 3	Year 4	Year 5
Large Implements	45,529,219	57,761,402	73,086,537	92,515,069	116,876,024
Medium Implements	14,317,500	18,164,135	22,983,406	29,093,065	36,753,815
Small Implements	10,853,125	14,326,125	18,910,485	24,990,731	32,971,875
Total Revenue	***70,699,844***	***90,251,662***	***114,980,428***	***146,598,865***	***186,601,714***
Cost of Sale (Raw Material)					
Large Implements	32,349,375	41,040,574	51,929,373	65,733,714	83,042,636
Medium Implements	10,125,000	12,845,250	16,253,325	20,573,933	25,991,435
Small Implements	7,734,375	10,209,375	13,476,375	17,809,404	23,497,089
Total Raw Material Cost	***50,208,750***	***64,095,199***	***81,659,073***	***104,117,051***	***132,531,160***
Gross Profit	**20,491,094**	**26,156,463**	**33,321,354**	**42,481,814**	**54,070,554**
Labor Charges	11,001,250	14,037,128	16,249,283	18,824,245	21,770,609
Electricity Cost	815,625	1,046,306	1,218,319	1,420,031	1,652,681
Depreciation	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000
Operating Income	**7,074,219**	**9,473,030**	**14,253,753**	**20,637,538**	**29,047,264**
Loan Instalment (Interest +Principal)	3,733,534	3,733,534	3,733,534	3,733,534	3,733,534
Earning Before Tax	**3,340,684**	**5,739,495**	**10,520,219**	**16,904,003**	**25,313,729**
Tax	455,171	1,141,848	2,802,076	5,036,400	7,979,804
Net Profit	**2,885,513**	**4,597,647**	**7,718,143**	**11,867,603**	**17,333,925**

* The Assumptions are as follows;

i. Growth in Sale for Large, Medium and Small Agriculture Implements are assumed at 15%, 15% and 20% respectively.
ii. Sale Price, Raw Material Purchase Price, Labor Wages and Electricity Cost Growth rate is assumed at 10%.
iii. Deprecation is calculated on Straight Line Method at the rate of 10%.
iv. Tax is calculated as per FBR's AoP Slabs.

Annexure - II: Profitibility after Machinery Upgradation - Medium Scale Unit

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	15,176,406	19,365,094	24,607,025	31,107,687	39,551,202
Medium Implements	9,545,000	12,074,425	15,245,274	19,310,680	24,455,960
Small Implements	8,139,844	10,744,594	14,182,864	18,706,935	24,709,044
Total Revenue	***32,861,250***	***42,184,113***	***54,035,163***	***69,125,302***	***88,716,206***
Cost of Sale (Raw Material)					
Large Implements	10,783,125	13,759,268	17,483,759	22,102,603	28,101,880
Medium Implements	6,750,000	8,538,750	10,781,100	13,656,060	17,294,681
Small Implements	5,800,781	7,657,031	10,107,281	13,331,317	17,608,662
Total Raw Material Cost	***23,333,906***	***29,955,049***	***38,372,140***	***49,089,979***	***63,005,224***
Gross Profit	**9,527,344**	**12,229,064**	**15,663,023**	**20,035,323**	**25,710,982**
Labor Charges	5,068,125	6,501,990	7,566,323	8,793,029	10,252,014
Electricity Cost	478,125	615,038	718,369	839,644	983,194
Depreciation	1,600,000	1,600,000	1,600,000	1,600,000	1,600,000
Operating Income	**2,381,094**	**3,512,037**	**5,778,331**	**8,802,650**	**12,875,775**
Loan Instalment (Interest +Principal)	3,733,534	3,733,534	3,733,534	3,733,534	3,733,534
Earning Before Tax	**(1,352,441)**	**(221,498)**	**2,044,797**	**5,069,116**	**9,142,240**
Tax	-	-	196,719	940,734	2,319,783
Net Profit	**(1,352,441)**	**(221,498)**	**1,848,078**	**4,128,381**	**6,822,457**

