Detailed Project Report

Karnal Agricultural Implements Cluster

Submitted to, Department of Industries and Commerce Government of Haryana (For assistance under State Mini Cluster Development Scheme)

Report No. 2019-CHD-XXXX June 2019

Submitted by, Karnal Agricultural Implements Manufacturer's Association (KAIMA)

Prepared by, Ernst & Young LLP Under the project: MSME Ecosystem Transformation in Haryana 3rd June, 2019

Director Department of Industries & Commerce, Government of Haryana 1st Floor, 30 Bays Building, Sector 17, Chandigarh

Dear Sir/Madam,

As part of our engagement for providing consulting services for 'MSME Ecosystem Transformation in the State of Haryana', we hereby submit the Draft Detailed Project Report (DPR) for setting up of Common Facility Centre in the Karnal Agricultural Implements cluster for your kind perusal. The deliverable has been prepared in accordance with our engagement agreement with Department of Industries and Commerce, Govt. of Haryana dated 03 January 2017, and our procedures were limited to those described in that agreement.

This Detailed Project Report is based on studies of and discussions with:

- Department of Industries & Commerce, Govt. of Haryana
- DIC Karnal
- > Agri Implements manufacturing related units located in Karnal
- Industry experts
- Secondary research

Our work has been limited in scope and time and we stress that more detailed procedures may reveal other issues not captured here. The procedures summarized in our Draft Detailed Project Report (DPR) do not constitute an audit, a review or other form of assurance in accordance with any generally accepted auditing, review or other assurance standards, and accordingly we do not express any form of assurance. This Draft Detailed Project Report is intended solely for the information and use of the Office of Director Industries-Haryana and is not intended to be used by anyone other than specified party.

We appreciate the cooperation and assistance provided to us during the preparation of this report. If you have any questions, please contact the undersigned.

Sincerely,

Amar Shankar, Partner - Advisory Services

Disclaimer

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Acknowledgement

We would like to express our sincere gratitude to Department of Industries & Commerce -Haryana and its officials for their involvement and valuable inputs during the preparation of this DPR. We are thankful to **Sh. Devender Singh**, IAS, **Additional Chief Secretary**, Industries & Commerce and **Sh. Ashok Sangwan**, IAS, **Director Industries & Commerce**, Government of Haryana for sharing their insights about the 'Enterprises Promotion Policy 2015' and their vision about the Mini Cluster Scheme. Special thanks to **Sh. R.C Dahra**, **Consultant (Clusters), Department of Industries and Commerce and Sh. Anil Kumar**, **Assistant Director, DIC Karnal** for their proactive support and guidance to the team during the entire process.

We would like to convey our sincere thanks to executive members of **Karnal Agricultural Implements Manufacturer's Association (KAIMA)** for their assistance in facilitating stakeholder discussions in the cluster. Further, we would also like to thank officials of DIC, Karnal for providing support and information related to units in Karnal.

Also, we must extend our sincere thanks to engineering and engineering manufacturing MSME entrepreneurs and other key stakeholders who gave us their valuable time and insights with respect to various dimensions of the industry and its support requirements. Without their help, capturing the industry insights would not have been possible.

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Abbreviations

BIS	Bureau of Indian Standard
BEP	Break Even Point
CAGR	Compound Annual Growth Rate
CDCC	Cluster Development Co-ordination Committee
CFC	Common Facility Centre
CDE	Cluster Development Executive
CIAE	Central Institute of Agricultural Engineering
CSSRI	Central Soil Salinity Research Institute
DIC	District Industries Centre
DCOR	Debt Coverage Ratio
EM	Entrepreneur Memorandum
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GB	Governing Body
GHRDC	Global Human Resource Development Centre
HFC	Haryana Financial corporation
HR	Haryana
HSIIDC	Haryana State Industrial Investment and Development Corporation
HUDA	Haryana Urban Development Authority
ІТІ	Industrial Training Institute
IRR	Internal Rate of Return
KAIMA	Karnal Agriculture Implements Manufacturers Association
MOSPI	Ministry of Statistics and Program Implementation
MOA	Memorandum of Articles
MSME	Micro Small and Medium Enterprises
NBAGR	National Bureau of Animal Genetic Research
NCR	National Capital Region
NDRI	National Dairy Research Institute
NH	National Highway
NISST	National Institute of Secondary Steel Technology
NIT	National Institute of Technology
NSDP	National State Domestic Product
NSIC	National Small Industries Corporation
NPV	Net Present Value
O&M	Operation and Maintenance
PMC	Project Monitoring Committee
PPDC	Process and Product Development Centre
R&D	Research and Development

RTC	Regional Testing Centre	
ROCE	Return on Capital Employed	
SIDBI	Small Industries Development Bank of India	
SME	Small, Medium Enterprise	
SPV	Special Purpose Vehicle	
SWOT	Strength, Weakness, Opportunity, Threats	
WDV	Written Down Value	

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Executive Summary



Executive summary

The Government of Haryana through the Department of Industries and Commerce intends to transform the MSME sector of the state and put it on a growth path. Several incentives have been offered under the state's ambitious 'Enterprise Promotion Policy (EPP) 2015' to provide an impetus to growth of the MSME sector. Towards this, the state aims to strengthen the technology infrastructure as well as enhance productivity and competitiveness of various MSME clusters across the state by leveraging funding under the State Mini Cluster Development Scheme providing grant under the EPP 2015.

In the above context, this Detailed Project Report (DPR) has been prepared to seek grant-in-aid assistance under the State Mini Cluster Development Scheme to set up Common Facility Centre through SPV under the name and style of "Karnal Agriculture Implements Manufacturers Association (KAIMA)".

About Agri Implements Cluster

The global Agriculture and Farm Equipment/Machinery market size was valued at 124.2 USD billion in 2015. The adoption of modern technologies by farmers to increase farm yields and meet the growing demand for food supply is expected to be a key factor expected to drive market growth¹.

Agricultural equipment comprises a wide range of machinery and tools that are used in various processes of farming to improve output and enhance the overall crop quality. Traditional tools are now being replaced with various new agricultural equipment, which mainly include crop processing equipment and drip irrigation equipment.

Agri-Implements industry is amongst the prominent industries in the country. The Karnal agricultural implements cluster has vast experience in the trade. The cluster comprises a mix of agriculture and farm implements that undertake a variety of jobs ranging from tractor drawn agricultural implements, primary and secondary tillage implements, sowing implements, harvesting implements, etc. The agriculture implements cluster comprises of about 110 enterprises involved in manufacturing a variety of spares. Of these, 71 units are micro-sized units. In addition, there are around 3 large manufacturing units. The turnover of Agricultural Implements Karnal is about Rs. 650 crores per year.

Cluster Diagnostic and necessary interventions:

Cluster enterprises through Karnal Agriculture Implements Manufacturers Association have pursued several soft interventions that are essential for development of the units. The cluster output is expected to grow from INR 650 crore to INR 2000 crore by 2022. However, the constraints and increased competition faced by the cluster has resulted in decreasing domestic market share from 60% to 50% in the last decade, as well as low presence in international market. In the absence of a tool room and testing facility, cluster firms are facing challenges of longer production time and reduced market competitiveness.

A diagnostic study was undertaken to map the existing business processes in the cluster, identify the gaps, and understand the requirements of the cluster. It was observed that most units required die, mould & machining facilities, as they were currently availing these services from external service providers at high prices and with production delays. This has resulted in a negative impact on their

¹https://www.grandviewresearch.com/industry-analysis/agriculture-equipment-market

cost competitiveness and a subsequent impact on their market competitiveness. In this context, the units have decided to establish a CFC.

Proposed Common Facility Centre:

The proposed CFC will include and facilitate:

- i) State of the art Tool Room facilities through use of modern machines
- ii) Quality testing facilities through use of spectrometer

Special Purpose Vehicle

The Karnal Agriculture Implements Manufacturers Association (KAIMA) was incorporated under Societies Registration Act, 1860 and is the largest association of industry stakeholders in the District. The association has taken the lead to implement State Mini Cluster Development Scheme in the form of SPV. Member firms comprise of micro and small-scale enterprises in the agricultural implements units. The firms are essentially existing players in the industry and has decades of experience in the industry.

Project parameters, viability and sustainability

The cluster with support from State Government is planning to set up Common Facility Centre having state-of-the-art modern machining facilities to undertake job work of cluster units and the total project cost is about **INR 386.65 lakhs**. The SPV members have proposed to contribute 28.60% of the project cost. The total contribution of SPV members will amount to **INR 72.12 lakh** as per the guidelines of Mini Cluster Scheme. The SPV has already contributed Rs. 163.95 Lakhs in terms of land and construction of building, out of which Rs. 50 Lakhs has been considered as their contribution. The balance of Rs. 22.12 Lakhs as per financials or the actual amount incurred on plant & machinery over and above GoH grant of Rs. 180 Lakhs will be contributed by SPV in adherence to the guidelines. Support from State Government is envisaged for **INR 180.00 lakh**.

PROJECT COST (Rs. in Lakh)				
S. No.	Particulars	Total Project Cost	Amount as per Guidelines	Remarks
1	Land & Building			
	a. Land Value	20.32		
	b. Land Development	0.00	50.00	Eligible
	c. Building & Other Civil Works	143.62	50.00	(Max 25% Of project
	d. Building Value	0.00		cost)
	Sub Total (A)	163.94	50.00	
2	Plant & Machinery			
	a. Indigenous	173.87		
	b. Imports	0.00	202.12	Eligible
	c. Secondary Machines	28.25		
	Sub Total (B)	202.12	202.12	
3	Miscellaneous fixed assets (C)	2.30	0.00	
4	Preliminary & Preoperative Expenses (D)	5.25	0.00	Not eligible for grant
5	Contingency			

The cost of the project and proposed means of finance is tabulated below:

	a. Building @ 2%	0.00	0.00
	b. Plant & Machinery @ 5%	10.15	0.00
	Sub Total (E)	10.15	0.00
6	Margin money for working capital		
	(Working capital required @ 75% C.U.)	2.90	0.00
	Sub Total (F)	2.90	0.00
	Grand Total (A+B+C+D+E+F)	386.65	252.12

The total project cost is estimated to be **INR 386.65 lakhs**. As indicated above, assistance to the project from the Govt. of Haryana is envisaged to the tune of **INR 180 lakhs** of the project cost, SPV contribution is to the tune of **INR 72.12 lakhs** of the project cost.

	Means of Finance		
S. No. Source of finance		Total Amount (Rs. In Lakh)	
1	Grant-in-aid (Govt. of Haryana)	180.00	
2	Contribution of SPV	72.12	
	Total	252.12	

The viability and sustainability of the project is evident from the project economics as well as the cooperative spirit and profile of the SPV. Some indicators of the viability are as follows:

Project's financial indicators

FEASIBILITY			
S. No.	Particulars	Estimates	
1	BEP (cash BEP at initial operating capacity of 75%)	57.84%	
2	Av. ROCE (PAT/CE)	36.16%	
3	Internal Rate of Return (IRR)	19.28%	
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoH	NPV is positive and high (Rs 175.95 lakh) at a conservative project life of 10 years	
5	Payback period	5 years & 11 months with Grant- in-aid assistance from GoH	

As evident from the financials above, with viability gap funding under State Mini Cluster Development Scheme of GoH, the project is highly viable and sustainable. Risk and sensitivity analysis considering a decline in user charge/ capacity utilization also validates the project sustainability.

Project Implementation

The proposed project will be implemented in a time-frame of 6 months upon receipt of approval and assistance under the Mini Cluster Development Scheme. The project will be implemented by the KAIMA in close association with the DIC, Karnal. Implementation will be monitored by a local Project Monitoring Committee (PMC) comprising representative of the DIC, Karnal and SPV members.

SPV has received contribution from 71 members for establishing CFC under mini cluster scheme. These members will avail the facilities installed at CFC by paying user fee as decided by SPV. The CFC will also be open for non-members and they can also avail the facilities by paying user charges for non-members as decided by SPV. The CFC shall act as an enabler to cluster enterprises for improving productivity and value-addition by means of tool room and testing facilities. The common facility is expected to enhance the levels of co-operation and joint-action amongst cluster stakeholders and SPV members. CFC shall further encourage these units to come together for setting up facilities to manufacture more competitive agricultural implement products.

Introduction



1. Introduction

1.1 Overview of the Cluster

There are about 110 agri implements manufacturing units in Karnal district, Haryana, 71 units have formed a Special Purpose Vehicle (SPV) under the name and style of "Karnal Agricultural Implements Manufacturers Association" to set up a Common Facility Centre (CFC) for addressing common problems of the cluster. The cluster comprises of mainly micro and small units. This proposed intervention under the Mini Cluster Development Scheme of Government of Haryana is expected to address the common technology and infrastructure related problems of the cluster.

The annual turnover of the cluster (micro and small units) is about INR 300 Crore. The cluster units are engaged in the manufacturing of Disc Plough, Mold Board Plough, Sub-Soiler, Disc Harrow, Paddy Harrow, Paddy Peddler, Reversible Plough, Seed drill, Sugarcane Planter, Harvesting Implements etc. Most of the units manufacture products for other brands, while some also manufacture under their own brands.