Annexure - III: Profitibility after Machinery Upgradation - Small Scale Unit

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	3,035,281	4,006,571	5,141,766	6,463,935	7,999,120
Medium Implements	3,818,000	4,829,770	6,121,209	7,749,681	9,782,384
Small Implements	2,713,281	3,581,531	4,727,621	6,211,569	8,183,381
Total Revenue	***9,566,563***	***12,417,873***	***15,990,596***	***20,425,185***	***25,964,885***
Cost of Sale (Raw Material)					
Large Implements	2,156,625	2,846,745	3,653,323	4,592,749	5,683,526
Medium Implements	2,700,000	3,415,500	4,328,775	5,480,393	6,917,873
Small Implements	1,933,594	2,552,344	3,369,094	4,426,615	5,831,808
Total Raw Material Cost	***6,790,219***	***8,814,589***	***11,351,192***	***14,499,756***	***18,433,207***
Gross Profit	**2,776,344**	**3,603,284**	**4,639,405**	**5,925,429**	**7,531,678**
Labor Charges	1,469,875	1,907,235	2,231,295	2,589,043	2,989,071
Electricity Cost	163,125	210,375	246,263	287,100	334,125
Depreciation *	660,000	660,000	660,000	660,000	660,000
Operating Income	**483,344**	**825,674**	**1,501,847**	**2,389,286**	**3,548,482**
Loan Instalment (Interest +Principal)	925,917	925,917	925,917	925,917	925,917
Earning Before Tax	**(442,573)**	**(100,243)**	**575,931**	**1,463,370**	**2,622,565**
Tax	-	-	8,797	109,505	294,513
Net Profit	**(442,573)**	**(100,243)**	**567,134**	**1,353,865**	**2,328,052**

Annexure - IV: Profitibility of Large Scale Unit after Obtaining Working Capital Finance

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	45,529,219	57,761,402	73,086,537	92,515,069	116,876,024
Medium Implements	14,317,500	18,164,135	22,983,406	29,093,065	36,753,815
Small Implements	10,853,125	14,326,125	18,910,485	24,990,731	32,971,875
Total Revenue	***70,699,844***	***90,251,662***	***114,980,428***	***146,598,865***	***186,601,714***
Cost of Sale (Raw Material)					
Large Implements	31,950,000	40,533,900	51,288,270	64,922,187	82,017,418
Medium Implements	9,750,000	12,369,500	15,651,350	19,811,935	25,028,790
Small Implements	7,500,000	9,900,000	13,068,000	17,269,725	22,785,056
Total Raw Material Cost	***49,200,000***	***62,803,400***	***80,007,620***	***102,003,847***	***129,831,264***
Gross Profit	**21,499,844**	**27,448,262**	**34,972,808**	**44,595,018**	**56,770,450**
Labor Charges	11,001,250	14,037,128	16,249,283	18,824,245	21,770,609
Electricity Cost	1,087,500	1,395,075	1,624,425	1,893,375	2,203,575
Depreciation	350,000	350,000	350,000	350,000	350,000
Operating Income	**9,061,094**	**11,666,060**	**16,749,100**	**23,527,398**	**32,446,266**
Working Capital Instalment (Interest +Principal)	4,478,639	5,716,947	7,283,034	9,285,334	11,818,443
Earning Before Tax	**4,582,454**	**5,949,113**	**9,466,066**	**14,242,064**	**20,627,823**
Tax	794,736	1,204,734	2,433,122	4,104,722	6,339,737
Net Profit	**3,787,718**	**4,744,379**	**7,032,944**	**10,137,342**	**14,288,086**

Annexure - V: Profitibility of Medium Scale Unit after Obtaining Working Capital Finance