1.2 Geographic and Economic Traits

The state of Haryana was formed on 01 November 1966. It is situated in the northwest of India with the capital of Chandigarh as a Union Territory. The state is surrounded by Delhi, Rajasthan, & Uttar Pradesh with around 30% of the total area of the state falling under National Capital Region (NCR). The state stands 21st in terms of its area. According to the Census of India 2011, the state is 18th largest by the population. Over the last 5 decades since its formation in 1966, Haryana has transformed and matured into a diversified economy with a thriving secondary and tertiary sector. Although Haryana has an area covering just 1.3 per cent of the country, Haryana contributes nearly 3.63 per cent to India's GSDP. During 2004-16, the state's GSDP grew at a compound annual growth rate (CAGR) of 12.12 per cent.

1.3 Economic Scenario of the State

Haryana is 11th state in the country in terms of GSDP, with growth rate of around 6.5%. With just 1.3% of the total area of the country, Haryana contributes to nearly 3.4% of India's GDP. Haryana, with just 1.37% of the country's geographical area and 1.97% of country's total population, is counted among the first few states with the highest per capita income. The state economy is predominantly agricultural.

The industry sector contributes about 18% of the total GSDP of the state. Haryana is fast emerging as one of the most



Figure 1: GSDP Composition 2015-16

favoured investment destinations in India. The globalization of markets and a resilient economy have given an incredible drive to the industrial sector in Haryana, which already has a competitive advantage in terms of strategic location, basic infrastructure as well as large skilled, educated and young workforce.

The state is in transition from agrarian to manufacturing sector. The state is gradually transforming from an agrarian economy to an industrial economy. To boost the growth rate further and make

Haryana a favourable investment destination, the State has developed the Enterprise Promotion Policy in 2015. With the Enterprise Promotion Policy-2015, the state has envisaged a sustainable industrial spectrum in the state with a special focus on MSMEs in its endeavour for effecting a balanced regional and sustainable development.

1.4 Demographic Trends of District Karnal

According to the 2011 census, Karnal district had a population of 15,05,324 (of which male and female were 797,712 and 707,612 respectively), making it the 5th largest district of Haryana in terms of population. The district has a population density of about 600 inhabitants per square km.

The percentage of Cultivators to total Workers in 2011 in the district was about 22% whereas during 2001 it was 272. This implies that people have moved away from farming due to lower profits.

However, the district's economy is still predominantly agriculture based, owing to the existence of good irrigation systems across the district. Industrial activities have started increasing in the district due to the pro-business environment in the state. This had led to generation of employment in secondary and tertiary sectors.

The existing area under industrial use is approximately 102 hectare including the major industrial estate of HSIIDC in Sector 3 of Karnal. In view of a strategic location, available infrastructure, topography and drainage, an industrial area of 466 hectare has been allocated by Government of Haryana in sectors 1, 2, 37, 40 and 43-A of Karnal district.



Sector Overview



2. Sector Overview

2.1 Global Scenario of Agri Implements Industry

The Global Agriculture and Farm Equipment/Machinery market size was valued at 124.2 USD billion in 2015. The adoption of modern technologies by farmers to increase farm yields and also meeting the growing demand for food supply is expected to be a key factor to drive market growth.²

Agricultural machinery market (market value consists of tractors & combine harvesters) had a total revenue of \$4,887.3 Mn in 2013, representing CAGR of 17% between 2009 and 2013. The Chinese and Japanese agricultural machinery markets grew at CAGRs of 19.1% and 1.1% respectively over the same period to reach respective values of \$9,080 Mn and \$1,049.5 Mn in 2013.

2.2 Indian Scenario of Agri Implements Industry

The agriculture sector has been the mainstay of India's economy with more than 50% of its population engaged directly or indirectly in this sector. The livelihood of millions of farmers depends on this sector. In the last two decades its contribution to GDP has decreased significantly due to rapid growth of the services sector. The sector's GDP contribution fell from 19% in 2004-05 to 14% in 2013-14, according to the Ministry of Statistics and Program Implementation (MOSPI). The sector has recently seen growth in productivity and turnover due to use of machinery for agricultural purposes. Agriculture mechanization has led to growth of country's food grain production at a compound annual growth rate (CAGR) of 3% during 2005-14. Good monsoon rainfall received by the country in FY14 led to a y/y growth of 3% in food grain production.³

India saw strong demand for agricultural machinery during 2009 to 2013. This trend is set to continue in the years, with migration of workforce from agriculture to secondary and tertiary sectors. Secondary sector and services are presently dominating India's economy and accounting for 57% of GDP in 2012. Farming and related activities such as forestry accounts for around 18% of GDP, and employ over half of available workforce. While traditional labor-intensive farms still exist, modern mechanized operations are growing and increasing the demand of agricultural machinery.

The level of mechanization affects the productivity and growth of agriculture sector. In developing and underdeveloped economies, major workforce is engaged in agricultural activities and there is enough scope of mechanization to make agriculture profitable. The agriculture is becoming less profitable and workforce is shift toward secondary sectors, mechanization is the future of agriculture in India. The Indian agricultural machinery market volume has increased at a CAGR of 15.1% between 2009 and 2013, with a total of 610.6 thousand agri-implements manufacturing units in 2013. The market's volume is expected to rise to 1,116.7 thousand units by the end of 2018, representing a CAGR of 12.8% for the 2013-2018 period.

2.3 Cluster and its geographic spread

The agriculture implements cluster located in Karnal is one of the oldest and prominent clusters manufacturing agricultural implements. Karnal is well connected with New Delhi and Chandigarh through NH-1 and is fastest emerging cities of Haryana, which gives additional advantage to agricultural machinery cluster. Most of these units are located in the Haryana State Industrial In and Infrastructure Development Corporation's (HSIIDC) industrial estate. Karnal plays a major role to

²https://www.grandviewresearch.com/industry-analysis/agriculture-equipment-market ³http://mospi.gov.in/

cater country's agricultural implements demand. Karnal cluster being a manufacturer of agricultural implements has also contributed significantly towards Green Revolution in India.

It has been reported that besides catering to a substantial national demand of a number of completely assembled/ fabricated agricultural implements, majority of local demand viz. 100 % of Hammer Forged Tynes, 70 % of other types of Tynes, 80 % of Cultivator Spring, 90 % of Forged Disc Plough Spindles, 100 % of Forged Trolley Hooks and 70 % of Harrow Disc is met by Karnal cluster based Micro Small and Medium scale manufacturers. These implements and components are also exported to North American, European, African countries besides Australia & other Asian Countries.

Agriculture implement cluster has established network with thriving production and manufacturing houses and has also created linkages with national level organizations like Indian Council of Agricultural Research Units, National Dairy Research Institute (NDRI), National Bureau of Animal Genetic Research (NBAGR), Directorate of Wheat Research (DWR), Central Soil Salinity Research Institute (CSSRI), Sugarcane Breeding Research Institute, Indian Agricultural Research Institute etc. There is also a Regional Research Station of Haryana Agricultural University located in vicinity.

2.4 Products of the Cluster





Diagnostic Study Findings



3. Diagnostic Study Findings

3.1 Cluster Actors and their role

Many support institutions and agencies such as industry associations, government agencies, academic/ R&D institutes, financial institutions, BDS providers etc. are situated within and outside the cluster. These institutions and agencies play a key role in developing the cluster and complement initiatives for the cluster. The key stakeholders of Karnal Agricultural Implements cluster are:

A. Government Bodies

District Industries Centre (DIC)

DIC is the most important government stakeholder for the cluster. The office of DIC comes under the Dept. of Industries and is headed by the Joint Director who is assisted by assistant directors and technical field officers. DIC promotes and routes subsidy to micro and small enterprises in the region. The Mini Cluster Scheme under which the agri implements want to set up a CFC will also be implemented through the DIC office. The Karnal DIC is actively promoting cluster development in the district and also helps the local units register under Udyog Aadhar Memorandum (UAM). It would play a key role in project implementation.

MSME-Development Institute (MSME-DI), Karnal

MSME-Development Institute, Karnal is a field office of the Development Commissioner (MSME), Ministry of MSME, New Delhi, which is an apex body for formulating, coordinating and monitoring the policies and programmes for promotion and development of MSMEs in the country. MSME-DI provides a wide range of extension / support services to the MSMEs in the state.

Haryana State Infrastructure & Industrial Development Corporation (HSIIDC)

HSIIDC is an autonomous body set up by the Government of Haryana in 1967, headquartered at Panchkula. HSIIDC has been playing a progressive role in the industrial development of various districts of Haryana. Over the years, it has greatly accelerated the pace of its activities by facilitating land allocation to industries, creating industrial areas and developing required infrastructure. Entrusted fundamentally with the task of establishing industrial areas, HSIIDC has also taken the responsibility of providing continued assistance to the units which come up in these industrial areas. HSIIDC provides a total package of assistance at a single point to the entrepreneurs and disburses incentives of behalf of State Government. The proposed CFC is located in HSIIDC Industrial area and has provided necessary clearances for Agricultural Implements cluster, Karnal.

National Small Industry Corporation Ltd. (NSIC)

NSIC headquartered at Okhla, Delhi and with offices at Faridabad, Gurugram, Bahadurgarh, Ambala and Panipat in Haryana provides assistance to MSEs on raw material assistance, tender marketing and Government Purchase Programme. It also organizes industry fairs in different locations on regular basis and is critical to access Government institutional markets. Its composite loan schemes, skill up gradation, government purchase and marketing assistance programmes shall be coupled with cluster firms to provide them additional benefits.

B. Industry Associations

Karnal Agricultural Implements Manufacturers Association (KAIMA)

This Association has emerged as a front runner for the entrepreneurs of the Karnal. The Association plays a very constructive role by creating the right rapport between the industry and the Government. Besides, helping the industry in terms of getting their views across to the Government and addressing individual company's grievances, the Karnal Agriculture Implements Manufacturers Association is also involved in various Corporate Social Responsibilities like Environment, Sports, Cultural, Rural Education, Blood Donation camp etc. KAIMA shall also act as SPV to set up the CFC under the Mini Cluster scheme.

Haryana Chamber of Commerce & Industries, Karnal Chapter (HCCI)

HCCI is the apex industry association of the MSMEs of Haryana and has presence in all major industrial districts of Haryana. HCCI raises and addresses the problems faced by industries in the state in a coordinated manner through its chapters. It also liaisons closely with the State and the Central Government to raise its concerns for development of industries in the state in a collective manner. It has a chapter in Karnal district that takes care of the interest of MSMEs of Karnal.

C. Educational Institutes

Northern Region Farm Machinery Training and Testing Institute, Hisar

This institute was setup under Ministry of Agriculture to propagate agricultural mechanization through imparting training on repair, maintenance and operation of agricultural machinery. Later the institute was also assigned the task of testing of agricultural equipment and machinery. The various agricultural equipment are tested as per BIS guidelines to assess the suitability under different agro climatic conditions. The institute is recognized to test combine harvester by Ministry. The training courses are being organized for user level, technician level and managerial level persons. Need based course are also organized. The institute is equipped for various workshops, imparting on the job trainings and demos, audio-visual facility etc.

Department of Farm Power and Machinery

This is one of the most important departments of College of Agricultural Engineering and Technology under Agriculture University of Haryana. The college runs 4 year graduation program in technology and agriculture engineering, post graduate programs in technology, farm power, machinery, soil and water engineering. Research projects of the college include:

- a) Development, testing and popularization of implements in Haryana State
- b) All India Coordinated Research Project on research and development of farm implements and their adoption under actual field conditions in the state of Haryana.

The Department has done pioneer research and extension work for giving a boost to farm mechanization in the state. The salient achievements of department include:

- a) Developments / promotion of bullock drawn machines like land preparation, land levelling, Stubble collector cum planter, mustard drill, seed cum fertilizer drills, weeding machines
- b) Developments / promotion of Tractor operated machines i.e. rotavators, puddlers, high clearance weeders, high capacity crop threshers, paddy trans-planters, automatic sugarcane planters, ridge seeders/bed planters, potato planter & digger etc.

Central Institute of Agricultural Engineering, Bhopal (CIAE)

CIAE was established in 1976 to address research issues related to agricultural engineering. Initially, research and developed work related to farm machinery, post-harvest technology and energy in agriculture, were taken up. Keeping with functional utility, the divisions at the Institute were reorganized and two additional divisions namely Agro Industrial Extension and Instrumentation were created during VII plan. Institute has number of wellequipped research laboratories in the areas of agricultural engineering a threshing yard for farm equipment testing and evaluation, a Model Agro-Processing Centre for demonstration of processing activities to farmers and entrepreneurs and two well-equipped workshops and prototype production centre.

D. Banks / Fls

Haryana Financial Corporation (HFC)

Haryana Financial Corporation, based in Chandigarh was promoted jointly by the Government of Haryana and the Industrial Development Bank of India (IDBI). HFC has been approved by SEBI as a category-I merchant banker. The corporation's activities include merchant banking, trade finance, lease finance and term lending. The corporation has diversified its range of financial services to include no-fund-based assistance in the form of guarantees, letter of credit and forex services.

Small Industries Development Bank of India (SIDBI)

SIDBI has been sincerely supporting cluster development initiatives in the State. SIDBI extends assistance directly as well as through primary lending institutions- FIs/Industrial Investment Corporations. SIDBI has been assisting the entire spectrum of SSIs and also Medium scale industries under various schemes tailored to meet the requirements of setting up of new projects, expansion, diversification, modernization and rehabilitation of existing units. Some related schemes such as the CGTMSE as well as the CLCSS are yet to be twinned with requirements of cluster firms.





There are a number of other service providers and institution in locations such as the NCR, other areas of Haryana whose roles are being adequately coupled with those of the cluster firms. These include:

3.2 Cluster Turnover, Market and Employment

The agricultural implements cluster of Karnal comprises of about 110 enterprises involved in manufacturing a variety of spares. The cluster is highly export oriented with over about Rs 150 crore worth of products being exported to Europe, Africa, Asia and the U.S.A. The core cluster firms are supported by a range of disc manufacturing, casting and paint manufacturing units as well as importers and traders of raw material and finished products.Turnover and export of cluster during last five years is as follows:

S.	Financial Year	Turnover of Agri Implements	Export of Agri Implements
No.		cluster (in Rs. crores)	cluster (in Rs. crores)
1	2015-16	650.00	150.00
2	2014-15	600.00	135.00
3	2013-14	560.00	110.00
4	2012-13	520.00	90.00
5	2011-12	470.00	70.00

Table	1:	Turnover	of	Karnal	Agti	Implements	cluster
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Source: KAIMA

The enterprises in the cluster essentially cater to the local and national market for agriculture implements with increase in exports from Rs.70 crores to Rs. 150 crores.

The cluster is amongst the fastest growing ones in the sector. Of the 71enterprises in the cluster about 61units have turnover in the range of Rs.10 crore, 6units in the range of Rs.10-20 crores and about 20f them are have turnovers above Rs.50 crore and even up to Rs.125 crore in some cases. The cluster has an annual turnover of about Rs.650 crore. These firms provide direct as well as indirect employment to about 8000 persons in the District.

The enterprises are supported by a number of trading units as well as other supporting enterprises. Details of enterprises in the cluster are provided in the table below:

Table	2:	Cluster	Data
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	Number of MSME Firms	 Existing MSE (predominantly micro-sized) units: 71 About 8 units are forging units, 10 units are spring manufacturing units, 4 units in shovel and 10 units in disc manufacturing, remaining 40 units in complete implements manufacturing. Large units in the cluster have a total turnover of around Rs.350 Crore
N	Average Investment per Unit	Investment in equipment is about Rs.15 Lakhs with 62 micro units and around 9 enterprises with 2 crores.
¥	Important raw material sourced from within the cluster / adjacent regions	Discs, channels, angles, flats, springs wires, rounds, squares etc. are the main raw materials and all are procured from Gobindgarh Mandi, Ludhiana in Punjab; Vizag in Vishakhapatnam; Raipur, SAIL and TATA
<u>III</u>	Average turnover per unit	The 110 cluster units, therefore an annual turnover of about Rs. 650 crore or an average of about Rs. 8.9 crore per unit
	Average export per unit	Presently the percentage of exports is much less in comparison to domestic share. Presently the export turnover of the cluster is about 125-150 crore.
Û	Average manpower per unit	Total number of employment with 110 units is 2200. Therefore, average manpower per unit is 22. (Total 2200 directly employed in MSE units and 5800 indirectly employed) Total around 8000 direct or indirect employment.

Presently, the cluster is the national hub for manufacturing of agriculture implements. Units of the cluster supply finished agri-implements and spares across various locations in India and has 50% of domestic market share of agriculture implements market. Clients of the cluster include John Deere, Escorts, Same Deutz Fahr, Mahindra, Eicher etc. Most popular products of the cluster are Disc Plough, Disc Harrow, Disc Ridger, Cultivators, Rotary Tillers, M.B. Plough, and Sub-Soilers etc.

3.3 Product Portfolio

Products manufactured in the cluster include:

- 1) **Primary Tillage Equipment:** Implements used for opening and loosening of the soil are known as ploughs and are used for primary tillage. Types of ploughs manufactured in the cluster are:
 - Disc Plough
 - Mould Board Plough
 - Reversible Plough
 - Sub-Soiler (Ripper)
- Secondary Tillage Equipment: Secondary tillage, to improve the seedbed by increased soil pulverization, to conserve moisture through destruction of weeds, and to cut up crop residues. This is accomplished by use of various secondary tillage implements such as:
 - Cultivator/ Tiller-Rigid & Spring loaded for different Tractors
 - Disc Harrow-Trailing & Mounted type (Notched & Plain Disc)
 - Rotavator/ Rotary Tiller-Chain & Gear drive
 - Rotary Slasher/Shrub Master
 - Disc Ridgers/ Bund Former/ Doll Maker
 - Ridgers/ Channel Former
 - Terracer Blade/ Land Leveller Straight & Reversible
 - Paddy Harrow
 - Paddy Peddler
 - Cage Wheel
 - Laser Levellers including Bucket
- 3) **Sowing Implements:** Various types of sowing implements manufactured in the cluster are:
 - Seed Drill
 - Seed cum Fertilizer Drill
 - Zero Tillage Machine
 - Sugarcane Planter
- 4) Harvesting implements: Straw Reaper etc. are also produced in the cluster.
- 5) **Post-harvesting implements:** Various post harvesting implements manufactured by firms in Karnal agricultural implements cluster are:
 - Wheat Thrashers
 - Paddy Thrashers
 - Maize Thrashers
 - Winnowers
- 6) **Transportation equipment:** like tractor trailers (regular and with hydraulic jack) are also produced by few big firms.
- 7) Besides manufacturing complete products, many small firms manufacture small parts and components which are in turn assembled by large firms to produce the finished product. Few of these components are given below:
 - Tynes-Hammer forged, Press forged & Profile cut for Cultivators/Tillers/Seed Drills
 - Springs (Tension Type) for Cultivators/Tillers
 - Shovels/Chisel Blades for Cultivators/Tillers/Rotavators
 - Disc (Plain & Notched) for Harrows/Ploughs
 - Spindle for Disc Ploughs
 - Springs (Compression Type) for Ploughs
 - Hook for Tractor Trailers

3.4 Manufacturing Process

The main raw materials required in production process are mild (structural) steel section, e.g. Flats, Angles, Channels, squares, Pipes, Plates, Rounds, BP sheets, CR sheets, etc.

Agricultural Implement has a wide gamut of products. All the implements have different functions, design and configuration, e.g. Cultivator has no moving parts at all; harrow has low speed moving discs, mounted on an axle; seed drills and rotavators also have some low medium speed moving parts; whereas reapers and thrashers have high speed moving parts. Therefore, there is no generic manufacturing process sequence for each product.

The typical production process of agriculture implements does not involve any highly technical operations. Some of the important operations involved for most of the agricultural implements are: Shearing, Cutting, Pressing, Gas Cutting, Sheet Metal Fabrication, Welding, Turning, Grinding and Painting etc. However, some degree of specialization is required in manufacturing of components such as harrow disc, cultivator type and cultivator spring or cultivator shovel. Simple machines such as welding sets, power presses, lathes, drilling machines are sufficient to produce majority of the implements.

Operations involved in the manufacture of individual components are: Forging, Heat Treatment, Hot Forming, Spring Coiling, Pickling, Turning, Drilling, Punching etc. Since there are a variety of agriculture implements manufactured in the cluster, the manufacturing operations for various components and implements are different. However, some degree of specialization is required in manufacturing of components such as thrasher, cultivator tyne and cultivator spring or cultivator shovel. Production process for these is shown below:



Figure 3: Manufacturing Process of Cultivator



Figure 4: Manufacturing Process of Thrasher

Figure 5: Manufacturing Process of Tyne



The manufacturing also involves inspections at various stages till they are finally assembled and packed as per the Quality assurance standards/plans.

3.5 SWOT Analysis

SWOT analysis based on various aspects relevant to the proposed CFC has been undertaken:

3.5.1 Markets

Table 3: SWOT Analysis: Markets

Strengths	Weaknesses
 Strong presence in domestic market □ Haryana and adjoining states are agrarian economies and have good demand of agriimplements Major market within 1000 to 1500 km. distance □ Good Transport linkage-National Highway No, 1, State Highway and Railways Purchase by State Govt. Agriculture Departments and Corporations for further supply to farmers. 	 Seasonal market for different products, therefore, longer off seasons for majority units that are confined to narrow product range □ Sale is mainly directly connected to the sale of new tractors in the country Implements have normally long life, therefore, the replacement sale occurs to the tune of 10 to 15% □ Payment is not prompt from dealers/traders due to stiff competition □ Lack of knowledge of export marketing / documentation. □ Lack of brand image Cut throat competition on price at the expense of quality Inadequate information of changing techniques of farming
Opportunities	Threats
 Possibility of export to neighbouring countries like Nepal, Pakistan, Bangladesh, Sri Lanka. Enterprises can join hands together for International marketing, Brand Building and participation in Trade Fairs Globalization can usher tremendous market potential for competitive firms Quality and productivity can be the rule changers of the game. 	 Strong competition from international player entering domestic market and other places within the domestic market Italy, Belgium & Spain are strong in this trade in the International market Overseas importers change their sourcing country.

3.5.2 Inputs Availability

Table 4: SWC	T Analysis:	Inputs	Availability
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Strengths	Weaknesses
 Availability of main components i.e. cultivator Tynes, springs and harrow disc. Availability of castings from nearby Kaithal and other working parts for thresher and Seed Drills etc. from within the vicinity of Punjab. Major raw material structural steel supply from nearby Mandi Gobindgarh. TATA & SAIL sales offices in Delhi/Faridabad are an advantage. 	 Local non-availability of sufficient casting parts and moving parts like gears/shafts and sub-assemblies. Cluster is solely dependent on Mandi Gobindgarh for supply of structural steel that too through commission agents. No testing of raw materials and components. No structured system of quality control
Opportunities	Threats
 Competition going to make availability of inputs cheaper and sufficient. 	► □Price escalation in steel.

3.5.3 Skill and HR

Table 5: SWOT Analysis: Skill & HR

Strengths	Weaknesses	
 Semi-skilled workers needed. Most work is easily learnt on the job. Non-presence of any other strong major engineering segment, where worker can migrate. 	 No skill development training programme / facility for workers in the pipeline. □ Cluster usually depends on under qualified Tool and Die makers having no facility / Ability to upgrade their knowledge 	
Opportunities	Threats	
 Increased awareness likely to increased skill base of workers. Unemployed youth can be trained easily. 	Skill base needs up-gradation to adapt new techniques.	

3.5.4 Technology

Table 6: SWOT Analysis: Technology

Strengths	Weaknesses
 Medium Investment & low accuracy machinery. 	Low level of technological development.

- Technology Infrastructure available.
 Labor intensive & not high-tech.
 Demonstration effect very easy.
 Problems with quality, aesthetics & finish Weak presence of BDS providers.
 Opportunities
 Lot of scope for technology up gradation.
 Creation of technological awareness
 Lot of scope is must with
- technology base to enter into new areas.
 Possibility of establishing Common Facility Centre.
 Technology is ever changing process.

among entrepreneurs will create

3.5.5 Innovation Capacity

Table 7: SWOT Analysis: Innovation Capacity

modernization.

Strengths	Weaknesses
 Ability to develop (copy) the new products as per customer requirement. Flexibility in choosing other products in the range due to similar manufacturing operations. 	 Hardly any significant change in marketing methods. Low level of development in process Traditional method of production.
Opportunities	Threats
Presence of ICAR institute like IARI, DWR, Sugarcane Research Centre, HAU Regional centre, PUSA institute, PAU and Pant Nagar University, NIT and Local Engineering College may provide opportunity in Technology and process implement.	 Innovation required in every facet of business operation Advent of newer methods and technology of farming.

3.5.6 Business Environment

Table 8: SWOT Analysis: Business Environment

Strengths	Weaknesses	
 Medium investment in plant & machinery Weak presence of other industries, entrepreneurs interested in manufacturing activity finds no easy alternate for investment. 	 Competition is increasing from the local fabricators / Manufacturing at other places. Unprofessional way of managing enterprises 	
Opportunities	Threats	
Progressive and innovative enterprises have the ability to grow and meet requirement of export market as the	The changing business environment is always a problem for less enterprising firms.	

developed countries may not like to enter in the low tech segment.

 New generation don't find the line fascinating due to labour intensive and toiling working conditions.