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	15,176,406	19,365,094	24,607,025	31,107,687	39,551,202
Medium Implements	9,545,000	12,074,425	15,245,274	19,310,680	24,455,960
Small Implements	8,139,844	10,744,594	14,182,864	18,706,935	24,709,044
Total Revenue	***32,861,250***	***42,184,113***	***54,035,163***	***69,125,302***	***88,716,206***
Cost of Sale (Raw Material)					
Large Implements	10,650,000	13,589,400	17,267,910	21,829,731	27,754,944
Medium Implements	6,500,000	8,222,500	10,381,800	13,150,280	16,654,138
Small Implements	5,625,000	7,425,000	9,801,000	12,927,338	17,075,066
Total Raw Material Cost	***22,775,000***	***29,236,900***	***37,450,710***	***47,907,349***	***61,484,147***
Gross Profit	**10,086,250**	**12,947,213**	**16,584,453**	**21,217,953**	**27,232,059**
Labor Charges	5,068,125	6,501,990	7,566,323	8,793,029	10,252,014
Electricity Cost	637,500	820,050	957,825	1,119,525	1,310,925
Depreciation	350,000	350,000	350,000	350,000	350,000
Operating Income	**4,030,625**	**5,275,173**	**7,710,305**	**10,955,400**	**15,319,120**
Working Capital Instalment (Interest + Principal)	4,478,639	5,716,947	7,283,034	9,285,334	11,818,443
Earning Before Tax	**(448,014)**	**(441,774)**	**427,271**	**1,670,066**	**3,500,677**
Tax	-	-	1,364	140,510	495,169
Net Profit	**(448,014)**	**(441,774)**	**425,908**	**1,529,556**	**3,005,508**

Annexure - VI: Profitibility of Small Scale Unit after Obtaining Working Capital Finance

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	3,035,281	4,006,571	5,141,766	6,463,935	7,999,120
Medium Implements	3,818,000	4,829,770	6,121,209	7,749,681	9,782,384
Small Implements	2,713,281	3,581,531	4,727,621	6,211,569	8,183,381
Total Revenue	***9,566,563***	***12,417,873***	***15,990,596***	***20,425,185***	***25,964,885***
Cost of Sale (Raw Material)					
Large Implements	2,130,000	2,811,600	3,608,220	4,536,048	5,613,359
Medium Implements	2,600,000	3,289,000	4,168,450	5,277,415	6,661,655
Small Implements	1,875,000	2,475,000	3,267,000	4,292,475	5,655,086
Total Raw Material Cost	***6,605,000***	***8,575,600***	***11,043,670***	***14,105,938***	***17,930,101***
Gross Profit	**2,961,563**	**3,842,273**	**4,946,926**	**6,319,247**	**8,034,784**
Labor Charges	1,469,875	1,907,235	2,231,295	2,589,043	2,989,071
Electricity Cost	217,500	280,500	328,350	382,800	445,500
Depreciation	350,000	350,000	350,000	350,000	350,000
Operating Income	**924,188**	**1,304,538**	**2,037,281**	**2,997,404**	**4,250,213**
Working Capital Instalment (Interest +Principal)	4,478,639	5,716,947	7,283,034	9,285,334	11,818,443
Earning Before Tax	**(3,554,452)**	**(4,412,409)**	**(5,245,753)**	**(6,287,930)**	**(7,568,230)**
Tax	-	-	-	-	-
Net Profit	**(3,554,452)**	**(4,412,409)**	**(5,245,753)**	**(6,287,930)**	**(7,568,230)**

Annexure - VII: Profitibility of Large Scale Unit (Raw Material Purchased on Credit)