3.6 Major Issues / Problem Areas of the Cluster

The following table summarises some determinants of competitiveness, viz., availability of raw material, manpower, power, basic and specialised industrial infrastructure, support enterprises and institutions and demand conditions. The range of interventions under the circumstance is also presented:

	Competitiveness Determinants	Cluster Circumstance and Options
	Factor Conditions	
1.	Lack of adequate equipment	There are typical small tool rooms in the cluster which have only conventional lathes, milling, shaper and surface grinder, drill and a traub machine (in pipe cutting units); very few facilities have even 3 axis equipment. Activities related to wire cut, EDM, VMC etc. are pursued only by a few large units (for captive use). Availability of precision equipment in the cluster is very less.
		Electric Discharge Machining (EDM) & Wire cut: MSE cluster firms do not have access to wire cut and EDMs. Basic EDMs have higher rejection levels in jobs due to poor accuracy while cutting metal. Outsourcing of manufacturing of dyes has to be done from the nearby regions which increase the time lag by 4-6 days. While such a project is required by every member of the cluster extensively, any individual Micro industry with the Agri cluster may not be able to support such an investment. So, the support in the form of grant is required from the Govt. for the successful implementation of such projects.
2.	Raw material availability, prices and quality	Critical raw material used in the manufacturing of agriculture implements as well as components comprise structural steel, i.e. Angles, Channels and Flats of various thickness and sizes. A little quantity of High Carbon Steel is also required for shovels of ploughs. Main source of supply of this raw material is Mandi Gobindgarh, the steel town of Punjab at a distance of 130 kms from Karnal. Material procured from Gobindgarh is mainly untested as availability of tested material in Gobindgarh is very less. A very few progressive units who have built up their brand image are also procuring tested raw material from SAIL, TATA and VIZAG. Untested material from Gobindgarh is usually in the range Rs. 45/ kg whereas the tested material costs a rupee more (around Rs. 46/kg). However, the tested material (EN8,9,24,31,42) from SAIL, TATA etc. costs around five rupees more (Rs. 51/kg) than the one from Gobindgarh. Raw material for various types of components and implements: Thresher and seed drill: Sheet of commercial quality CR/BP with less consideration for quality parameters is used as raw material for thresher and seed drill.

Table 9: Competitive Determinants, Cluster Circumstance & Recommendations

		Herrey Directlich corbon billst sheet EN 40 is used as respected to the
		mainly procured from SAIL.
		Cultivator Tyne: Raw material for cultivator tyne is procured from Gobindgarh in the form of flats and is easily available.
		Cultivator Springs: Spring steel wire is used as raw material for cultivator spring and is mainly supplied by TISCO and Usha Martin Ltd. having monopoly in the market.
		Shovel: Raw Material for shovel is scarp (broken) leaf spring from automobiles manufactured at Karnal and Khatauli.
		Harrow: Cast spool for harrow is mainly procured from Kaithal.
		Forging and Press tools: Raw material for forging and press tools is purchased from Ludhiana or Delhi as there is not much developed engineering industry at Karnal.
		Paint used for the agricultural Implements is generally local made. There are around 5 to 6 paint manufacturing units providing satisfactory quality for domestic market product. However, for export quality implements, paint of reputed manufacturers is available from local market.
		As far as is concerned for Structural Steel from Mandi Gobindgarh or 2nd grade rail from SAIL, owing to limited suppliers and absence of any testing laboratory at approachable distance, and alternate source of supply, they are compelled to accept and use whatever is supplied by Gobindgarh suppliers. Therefore, due to inconsistency in material quality, products are not well accepted in the international market. However, spring wire is procured from main producers along with the test certificates.
		Common buying and testing facilities, if possible, may contribute to cut down the raw material cost to a significant extent. Even another nearby raw material market of Muzaffarnagar can also be tapped by forming some hard networks (Consortia's) in order to get advantage of economy of scale through common buying.
3.	Manpower skills and availability	There is acute shortage of labour in the cluster. Generally semiskilled workers are required. Some experienced technicians/ supervisors are also employed. However, owing to rough nature of job, without much dimensional accuracy & precision, very few qualified engineers like to adopt this line as their carrier. This is one of the main reasons for less innovation and backwardness of the cluster. Currently around 80% of the employed labour is unskilled/ semi-skilled.
4.	Access to capital and financial resources	Enterprises usually keep ready stock of components and materials for sudden demand and off take during crop season (Rabi & Kharif) which involves lot of funds. Banks are generally liberal in providing working capital. The export oriented units are effectively utilizing the export credit facilities. Around 9 cluster units have been assisted by banks for Credit Linked Capital Subsidy Scheme (CLCSS). There is a scope for greater industry-institution linkages.
5.	Availability of specialized and	The HSIIDC estate in Karnal has already established roads and water and sewerage network in industrial area. However, there is scarcity of power in the estate and HSIIDC is progressively improving the supply capabilities of power facilities to units. Further, assistance in terms of HSIIDC industrial

	basic industrial infrastructure	land for specialized common facilities shall boost the growth of MSMEs in the long term.
	Demand Conditions	
1.	Market size and growth	The Karnal cluster is situated in agriculturally rich belt of Punjab, Haryana and Western UP. The demand from nearby areas strengthen the cluster units. Other developing states like Rajasthan, Gujarat, MP, Maharashtra, Eastern UP and Bihar are also approaching these units of Karnal for procurement of agri-implement, owing to the economic cost of implements. Some manufacturers have recently started fabrication and assembly of implements in these states locally. They procure the components from Karnal and other places and save on the transportation cost of assembly. With standardized and precision equipment and advanced designs, Karnal can increase its domestic market share from present 50% to 70%. Also the export market can go up to 12% from current 7% share of total exports from India. Export Consortia can be formed to ensure brand building, participating in international fairs, negotiating with buyers and compete with other countries on quality and price fronts.
	Support enterprises and institutions	
1.	Related enterprises	The cluster has around 5-6 paint manufacturing units which supply paint to all implements manufacturers.
2.	Support Public and Private Service Providers	There are trading units as well which are either trading in components of agricultural implements or getting order of some implements & supply after getting the same manufactured as per their / customers' requirements. There are hardly three to four units in each category. Few tool and die makers with much unorganized set up also exist in the cluster.

3.7 Gap Assessment / Rationale for Setting up of CFC

A diagnostic study of the cluster was undertaken, based on which gaps were identified. These gaps would be addressed by the CFC.




In the context of the cluster at Karnal, the critical constraints experienced by agriculture implements manufacturing units are their limitation in designing of products, fabrication of dies and moulds for production of the implements or its components and testing of raw material and finished product.

Lack of Tool Room Facility:

- Karnal Agricultural Implement cluster has inadequate tool room facilities and are dependent on tool making facilities in Ludhiana and Faridabad. This leads to increased cost and longer production cycles.
- Unavailability of such facilities has resulted in lack of innovation in product designs. Lack of diversification of products has resulted in decreasing domestic market share from 60% to 50% in the last decade besides low presence in international market.
- Entry of international players in domestic market such as Lemken in Gujarat is further affecting the domestic market share. The cluster is gradually losing its initial advantage of being the only agricultural-implement manufacturer.
- The cluster is required to implement advance manufacturing techniques with advance tools for faster production of quality implements customized as per market demand. Lesser rejection and better finish may be realized by appropriate levels of upgrading and automation in manufacturing process.

Lack of Testing Facility

- With regards to testing, the cluster units mainly procure untested products from Mandi Gobindgarh. The lack of accredited testing laboratories in vicinity and higher costs has resulted in use of untested raw material by MSMEs units. Therefore, from quality improvement perspective, this is one of the core facilities required in the cluster to cater to improved standards of agricultural-implements market.
- Testing of finished goods is also essential for achievement of cluster development objective.

3.7.1 Cluster Requirement - Tool room and testing facilities

The critical findings may be viewed in terms of unfavourable value-chain circumstances in terms of tool room facilities, testing of raw material and finished products etc.

<u>Tool Room operations</u>: Equipment in typical MSEs comprises investment in the range of Rs. 50lakhs to maximum of Rs. 200 lakhs. Typical small tool rooms in the cluster have only conventional lathes, milling, shaper and surface grinder, drill and a traub machine (in pipe cutting units); very few facilities have even 3 axis equipment. Activities related to wire cut, EDM, VMC etc. are pursed only by a few large units (for captive use). Availability of precision equipment in the cluster is very less. MSE cluster firms do not have access to wire cut and EDMs. These EDMs have higher rejection levels in jobs due to poor accuracy while cutting metal. Presently, many wire EDM jobs have to be outsourced to Ludhiana and Faridabad.

With introduction of tool room facilities in the cluster, the turnover of the cluster is expected to increase annually by 30% as against current growth rate of 20%. Also, the export turnover is expected to increase by 30-40% mainly due to small base.

<u>Testing Facilities</u>: Evidently, there are also gaps in terms of testing facilities both for raw material and finished products. Raw material for the production needs testing in terms of chemical composition, hardness, finish, geometrical dimension and micro structure. The entrepreneurs are not aware of the methods and procedures adopted for inspection of their raw material. The cluster firms need to manufacture standardized and tested products to compete with international counterparts. Therefore, a testing facility is necessary for overall quality improvement of products.

The diagnostic study also mentioned improvement in manufacturing process and quality by the way of CFC interventions. Standardization of manufacturing process is the need of the cluster units to improve the quality and automate the manufacturing processes. However, units have come a long way from the time during last few years and present manufacturing process has evolved a lot. Introduction of testing and tool room facilities through CFC will help cluster firms achieve required standardization and precision resulting in overall quality improvement.

3.8 Projected Economies of Scale and Growth Potential, Expected Performance of the Cluster after the Proposed Intervention

Micro and small units of the cluster have small tool rooms with conventional lathes, milling, shaper and surface grinder, dril and a traub machine (in pipe cutting units); some units also have3 axis equipment. Due to unavailability of testing equipment, samples are sent to testing labs in NCR which increases the lead time and cost of production. In this context, the proposed Common Facility Centre (CFC) is expected to help cluster firms unleash p otential to offer a range of agricultural implements to existing industrial customers and retail consumers. This shall also help cluster units increase their competitiveness and access to new markets (both India and overseas) thereby ensuring sustainability and growth of the cluster.

Diagnostic Study Recommendations



4. Diagnostic Study Recommendations

Based upon the diagnostic study report and subsequent discussions with various cluster stakeholders and members of Karnal Agricultural Implements cluster during formulation of this Detailed Project Report (DPR), hard interventions in the form of CFC was proposed to enhance competitiveness of cluster units. The interventions have been proposed under mini cluster development scheme of Government of Haryana to ensure growth of these units in Karnal. The recommendations for both soft and hard interventions have been elaborated in subsequent sections.

The DSR was prepared under the MSE CDP scheme of Gol and was approved by the 25th Steering Committee of MSE CDP, Gol on 28.01.2011 (Refer Annexure I for Minutes of the Meeting). The cluster members did not pursue further under the MSE CDP scheme. The cluster members wanted to implement the project with the notification of state mini cluster development scheme.

Cluster enterprises have also been undertaking several soft interventions (before, during and after the DSR) on their own and have been active in enhancing their awareness and exposure. The units have conducted several awareness programs and trainings in collaboration with DIC, Karnal, Design clinic, Lean manufacturing consultants and BDS providers. They have also conducted exposure visits to other clusters, participated in national and international exhibitions and facilitated UAM registrations.

4.1 Soft Interventions Recommended and Action Taken

- **1.** Capacity Building and Awareness Generation: To build the capacities of cluster units and generate awareness among stakeholders regarding cluster development (collective approach to address their issues) and benefits available to them in the form of cluster; some workshops/group discussions/exposure visits/ meetings conducted, the details of which are provided below:
 - Member Meetings: Cooperation and trust building among members is foremost for smooth functioning of the cluster and SPV. Members of the cluster were informed about the registration of the cluster and identification of building for the CFC. Members of the cluster raised their concerns during the meeting that were resolved by other members of the cluster.
 - Awareness Programme on Mini Cluster Development Scheme: A programme for awareness of SPV members of foundry cluster, Karnal on state mini cluster development scheme was conducted in March 2018. The EY team highlighted the major benefits of the scheme, steps of implementation and the application process.
 - UAM registration campaign: Many of the cluster members, who did not have UAM (Udhyog Aadhar Memorandum), got their unit registered under UAM. They have not only supported cluster members in online filling of UAM but also informed them about benefits of UAM.
 - Awareness Program on ZED: An awareness program has organised by the KAIMA with support from MSME-DI during the month of December 2017. Many cluster member participated in the program. The aim of the program was to provide the awareness about Zero Defect Zero Effect in the production process.
 - Awareness Program on GST (Goods & Services Tax): An awareness program has organised by the KAIMA during the month of May 2018. Many of the cluster members participated in the program. The aim of the program was to provide the effect of GST on current business scenario.

- 2. Exposure Visits: In order to enhance the exposure of cluster units on new and emerging technologies in the engineering cluster, a number of exposure visits were conducted. The objective was to gain technical knowledge and expertise required for making the cluster competitive. Additionally, recommendations for participation in trade fairs and exhibitions were made to cluster units to promote their products as well as witness innovative products being brought out in the market. The following actions were taken in this regard:
 - Meeting at M/s Jyoti Automation Ltd. at Ludhiana: Addressed by Sales Executive Mr. Harmit Singh, the industrial use of the different machines was empathized upon. Mr. Satish Nagar marketing executive, highlighted the wide gap in demand and supply of machine in manufacturing industries.

4.2 Hard Interventions (Machines / Technology in the proposed CFC)

The Common Facility Centre is to offer facilities related to tool room facilities and testing lab. CFC is envisaged to enhance competitive positioning of cluster firms and help them offer quality components and implements competitively. The purpose of establishing a CFC is mainly for:

- Competitive market orientation of cluster firms
- Enabling cost competitiveness, better productivity and quality in product manufacturing.
- Value addition to products manufactured by cluster firms
- Providing access to newer markets
- Competitive import substitution

The following machinery and equipment is proposed for the CFC:

A. Machine Shop (Production and Design)

- 1. Vertical Machining Center (1100x550x500): Vertical machining center is used for undertaking the process of vertical machining which relies on rotary cutters to remove metal from a work piece. It employs a vertical spindle that approaches work pieces mounted on their table from above and performs multi-axis machining operations, which facilitates cutting across the top of a work piece. This machine helps the cluster units for job work for their products. By establishing this machine under the banner of CFC, the cluster units are able to increase their production and reduce the wastage of material by helping in milling, drilling, boring, tapping, and performing other tasks without changing the attachment of the work piece.
- 2. Laser Cutting 1250x2500x (1 to 10 mm): Laser cutting is used for industrial manufacturing applications to cut materials by directing the focused laser beam at the material, which then either melts, burns, vaporizes away, or is blown away by a jet of gas. Laser Cutting Machine offers high utilization for a CFC by leaving an edge with a high-quality surface finish. The cluster units are able do their job work with high precision and accuracy. It facilitates increased production by reducing the wastage of raw material in the cluster unit. They are able to cut flat-sheet material as well as structural and piping materials at the cluster units.
- 3. Wire Cut: In Wire Cut Machine, a thin single-strand metal wire is fed through the work piece, submerged in a tank of dielectric fluid. It is used to cut thick plates and to make punches, tools, and dies from hard metals that are difficult to machine with other methods. The wire, which is constantly fed from a spool, is held between upper and lower diamond guide, which are centered in a water nozzle head. By establishing the machine in the CFC, the cluster units are able to do tiny machining work, abnormal shape groove or machining of standard defect in the field work.
- 4. **EDM**: Electrical discharge machining is a manufacturing machine whereby a desired shape is obtained by using electrical discharges. Material is removed from the work piece by a series of rapidly recurring current discharges between two electrodes, separated by a dielectric liquid and subject to an electric voltage. One of the electrodes is called the tool-electrode, while the other

is called the work piece-electrode. By establishing this machine under the banner of CFC, Cluster units are able to perform manufacturing processes because of its ability to create precise and unique shapes.

- 5. Lathe: Lathe Machine rotates a work piece about an axis of rotation to perform various operations by holding the work piece in place by either one or two centers, at least one of which can typically be moved horizontally to accommodate varying work piece lengths. By establishing the Lathe Machine under the banner of CFC, cluster units are able to accommodate woodturning, metalworking, metal spinning, thermal spraying, parts reclamation, glass-working perform and shape pottery activities. It helps the cluster units to cutting, sanding, knurling, drilling, deformation, facing, and turning to create an object with symmetry about axis.
- 6. **Surface Grinding:** Surface grinder is an abrasive machine in which a spinning wheel covered in rough particles cuts chips of metallic or non-metallic substance from a work piece, making a face of it flat or smooth. They are used to precisely finish and shape the given material with high surface quality and low surface roughness. By setting up a Surface grinder under the CFC, cluster units are able to remove relatively small amounts of metal to produce products with high accuracy which helps in providing a finishing effect. It is used to provide precision ground surfaces, either to a critical size or for the surface finish in the cluster units.
- 7. CAD/CAM (Solid Works + Auto CAD): CAD/CAM uses computer software in the manufacturing of work pieces by assisting in all operations of a manufacturing plant, including planning, management, transportation and storage. Utilizing the CAD/CAM technology in the CFC helps the cluster units in creating a faster production process and components and tooling with more precise dimensions and material consistency. Further, it helps the cluster units to use only the required amount of raw material by minimizing waste, while simultaneously reducing energy consumption.

B. Metal Testing Lab

- Spectrometer: Spectrometer is used for measuring wavelengths of light over a wide range of the electromagnetic spectrum. By setting up a Spectrometer under the CFC, cluster units are able to separate and measure spectral components of a physical phenomenon for analysis of components of field work. Spectrometer helps the cluster units to reveal the sample characteristics of the field work by monitoring the changes occurred during the interaction of incident light with the field work which can be transmitted, absorbed or reflected through the field work.
- 2. Digimatic Height gauge: Height gauge is used for determining the height of objects and for marking of items to be worked on. The setting up of the Height gauge under the banner of the CFC helps in high-efficiency height measurement with the optional dedicated probe for the cluster units. It facilitates higher precision and increased accuracy in marking and measurement in the CFCs which helps in enhancing the quality of the products produced by the cluster by optimizing the manufacturing process.
- 3. Rockwell Hardness tester HR 320MS: Rockwell Hardness tester determines the hardness by measuring the depth of penetration of an indenter under a large load compared to the penetration made by a minor load. While testing metals, indentation hardness correlates linearly with tensile strength. By employing a Hardness tester under the CFC, non-destructive testing of bulk metal deliveries can be done by the cluster units, which is of high economic importance. Rockwell Harness tester enables the cluster units to choose an appropriate material for application by the means of lightweight and portable equipment.

4.3 Activity flow vis-à-vis the CFC

The activity flow vis-à-vis such a common facility may be visualised as follows:

- i. Activity by individual registered society members and cluster micro and small enterprises:
 - Procurement of raw material
 - Complete manufacturing of components and assembly of implements
 - Use of tools developed in the tool room to make better quality and standard products with intricate design and complex shapes
- ii. Operations within CFC:
 - Developing intricate tools through tool room services for advanced implements and improving existing components
 - Testing facilities which are not currently available in the nearby regions for ensuring quality of raw material used in components.

4.4 Expected Outcome after Intervention (Long term vision)

The cluster vision that has been progressively evolved is:

"The agricultural-implements cluster of Karnal would evolve into a preferred base for Indian and global customers by means of standardization, technology up-gradation through modern tool room and quality improvement through testing facilities by the year 2018. The emphasis is on tapping national and global customer base by producing internationally competitive products."

The mission of the project is closely twinned with cluster vision:

- Enhance productivity and efficiency in the agricultural implements manufacturing process by employing appropriate technology in the form of common facility.
- Value addition to services offered to customers by manufacturing quality products and contributing to consumer satisfaction as well as improving performance of cluster enterprises.
- Encourage cluster firms to cater the demand of large industries through integrated equipment envisaged in the CFC and benefit the firms of adjacent districts for regional development as agriculture implement manufacturing hub.

The CFC fits into the long-term vision of the cluster in terms of enabling cluster enterprises improve quality and efficiency by means of appropriate tool room facilities and testing facilities. This in turn shall enable cluster firms to tap regional demand and increase export. The common facility is expected to enhance the levels of co-operation and joint-action amongst cluster stakeholders and SPV members to co-operate in the areas of marketing and procurement. The skill upgradation requirement of cluster manpower shall be met conducting training with help from equipment manufacturers and suppliers as part of additional service.

In addition, mini cluster at Karnal will complement the efforts of State Government to promote clusters in the State and serve as a model for up gradation of micro enterprise clusters.

SPV for Project Implementation



5. SPV for Project Implementation

5.1 Special Purpose Vehicle

The Karnal Agriculture Implements Manufacturers Association (KAIMA) was incorporated under Societies Registration Act, 1860 and is the largest association of industry stakeholders in the District. The association has taken the lead to evolve a project specific vehicle viz. cooperative society under the name and of KAIMA a Common Facility Centre. Member firms comprise micro-sized enterprises in the agricultural implements units.

The project is to be implemented on public-private partnership schema through KAIMA Common Facility Centre. The Registered society for project implementation has been evolved by cluster stakeholders and support institutions through the catalysing role of the DIC, Karnal and MSME-DI. The Registered Society was incorporated in 2011 and includes about 71 members who are subscribing to the necessary equity base of the company. The SPV registration certificate is attached as **annexure-2(a)**. The members are largely micro-sized firms (registered units) involved in manufacturing of agricultural-implements. A few of them are potential start-ups in the segment. The MoA & Bylaws of the Society is attached as **annxure-2(b)**.

5.2 Shareholder profile and Shareholding mix

The affairs of the Registered Cooperative society have been entrusted to the following management:

Sr. No	Name	Designation
1	Sh. Partap Singh Aneja	Advisor
2	Sh. Ranbir Arora	Advisor
3	Sh. Ram Narayan Miglani	Advisor
4	Sh. Som Sachdeva	Advisor
5	Sh. Prem Katyal	Advisor
6	Sh. Raj Bajaj	Advisor
7	Sh. Roop Nariyan Chandra	Advisor
8	Sh. Daulat Ram Gaba	Advisor
9	Sh. Rajender Nagpal	Chair Person
10	Sh. Ravider Dhall	President
11	Sh. Ravi K Beri	Sr. Vice President
12	Sh. Inder Pal Singh	Vice President
13	Sh. Bhavuk Metha	General Secretary
14	Sh. Akshay Katria	Joint Secretary
15	Sh. Munish Gaba	Treasurer
16	Sh. Sanjay Kumar	Legal Advisor
17	Sh. Amit Chawla	Auditor
18	Sh. Anil Sehgal	Executive Member
19	Sh. Deepak Sachdeva	Executive Member
20	Sh. Lokesh Arora	Executive Member
21	Sh. Rahul Rajpal	Executive Member

Table 10: Governing Body of Society

22	Sh. Rakesh Patni	Executive Member
23	Sh. Ramesh Aneja	Executive Member
24	Sh. Rippan Miglani	Executive Member
25	Sh. Sahil Dawar	Executive Member
26	Sh. Varun Aggarwal	Executive Member
27	Sh. Nitin Luthra	Executive Member

The management and registered society comprise agriculture implements manufacturing units, tillers and harrow manufacturing units, discs, cultivators, harrow, rotary tillers, tractor trailers manufacturing units etc. It therefore represents the diverse mix of cluster firms. This management will remain in office for a period of 2 years starting from 01.04.2017 to 01.04.2019 as per the constitution with provision for a change under President discretionary power.

S.No.	Contact person	Name of Firm Address	Mobile No.	UAN
	Shri Ravinder			
1	Aggarwal	M/s Aggarwal Udyog	9896691436	HR10A0001175
2	Shri Jitender Rainal	M/s Harvest Agro Farm Equipments Pvt Ltd 349-350/3 HSIIDC Karnal	9812082122	HR10B0002838
3	Sh. Rahul Rajpal	M/S Agri Till (India) Namastey Chowk, Karnal.	9812056070	HR10B0000481
4	Shri Varinder Rajpal	M/S Agrl. Tractor Corpn. Vill.Mangalpur, KP Rd.Karnal	9254101820	HR10A0001343
5	Shri Randhir Singh	M/s Ambey Agro Traders Khera Chowk,Jundla Gate, Knl.	9354103345	HR10E0001352
6	Shri Amit Chawla	M/s Asian Agri. Industries GT Road, Uchani, Karnal	9812087533	HR10B0000839
7	Shri Arun Gupta	M/s Auto Springs & Genl. Engg.co. Vill.Mangalpur, KP Rd.Karnal	9416335401	HR10B0001355
8	Shri Manjit Babbar	M/S Babbar Agro Industries 314/3, HSIIDC, Karnal.	9215722292	HR10A0000006
9	Shri Raj Bajaj	M/s Bajaj Implements (P) Ltd. 27, IDC Near ITI, Karnal.	9215941185	HR10B0001105
10	Shri Rohit Katyal	M/s Bharat Engg. Co. Sham Ngr. GT Road, Karnal.	9416034091	HR10B0001108
11	Shri J.M.L. Patni	M/s Bharat Industries Vill.Madanpur, GT Road,Knl.	9416085862	HR10B0000003
12	Shri Rakesh Patni	M/S Bharat Steel Discs 316/3, HSIIDC, Karnal	9416482999	HR10A0001179
13	Shri Udit Sharma	M/S Udit Udyog 309,Sector-3, Karnal	9050515122	HR10A0001207