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	45,529,219	57,761,402	73,086,537	92,515,069	116,876,024
Medium Implements	14,317,500	18,164,135	22,983,406	29,093,065	36,753,815
Small Implements	10,853,125	14,326,125	18,910,485	24,990,731	32,971,875
Total Revenue	***70,699,844***	***90,251,662***	***114,980,428***	***146,598,865***	***186,601,714***
Cost of Sale (Raw Material)					
Large Implements	35,943,750	45,600,638	57,699,304	73,037,460	92,269,595
Medium Implements	11,250,000	14,272,500	18,059,250	22,859,925	28,879,373
Small Implements	8,593,750	11,343,750	14,973,750	19,788,227	26,107,877
Total Raw Material Cost	***55,787,500***	***71,216,888***	***90,732,304***	***115,685,612***	***147,256,845***
Gross Profit	**14,912,344**	**19,034,775**	**24,248,124**	**30,913,253**	**39,344,869**
Labor Charges	11,001,250	14,037,128	16,249,283	18,824,245	21,770,609
Electricity Cost	1,087,500	1,395,075	1,624,425	1,893,375	2,203,575
Depreciation	350,000	350,000	350,000	350,000	350,000
Earning Before Tax	**2,473,594**	**3,252,572**	**6,024,416**	**9,845,633**	**15,020,685**
Tax	264,719	433,143	1,228,545	2,565,971	4,377,239
Net Profit	**2,208,875**	**2,819,429**	**4,795,871**	**7,279,662**	**10,643,446**

Annexure - VIII: Profitibility of Medium Scale Unit (Raw Material Purchased on Credit)

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	15,176,406	19,365,094	24,607,025	31,107,687	39,551,202
Medium Implements	9,545,000	12,074,425	15,245,274	19,310,680	24,455,960
Small Implements	8,139,844	10,744,594	14,182,864	18,706,935	24,709,044
Total Revenue	***32,861,250***	***42,184,113***	***54,035,163***	***69,125,302***	***88,716,206***
Cost of Sale (Raw Material)					
Large Implements	11,981,250	15,288,075	19,426,399	24,558,447	31,224,312
Medium Implements	7,500,000	9,487,500	11,979,000	15,173,400	19,216,313
Small Implements	6,445,313	8,507,813	11,230,313	14,812,574	19,565,180
Total Raw Material Cost	***25,926,563***	***33,283,388***	***42,635,711***	***54,544,422***	***70,005,804***
Gross Profit	**6,934,688**	**8,900,726**	**11,399,452**	**14,580,880**	**18,710,402**
Labor Charges	5,068,125	6,501,990	7,566,323	8,793,029	10,252,014
Electricity Cost	637,500	820,050	957,825	1,119,525	1,310,925
Depreciation	350,000	350,000	350,000	350,000	350,000
Earning Before Tax	**879,063**	**1,228,686**	**2,525,304**	**4,318,327**	**6,797,463**
Tax	37,906	74,303	275,061	715,498	1,499,111
Net Profit	**841,156**	**1,154,383**	**2,250,243**	**3,602,829**	**5,298,352**

Annexure - IX: Profitibility of Large Small Unit (Raw Material Purchased on Credit)

Revenue (Rs.)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Large Implements	3,035,281	4,006,571	5,141,766	6,463,935	7,999,120
Medium Implements	3,818,000	4,829,770	6,121,209	7,749,681	9,782,384
Small Implements	2,713,281	3,581,531	4,727,621	6,211,569	8,183,381
Total Revenue	***9,566,563***	***12,417,873***	***15,990,596***	***20,425,185***	***25,964,885***
Cost of Sale (Raw Material)					
Large Implements	2,396,250	3,163,050	4,059,248	5,103,054	6,315,029
Medium Implements	3,000,000	3,795,000	4,809,750	6,089,325	7,686,525
Small Implements	2,148,438	2,835,938	3,743,438	4,918,461	6,479,786
Total Raw Material Cost	***7,544,688***	***9,793,988***	***12,612,435***	***16,110,840***	***20,481,341***
Gross Profit	**2,021,875**	**2,623,885**	**3,378,161**	**4,314,345**	**5,483,544**
Labor Charges	1,469,875	1,907,235	2,231,295	2,589,043	2,989,071
Electricity Cost	217,500	280,500	328,350	382,800	445,500
Depreciation	350,000	350,000	350,000	350,000	350,000
Earning Before Tax	**(15,500)**	**86,150**	**468,516**	**992,502**	**1,698,973**
Tax	-	-	3,426	49,250	144,846
Net Profit	**(15,500)**	**86,150**	**465,090**	**943,252**	**1,554,127**