Table 11: List of SPV Members

14	Shri Jatinder Sharma	M/s Champion Krishi Udyog 346/3, HSIIDC, Karnal	9416034176	HR10B0001165
15	Shri Jaspal Singh	M/s Darshan Singh & Sons Vijay Ngr. GT Road, Karnal.	9812168515	HR10A0001609
16	Shri Rajinder Luthra	M/s Durga Springs 181/3, HSIIDC, Karnal	9812024541	HR10A0000835
17	Shri Rajesh Gaba	M/s Gaba Agrl. Imp. 273/3, HSIIDC, Karnal	9812594534	
18	Shri Khusdil Kashyap	Green Man Farm Equipments Pvt Ltd. Opp MSME office, Near I.T.I Karnal	9896761093	HR10B0000141
19	Shri Japjeet Singh	M/S Guru Nanak Krishi Udyog Namastey Chowk, GT Rd.Knl.	9416335452	HR10A0000834
20	Shri Sumit Miglani	M/S Haryana Agrl. Implements Sham Ngr. GT Road, Karnal.	9812067265	HR10A0004546
21	Shri Rohit Malhotra	M/s Hindustan ADV Axle Co Ranwar Road, Vikas Colony, Karnal	9354114619	HR10B0001211
22	Shri Rajesh Bhardwaj	M/s Hi-Techo Engineers 330/3, HSIIDC, Karnal	9416030638	HR10A0000016
23	Shri Nipun Bhardwaj	M/s Hi-Techo Udyog Near Dheeraj Chappal, Ranwar Road, Karnal	9671139219	HR10A0000663
24	Shri Om Parkash	M/s Indian Agrl. Imp. 311/3, HSIIDC, Karnal	9215247117	HR10A0001212
25	Shri Ranbir Arora	M/s Indian Discs Corp. Delhi Bye Pass, T Road, Knl.	9671230000	HR10A0001214
26	Shri Rajiv Mehtani	M/s Indo Farm Implements 341/3, HSIIDC, Karnal.	9254111001	HR10A0004500
27	Shri Harish Juneja	M/S Jai Kissan Agrl. Imp. 340/3, HSIIDC, Karnal	9896219911	HR10B0001412
28	Shri Sat Parkash Aneja	M/S Jeet Engg.Co 189A/3, HSIIDC, Karnal	9215514446	HR10B0000825
29	Shri Satish Dawar	M/s Karna Udyog 84, Vijay Ngr.GT Road, Karnal	9315175705	
30	Sr. Gurdas Singh	M/s Karnal Agrl. Imp. Sham Ngr. GT Road, Karnal.	9354100783	HR10A0003728
31	Shri Harish Dua	M/s Sai Agro Traders 508, Prem Nagar, Karnal	9813010038	HR10A0003301
32	Shri Ravinder Dhall	M/s Krishna Agro Industries G.T.Road, Karnal	9812033160	HR10A0001193
33	Shri Rakesh Bjaj	M/S Krishna Steel Industries 340/3, HSIIDC, Karnal	9896219911	HR10B0001354
34	Shri Rakesh Mehta	M/s M.P.K. Agro Industries 291/3, HSIIDC, Karnal	9813011177	HR10A0001102

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35	Shri Pawan Kumar Shri. Anil Maratha	Machino Agriculture Implements Plot No 285/3,HSIIDC	8295650099	HR10B0001196
36	Shri Sanjeev Sharma	M/s Madhav Agro Ind. 4,Sec.16 Rd.Khera Colony,Knl	9215522934	
37	Shri Aaditva Maan	M/s Mahaganesh Agro Tech Bazida Road, Opp, Dunar Rice Mill	9467673017	
38	Shri Munish Gaba	M/s Modern Agro Engg. Works 351/3 HSIIDC Karnal	9812019627	HR10A0001197
39	Shri Deepak Sachdeva	M/S Modern Industries	9416120200	HR10B0000014
40	Shri Dinesh	M/S Modern Udyog	9416014200	HR10B0000018
40	Shri Darveen Bansal	Muskan Engineering Industries	9896200531	HR10B0001225
	Shri Ashwani Matta	M/s National Agrl. Imp. Meera Ghati. GT Road Karnal	9812370008	HR1040004824
12	ShriJatinder	M/S Nirmal Agro Engg. Works	9416034176	HP1080001167
43	Shri Damosh Anoia	M/s Partap Iron Works	9410034170	
44	Shri Parveen	M/s P.H.R Agro Industries	9215514440	
45	Shri Dajindar Bhalla	M/s Piara Agro Industries	9215709050	
40	Sr. Sarahiit singh	M/s Piara Singh & Sons	9215536268	HP1040005337
47	Shri Aiget Dawar	M/s Punjab Agro Sales (India)	9416075112	
40	Shri Parveen	M/S Punjab Tr. & Spares	9416073113	
- 4 9	Shri Rajeev K.	M/s Punjab Agro Industries	0215465202	
50		M/S R.K.Agro Industries	9313403203	
51	Shri Varinder	M/s Rajindra Agro Industries	9416030433	
52		M/s Romita Agro Industries	9813027001	HK10A0000030
53	Shri Ravinder Goel Shri Varun	301&302, HSIIDC, Karnal M/S S.P.Industries	9896237035	
54	Aggarwal Shri Karan	343/3, HSIIDC, Karnal M/S Sachdeva Fabricators	9812009088	HR10B0001245
55	Sachdeva	Vill. Kutail, NH-1, Karnal	9896653555	
56	Shri Manoj k Sachdeva	M/s Sachdeva industries 272/3, HSIIDC, Karnal	9896255587	HR10A0001120

57	Shri Saniay Sharma	M/s Sara Agro International Nali Road Kuninura	9215522931	HR1040001119
	Shiri Sunjuy Sharma	M/s Sharma Agra industrias	7213322731	11110A0001117
58	Shri Subhash	Vijay Ngr. GT Road, Karnal.	9416989106	HR10B0005678
		M/s Shiv enterprises		
59	Shri Sanjay Kumar	C-301, Palm Residency, Knl.	9416034841	HR10B0005790
60	Shri Anil Sehgal	M/s Star Agro Industries 261/3, HSIIDC, Karnal	9254123400	HR10A0000613
61	Shri Rippen Miglani	M/s Subhash Steel 120/4 KM Stone, GT Rd.Karnal	9416046044	HR10B0000342
		M/s Super Agrl. Ind.		
62	Sr. Harbhajan Singh	Namastey Chowk, GT Rd.Knl.	9813290004	HR10A0002471
63	Sr. Inder Pal Singh	M/s T.M.Agro Industries 310/3, HSIIDC, Karnal	9416030869	HR10A0000833
		M/s Tirupati Udyog		
64	Shri Prem Kumar	32/3, HSIIDC, Karnal	9416031691	HR10A0001208
65	Shri Vishal Dhawan	M/s Vishal Enterprises 275/3, HSIIDC, Karnal.	9896211169	HR10B0005790
66	Shri Jitender Lather	M/S Vishal Udyog, Near Mbn.Police Post,Karnal	94160-25570	HR10A0001279
		M/s Kaushik Agro Industry Bazida Jattan Road, Near Dunar	74044 70000	
67	Sh Amit Kaushik	Foods, Karnal	74041-72000	HR10A0005556
68	Sh. Vinod Khanna	M/s Khanna Agro Industries	92155-34255	HR10A0002862
69	Sh Sumit Taluja	M/s Laj Enterprises 120/5 KM Delhi Side G.T Road	94160-00028	HR10A0005679
70	Sh Amit Aggarwal	M/s Prem Nath Aggarwal & Sons	98963-45996	HR10A0005444
71	Sh Arun Rajpal	M/s Raghav Agriculture Ind Pvt Ltd Vill: Mainmati, Dist Karnal	92531-00100	HR10B0001346

5.3 Initiatives undertaken by the SPV

As mentioned in detail in section 4.1 (Soft interventions recommended and action taken), the SPV members have proactively undertaken a lot of capacity building initiatives to promote the cooperation among cluster units and enhance knowledge and exposure of the units. These initiatives have been undertaken in collaboration with DIC, EY, MSME-DI, QCI, KAIMA, NID, NPC etc. The major initiatives are:

- Pursuing initiatives in close coordination with DIC and MSME-DI Karnal to facilitate understanding of cluster development, common procurement, marketing, available government support, latest technology for common facility etc.
- Exposure visits to trade fairs and machinery fairs for agri implements in NCR and large factories in other locations to understand the technology, market requirement and available opportunities.
- Conducting various programs for capacity building, awareness generation and technological advancement in the cluster as well as participation in similar programs organized by stakeholders.

5.4 SPV Roles and Responsibilities

The SPV will play an important guiding role in the overall management and operations of the CFC. It will provide direction to the management of the CFC and will monitor usage and performance of the CFC. The SPV will constantly report to the state government about the performance of the CFC. The major roles and responsibilities that are envisaged to be performed by the SPV post the submission of this DPR are mentioned below:

- Coordinating with the state industry department for DPR approvals in the SLSC
- Accompanying EY experts to various meetings at the state government department
- **•** Garnering the SPV project contribution from the members
- > Formation of purchase committees for procurement of goods and services
- > Establishing, operating and maintaining all common facilities as mentioned in the DPR
- Obtain any statutory approvals/clearances from various government departments
- Recruit appropriate professionals to ensure smooth execution of the CFC
- Collection of user charges from members and other users of the facilities as per the decided rates so as to meet the recurring expenses and future expansions of the CFC. While various estimates on user charges / service fee are presented in this DPR, all decisions including usage priority of facilities by members will be made on the basis of decision by members of SPV
- > Preparation and submission of progress reports to state industry department

The Memorandum and by-laws of the Cluster SPV indicates the democratic process in terms of decision making on the basis of votes. All members of SPV will meet once every fortnight/month to discuss/resolve operational issues. The management of the CFC will be a two tier structure for smooth and uninterrupted functioning. The executive body i.e. governing body will include office bearers elected/nominated from time to time, including one nominee of State Government (DIC). They will also remain present during meetings.

While various estimates on user charges/ service fees are presented in this DPR, all decisions including usage priority of facilities by members will be made by unanimous decision of the members. The CFC will seek direction and guidance from the SPV governing body, and the day-to-day

administration will be taken care of by the management that shall be appointed by the SPV governing body. Their role is detailed below:

1. **Governing Body**: The Governing Body will be the main decision making body and will oversee the operations of the CFC. They will have the decision making power in terms of fixing user fees (for members and non-members) and usage of reserves etc. for future expansion. The Chairman and President will oversee the entire operations; each Executive member shall be entrusted with specific responsibility like marketing, technical, finance, public relations etc. based on their interests and experience.

2. Managerial, Technical and Administrative staff: A competent and well qualified professional with a background in the agri implement industry will be appointed as the Cluster Development Executive Officer (CDE), who will look after day-to-day operations of the CFC and shall be directly reporting to the Board of Directors. Each facility will have its own expert staff (supervisors, operations and helpers) as per the requirement. The details of manpower and other requirements are already mentioned in the DPR in the Project Economics section. There shall be provisions for administrative staff such as accounts personnel, marketing professional, store-keepers etc. to ensure effective functioning of the CFC.

Project Economics



6. Project Economics

6.1 Project Cost

The estimated total cost of setting up a CFC at Karnal Agriculture Implements cluster is estimated **at** INR 386.65 Lakhs.

The cluster with support from State Government is planning to set up Common Facility Centre having state-of-the-art modern machining facilities to undertake job work of cluster units and the total project cost is about **INR 386.65 lakhs**. The SPV members have proposed to contribute 28.60% of the project cost. The total contribution of SPV members will amount to **INR 72.12 lakh** as per the guidelines of Mini Cluster Scheme. The SPV has already contributed Rs. 163.95 Lakhs in terms of land and construction of building, out of which Rs. 50 Lakhs has been considered as their contibution. The balance of Rs. 22.12 Lakhs as per financials or the actual amount incurred on plant & machinery over and above GoH grant of Rs. 180 Lakhs will be contributed by SPV in adherence to the guidelines. Support from State Government is envisaged for **INR 180 lakh**.

The total cost estimation includes the following project components:

- 1. Land & Building
- 2. Machinery and equipment
- 3. Miscellaneous fixed assets
- 4. Preliminary & Pre-operative expenses
- 5. Contingency
- 6. Margin money for working capital

The detail of each project component is provided below:

6.1.1 Land and Building

The HSIIDC has allotted the plot to SPV i.e. Karnal Agriculture Implements Manufacturing Association. The SPV constructed the building with their own contribution. The valuation report of land & building attached **annexure 5**.

LAND DETAILS					
S.No.	Particulars	Actual Cost			
1	Area of Land (sq. m.)	450.00			
2	Purchase Value of Land (INR lakh)	20.32			
3	Land Development Cost	-			
4	Purchase Value of Building	-			
5	Building & Other Civil Works	143.62			

Table 12Details of land and building

6.1.2 Plant and Machinery

As detailed in section 4.2 (Hard interventions) a number of modern CNC and Hydraulic Broaching machine as well as testing center have been recommended to enable cluster units enhance their competitiveness. The machines have been categorized as primary and secondary. The machines that shall be used primarily for job work have been categorized as primary, whereas, the auxiliary/supporting machines have been categorized as secondary machines. The major facilities

proposed at the Machining center and Testing center. The total cost of plant and machinery including secondary machinery has been estimated at INR 202.12 lakhs and contingency works out to INR 10.15 Lakhs.

The details of the proposed machinery items are presented in the Table 13. The detailed specifications and quotations of the machines are provided in **Annexure 6**. The SPV has sourced quotations for machinery from suppliers based on the manufacturer's reputation, service support, price and quality. However, an open online tendering system shall be followed for procurement of these machines during project execution.

Table 13: List of Proposed Plant & Machinery

	PLANT & MACHINERY (Rs. In Lakh)										
S. No	Machine Name	Quantity	Basic Price	Total Basic Price	Custom Duty as Applicable *	GST as Applicabl e *	Packaging & Forwardin g	Freight	Total Price	Grand Total	Power (kW)
		Indigenou s	Indigenous	Indigenou s	Indigenou s	Indigenou s	Indigenou s	Indigenou s	Indigenou s		
А	Primary Machinery										
1	Vertical Machining Centre	1	31.50	31.50	-	5.67	0.63	0.50	38.30	38.30	7.50
2	Laser Cutting Machine)1000 Watt)	1	45.50	45.50	-	8.19	0.91	0.10	54.70	54.70	3.00
3	Wire Cut Machine	1	15.75	15.75	-	2.84	0.32	0.25	19.16	19.16	1.50
4	EDM	1	8.40	8.40	-	1.51	0.17	0.25	10.33	10.33	2.00
5	Lathe 8 Feet	1	5.75	5.75	-	1.04	0.12	0.10	7.01	7.01	5.00
6	Surface Grinder	1	1.95	1.95	-	0.35	0.04	0.10	2.44	2.44	3.00
7	Spectrometer	1	24.85	24.85		4.47	-	-	29.32	29.32	0.10
8	Surface Plate	1	1.38	1.38		0.25	0.03	0.25	1.91	1.91	0.10
9	Digimatic Height Gauge	1	0.98	0.98		0.18	0.02	0.10	1.28	1.28	0.10
10	Rockwell Hardness Tester	1	5.46	5.46		0.98	0.11	0.10	6.65	6.65	0.10

11	Measuring Equipment (Micrometer, Caliper, Borematic Range, Bore Gage)	1 Set including 6 equipmen t	2.23	2.23	-	0.40	0.04	0.10	2.77	2.77	
	Sub Total (A)	11	143.75	143.75	-	25.88	2.39	1.85	173.87	173.87	22.40
в	Secondary Machinery										
1	DG Set (82.5 KVA)	1	5.99	5.99		1.08	0.12	0.10	7.29	7.29	-
2	Compressor 5HP Twin Cylinder	1	2.84	2.84		0.80			3.64	3.64	10.00
3	Computers, Printers & Scanner	1	3.57	3.57		0.64	0.12	0.10	4.43	4.43	
4	CAD/CAM Software & Auto cad	1	10.93	10.93		1.97	-	-	12.90	12.90	
	Sub Total (B)	3	23.33	23.33	0.00	4.48	0.24	0.20	28.25	28.25	10.00
	Grand Total	14	167.08	167.08	-	30.36	2.63	2.05	202.12	202.12	32.40

6.1.3 Miscellaneous Fixed Assets

The CFC would also require fixed assets such as furniture, fixtures, firefighting equipment, etc. for smooth running of operations. The total estimated capital expenditure for purchase of miscellaneous fixed assets is estimated to be **INR 2.30 Lakhs**. Details are provided in the table 14.

MISCELLANEOUS FIXED ASSETS (Rs. In Lakh)					
S. No.	Particulars	Amount			
1	Office computer (2 nos.)	0.80			
2	Furniture (desks and chairs)	1.00			
3	Office equipment	0.50			
	Total	2.30			

|--|

6.1.4 Preliminary and Pre-operative Expenses

Another major component of the project cost is the preliminary and pre-operative expenses. The preliminary expenses are envisaged as expenses incurred for registration of SPV, legal and administrative expenses, tendering forms, and tendering cost etc.

Pre-operative expenses include expenses for administrative establishment, travelling, bank charges, stationery, telephone, overhead expenses during construction and machinery testing period such as salaries, machine testing cost, bank charges, travelling etc. The total expenditure for preliminary and pre-operative expenses is estimated at **INR 5.25 Lakhs** (details provided in the table 15).

Table :	15:	Preliminary	and	Pre-Operative	Expenses
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	PRELIMINARY & PRE OPERATIVE EXPENSES (Rs. In Lakh)								
S. No.	Particulars	Amount							
1	Company Registration Charges	0.20							
2	Tender forms & tendering cost	0.10							
3	Project Report Preparation (DSR & DPR)	Nil							
4	Project Management Charges	Nil							
5	Travelling Cost	0.25							
6	One time electricity connection charges	1.18							
7	Cost of Refurbishment, electricity fittings, plumbing	1.50							
8	Lease deed registration charges	1.42							
9	Security Deposit (Rent)	0.00							
10	Bank Appraisal Charges	0.60							
	Total	5.25							

6.1.5 Provision for Contingencies

No contingency has been provided for on building as it is already constructed. Contingency on plant and machinery @ 5% amounting to INR 10.15 lakh has been included in the project cost.

6.1.6 Margin Money for Working Capital

The total working capital requirement during the first year of operation at 75% capacity utilization is estimated at Rs. 11. 81 lakh with margin money requirement of Rs. 2.95 Lakh (more than 25% of working capital requirement as margin). The working capital loan has been taken as INR 8.85 lakh

during the first year of operation and rest as margin by the SPV. The working capital requirement has been calculated based on requirement of one month of operational expenses and 3 months' debtor collection period. The calculation has been provided in the subsequent section.

6.1.7 Summary Project Cost

A summary of total estimated project cost is presented in the table 16.

	PROJECT COST (Rs in Lakh)								
S. No.	Particulars	Total Project Cost	Amount as per Guidelines	Remarks					
1	Land & Building								
	a. Land Value	20.32							
	b. Land Development	0.00	50.00	Eligible					
	c. Building & Other Civil Works	143.62	50.00	(Max 25% 0)					
	d. Building Value	0.00		cost)					
	Sub Total (A)	163.94	50.00						
2	Plant & Machinery								
	a. Indigenous	173.87							
	b. Imports	0.00	202.12	Eligible					
	c. Secondary Machines	28.25							
	Sub Total (B)	202.12	202.12						
3	Miscellaneous fixed assets (C)	2.30	0.00						
4	Preliminary & Preoperative Expenses (D)	5.25	0.00						
5	Contingency								
	a. Building @ 2%	0.00	0.00	Not eligible					
	b. Plant & Machinery @ 5%	10.15	0.00	for grant					
	Sub Total (E)	10.15	0.00						
6	Margin money for working capital								
	(Working capital required @ 75% C.U.)	2.90	0.00						
	Sub Total (F)	2.90	0.00						
	Grand Total (A+B+C+D+E+F)	386.65	252.12						

Table 16: Total Project Cost

6.2 Means of Finance

The project will be financed from two sources: equity from SPV and grant-in-aid from Govt. of Haryana (under State Mini Cluster Development Scheme, EPP-2015). Working capital loan will be secured from HDFC Bank. The assistance to the project from Govt. of Haryana under the State Mini Cluster Development Scheme is envisaged to the tune of 90% of max project cost of **INR 200 lakhs**. The SPV will be required to contribute 10% of project cost for project cost up to **INR 200 lakh**. The SPV members have proposed to contribute 28.60% of the project cost. The total contribution of SPV members will amount to INR 72.12 lakh as per the guidelines of Mini Cluster Scheme. The SPV has already contributed Rs. 163.95 Lakhs in terms of land and construction of building, out of which Rs. 50 Lakhs has been considered as their contibution. The balance of Rs. 22.12 Lakhs as per financials or the actual amount incurred on plant & machinery over and above GoH grant of Rs. 180 Lakhs will be contributed by SPV in adherence to the guidelines. Support from State Government is envisaged for INR 180 lakh.

Means of Finance							
S. No.	Source of finance	Total Amount (Rs. In Lakh)					
1	Grant-in-aid (Govt. of Haryana)	180.00					
2	Contribution of SPV	72.12					
	Total	252.12					

	Detailed Means Of Finance										
		Project cost 200 Ial	upto Rs. kh	Project cost	200 lakh						
S. No.	Source of finance	Percentage Contribution	Amount (Rs. in lakh)	Percentage Contribution	Amount (Rs. in lakh)	Total Amount (Rs. in lakh)	Remarks				
1	Grant-in-aid under State Mini Cluster Development Scheme (Govt. of Haryana)	90%	180.00	O%	0.00	180.00	As per EPP, 2015 GoH contribution is max 90% (Including soft intervention expenses)				
2	Contribution of SPV	10%	20.00	100%	52.12	72.12					
	Total	100%	200.00	100%	52.12	252.12					

6.2.1 Share Capital

The contribution of the SPV members will be by way of subscription to shares in the SPV registered as a private limited company by the name of **"Karnal Agricultural Implements Manufacturers Association"**. The extent of contribution would be **INR 252.12 lakh** contributed by the cluster SPV. The contribution of each member shall not be more than 10%.

6.2.2 Grant-in-Aid

Grant-in-aid of **INR 180 lakh** is expected from the Government of Haryana. The amount received by way of grant under State Mini Cluster Development Scheme will be utilized towards procurement of plant and machinery for the project.

6.3 Expenditure Estimates

In this section, a detailed estimate of expenditure of the CFC has been given on an eight-hour single shift operation basis. The cluster members and the prevalent rates of consumables, utilities and work force in the cluster have estimated this based upon extensive inputs. This project considers annual cost of undertaking job work and expenditure estimates. The critical components related to expenditure comprise rent, consumables, labour, electricity and also expenditure on repair and maintenance of assets, insurance and administrative overheads.

Other elements comprise expenditures by the way of interest toward working capital loans, miscellaneous expenses and non-cash depreciation expenditure.

6.3.1 Consumables

Machines installed in the CFC shall require consumables during operations and completion of the job work. Consumables are critical components of project facilities in terms of diesel, hydraulic oil, grease, nozzles and others, etc.

	CONSUMABLES REQUIRED FOR MACHINES													
S. N o.	Machine Name	No. Of Machin es	Particul ars	No. of Hou rs per day	No. Of worki ng days per mont h	Rat e per ho ur	Total mont hly Amt (Rs.)	Consuma bles required annually (Rs. In Lakh)	Amou nt (in Rs. Lakh)					
									Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
									75%	80%	85%	90%	95%	100%
Α.	A. Primary Machines													
1	Vertical Machining Centre	1	Tool bit, Coolant, Lubricant s, Filters etc	8	25	25	5000	0.60	0.45	0.48	0.51	0.54	0.57	0.60
2	Laser Cutting Machine)1000 Watt)	1	Tool bit, Coolant, Lubricant s, Filters etc	8	25	25	5000	0.60	0.00	0.00	0.00	0.00	0.00	0.00
3	Wire Cut Machine	1	Cutting oil, Hydraulic Oil,	8	25	10	2000	0.24	0.27	0.29	0.31	0.32	0.34	0.36

Table 18: Consumables

			Coolant etc											
4	EDM	1	Tool bit, Coolant, Lubricant s, Filters etc	8	25	10	2000	0.24	0.00	0.00	0.00	0.00	0.00	0.00
5	Lathe 8 Feet	1	Tool bit, Coolant, Lubricant s, Filters etc	8	25	10	2000	0.24	0.16	0.17	0.18	0.19	0.21	0.22
6	Surface Grinder	1	Cutting oil, Hydraulic Oil, Coolant etc	8	25	15	3000	0.36	0.00	0.00	0.00	0.00	0.00	0.00
В.	Secondary Machines													
1	Genset (82.5KVA)	1	Deisel (litre)	8	25	25	5000	0.60	0.45	0.48	0.51	0.54	0.57	0.60
	Total							2.88	1.33	1.42	1.51	1.60	1.69	1.78
	Consumables per month							0.24	0.11	0.12	0.13	0.13	0.14	0.15

6.3.2 Manpower Requirement

Another major expenditure head is the manpower. Therefore, the facilities installed in the CFC will require manpower to function effectively as mentioned in section 5.3 of the report. The total manpower requirement for the project would be about 11 persons. The manpower required under project has been divided under two categories: Direct & Indirect. Direct manpower is required for operation of machines while indirect manpower is required for administrative purposes. The annual expenditure on salary component for direct manpower is estimated at INR 11.81 lakhs and for indirect at INR 6.60 lakhs. The total expense on manpower is projected at INR 1.35 lakh per month or INR 18.41 lakh per annum. The details of monthly and yearly expenses for manpower required for running the project is provided in table 19:

Table 19:	Expenditure	Related to	Salary	(direct man	power)

DIRECT MANPOWER REQUIREMENT								
Category	No. of Manpower Required	of Salary per month Total Salary wer per person (Rs.) Month (Rs.		Total salary & wages per Year (Rs. in lakh)				
	DIR	ECT MANPOWER						
CNC/VMC Programmer	1	18,000.00	18,000.00	2.16				
Lathe Machine operator	1	15,000.00	15,000.00	1.80				
Operator Spectrometer	1	15,000.00	15,000.00	1.80				
CNC/VMC Operator	1	15,000.00	15,000.00	1.80				
Helper	2	9,000.00	18,000.00	2.16				
Office Boy	1	8,500.00	8,500.00	1.02				
	7	80,500.00	89,500.00	10.74				
Add: Perquisites/Fringe Be	1.07							
Sub Total (A)				11.81				

Table 20: Expenditure Related to Salary (Indirect Manpower)

INDIRECT MANPOWER REQUIREMENT									
Category	No. of Manpower Required	Salary per month per person (Rs.)	Total Salary Per Month (Rs.)	Total salary & wages per Year (Rs. in lakh)					
Cluster Development									
Executive (CDE)	1	25,000.00	25,000.00	3.00					
Accountant	1	15,000.00	15,000.00	1.80					
Security Guard	1	10,000.00	10,000.00	1.20					
	3	50,000.00	50,000.00	6.00					
Add: Perquisites/Fringe B	0.60								
Sub-Total (B)									
Total (A) + (B)	10	130,500.00	139,500.00	18.41					

6.3.3 Utilities

The most important utilities required in the project are power supply. Proposed CFC requires power for operation of machinery as well as other supporting equipment for smooth operations. The total connected load requirement has been estimated at 35.64 KW. The table below shows the equipment wise power requirement in the CFC. The drawn power is conservatively assumed at 60% of the connected load in the case of operating facilities and shop floor.

S. No.	Machine & Equipment	Power Requirement (kW)/ Connected Load	Total power requirement (60% of drawn power) kWh
1	Vertical Machining Centre	7.50	4.50
2	Laser Cutting Machine)1000 Watt)	3.00	1.80
3	Wire Cut Machine	1.50	0.90
4	EDM	2.00	1.20
5	Lathe 8 Feet	5.00	3.00
6	Surface Grinder	3.00	1.80
7	Spectrometer	0.10	0.06
8	Surface Plate	0.10	0.06
9	Digimatic Height Gauge	0.10	0.06
10	Rockwell Hardness Tester	0.10	0.06
11	Compressor 5HP Twin Cylinder	10.00	6.00
	Total Connected Load for CFC	32.40	19.44
	Buffer Connected Load (10% of Total Connected Load)	3.24	
	Total	35.64	

Table 21: Machine & Equip	nent (facility) wise	power requirement
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The power requirement for operation of core machinery and equipment and administrative facilities is 32.40 kW approx. The facility is heavily based on electricity for operations and will also require additional 10% connected load as a buffer to get the electricity connection, accordingly and the buffer-connected load is 3.24 kW. The total connected load for the CFC is estimated to be 35.64 kW approx.

Fixed charges for connection of 35.64 kW @ Rs. 160 per kW equal Rs. 5,702/- per month and monthly consumption charges @ Rs. 6.40 per unit for consumption of 3888 units amounts to INR 24,883/- per month. This has been calculated based on the prevalent rates of the power provider.

The table below presents the envisaged annual expenditure in terms of power related charges.

POWER CHARGES AT VARIOUS CAPACITY UTILIZATION													
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10			
75% 80% 85% 90% 95% 100% 100% 100% 100%													
Fixed	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68			
Variable	2.24	2.39	2.54	2.69	2.84	2.99	2.99	2.99	2.99	2.99			
Total 2.92 3.07 3.22 3.37 3.52 3.67 3.67 3.67 3.67 3.67 3.67													
Per month	Per month 0.24 0.26 0.27 0.28 0.29 0.31 0.31 0.31 0.31 0.31												

Table 22: Annual Expenditure Statement vis-à-vis Power Charges

6.3.4 Annual Repairs and Maintenance Expenses

The annual repair and maintenance expenses have been estimated to be Rs. 6.56 lakh. The details are presented in the table 23 below:

REPAIR & MAINTENANCE (as per Capacity Utilisation)												
Repair & Maintenance of	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%		
Building	0.38	0.40	0.43	0.45	0.48	0.50	0.50	0.50	0.50	0.50		
Plant & Machineries	4.55	4.85	5.15	5.46	5.76	6.06	6.06	6.06	6.06	6.06		
Total 4.92 5.25 5.58 5.91 6.24 6.56 6.56 6.56 6.56 6.56												

Table 23: Annual Repairs and Maintenance Expenditure

6.3.5 Insurance and miscellaneous Administrative Expenses

Insurance is a critical component of asset protection at the CFC. Insurance is computed based on 0.5 % on the fixed assets. Cost of insurance shall remain as a fixed cost. Miscellaneous administrative expenses are estimated at a lump sum of Rs. 2.40 lakh per year. The cost of miscellaneous expenses is considered to be 10% fixed and 90% variable. The details are presented in the table 24 below:

Table 24: Insurance and Miscellaneous Administrative Expenses

INSURANCE & MISCELLANEOUS EXPENSES	
Insurance Charges (Estimate @ 0.5% on fixed assets such as buildings, civil works, and Plant & machinery, including related contingency expenses)	1.78
Miscellaneous Expenses (Stationery, communication, travelling, and other misc. overheads)	2.40
Total	4.18

6.4 Working Capital Requirements

Working capital has been calculated in terms of one month's operating expenses and 3 months debtor collection period. The operating expenses include consumables, salaries and utilities. The details are presented in the table below.

				WORKING		. (Rs. In La	akh)					
Sr. No.	Particulars	Period				A	As per Cap	acity Utilisa	ation			
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
			75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
1	Consumables	1 month	0.11	0.12	0.13	0.13	0.14	0.15	0.15	0.15	0.15	0.15
2	Utilities (Power)	1 month	0.24	0.26	0.27	0.28	0.29	0.31	0.31	0.31	0.31	0.31
3	Working Expenses (Manpower)	1 month	1.29	1.34	1.39	1.44	1.49	1.53	1.53	1.53	1.53	1.53
4	Rent	1 month	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Sundry Debtors (Sales Value)	1 month	10.16	10.84	11.52	12.20	12.87	13.55	13.55	13.55	13.55	13.55
6	Working capital (Total expenses)		11.81	12.55	13.30	14.05	14.79	15.54	15.54	15.54	15.54	15.54
7	Working Capital Margin		2.95	3.14	3.32	3.51	3.70	3.88	3.88	3.88	3.88	3.88
8	Working Capital Loan		8.85	9.41	9.97	10.53	11.09	11.65	11.65	11.65	11.65	11.65
9	Interest on Working capital loan @11% p.a.		0.97	1.04	1.10	1.16	1.22	1.28	1.28	1.28	1.28	1.28
10	Working Capital Margin %age		25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%

Table 25: Calculation of Working capital requirement

The working capital requirements of the project for one month of operation have been considered for consumables and expenses, and 1 month as debtor collection period. The SPV will contribute more than 85% of the Working capital requirement as margin money, and the rest will be borrowed from local bank. The total working capital required during first year of operation (75% C.U.) is estimated at INR 11.85 lakh. Further, total working capital required at an operating capacity of 80% comes out to INR 12.55 lakh. The corresponding margin money for working capital requirement at 75% & 80% capacity utilisation amounts to INR 2.95 lakh and INR 3.14 lakh respectively, and the loan amounts at INR 8.85 lakhs and INR 9.41 Lakhs respectively. The loan requirement, if any, has been kept at a minimum level and the balance will be contributed by the SPV.

6.5 Depreciation Estimates

Estimates of depreciation are non-cash expenditure and presented in this section based on Written Down Value (WDV) method. Accounting for depreciation would facilitate sustainability of operations in terms of developing a fund for replacement of assets. The relevant fund that is accumulated could facilitate the replacement of such assets toward the end of the envisaged asset life of 10 years. Depreciation of building is considered at 10% per year, plant and machinery at 15%, furniture 10%, computer 60% and other miscellaneous fixed assets at the rate of 15% a year as per the WDV method. The calculation is provided in the tables below.

DEPRECIATION (WRITTEN DOWN VALUE METHOD) (Rs. In lakh)													
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10			
Land													
Opening Balance	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32			
Less : Depreciation	-	-	-	-	-	-	-	-	-	-			
Closing Balance	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32	20.32			
Building and Civilwork													
Opening Balance	143.62	129.26	116.33	104.70	94.23	84.81	76.33	68.69	61.82	55.64			
Less: Depreciation @ 10%	14.36	12.93	11.63	10.47	9.42	8.48	7.63	6.87	6.18	5.56			
Closing Balance	129.26	116.33	104.70	94.23	84.81	76.33	68.69	61.82	55.64	50.08			
Plant & Machinery													
Opening Balance	212.22	180.39	153.33	130.33	110.78	94.17	80.04	68.03	57.83	49.15			
Less: Depreciation @ 15%	31.83	27.06	23.00	19.55	16.62	14.12	12.01	10.21	8.67	7.37			
Closing Balance	180.39	153.33	130.33	110.78	94.17	80.04	68.03	57.83	49.15	41.78			
Computers													
Opening Balance	0.84	0.34	0.13	0.05	0.02	0.01	0.00	0.00	0.00	0.00			
Less: Depreciation @ 60%	0.50	0.20	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00			
Closing Balance	0.34	0.13	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00			
Furniture													
Opening Balance	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39			
Less: Depreciation @ 10%	0.10	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04			
Closing Balance	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39	0.35			
Other Misc. Fixed Assets													

Table 26: Depreciation based on WDV

Opening Balance	0.50	0.43	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18
Less: Depreciation @ 15%	0.08	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02
Closing Balance	0.43	0.38	0.34	0.31	0.28	0.25	0.23	0.20	0.18	0.16
Total Depreciation	46.87	40.32	34.83	30.16	26.15	22.70	19.72	17.15	14.92	12.99
Depreciated value	331.63	291.31	256.48	226.32	200.17	177.47	157.75	140.61	125.69	112.69

6.6 Income/Revenue estimates

The CFC is expected to generate revenue by way of user charges that shall be levied based upon the hours a machine is operated for a particular job. The user charges shall vary based upon the user i.e. the SPV members and non-SPV members. The user charges will be less for the SPV members as compared to non-SPV members. The non-SPV members shall be charged a premium for availing the CFC services. The major income sources for the CFC are envisaged by the way user charges through CNC machines and testing facility.

The user charges have been estimated based upon the operational expenses of the CFC and the prevalent market rates in Karnal. User charges for secondary machinery have not been considered as a part of revenue. Estimation of user charges for availing services at CFC has been done on a conservative basis.

The relevance and appropriateness of user charges is also evident from the fact that the rates fixed help meet operating expenditures and provide sustainable replacement of assets. It is also envisaged that the CFC will generate enough income to sustain and grow, making it a viable project.

The estimated user charges for various machineries are presented in the table 27 below:

S. No.	Machine Name	User Fee Charge per hour (Rs.)	No. Of Working hours per day	No. Of Working days per month	Revenue per month (Rs. lakh)	Annual Revenue generation (in Rs. lakh)	Amount in Rs. Lakh)					
							Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							75%	80%	85%	90%	95%	100%
1	Vertical Machining Centre	1000	8	25	2.00	24.00	18.00	19.20	20.40	21.60	22.80	24.00
2	Laser Cutting Machine)1000 Watt)	1500	8	25	3.00	36.00	27.00	28.80	30.60	32.40	34.20	36.00
3	Wire Cut Machine	400	8	25	0.80	9.60	7.20	7.68	8.16	8.64	9.12	9.60
4	EDM	500	8	25	1.00	12.00	9.00	9.60	10.20	10.80	11.40	12.00
5	Lathe 8 Feet	400	8	25	0.80	9.60	7.20	7.68	8.16	8.64	9.12	9.60
6	Surface Grinder	350	8	25	0.70	8.40	6.30	6.72	7.14	7.56	7.98	8.40
	Tot	al Primary M	lachinery			99.60	74.70	79.68	84.66	89.64	94.62	99.60
S. No.	Machine Name	No. Of Machines	No. of tests per day	No.of test per month	Revenue per month (Rs. lakh)	Annual Revenue generation (in Rs. lakh)	Amount in Rs. Lakh)					
7	Spectrometer	400	35	25	3.50	42.00	31.50	33.60	35.70	37.80	39.90	42.00
10	Rockwell Hardness Tester	200	35	25	1.75	21.00	15.75	16.80	17.85	18.90	19.95	21.00
	Tota	l Secondary	Machinery			63.00	47.25	50.40	53.55	56.70	59.85	63.00
	Total					162.60	121.95	130.08	138.21	146.34	154.47	162.60

Table 27: User Charges for Machinery

6.7 Estimation of profitability: Income and Expenditure statement

The projection for income and expenditures of the CFC has been conducted for ten years. The projections have been undertaken based upon the income and expenditure heads mentioned in previous sections. The projected statements highlight income, expenses, profits earned, income tax and net profit etc. The details are presented in the table below:

The total gross revenue is estimated to be **INR 32.84 lakhs** per annum at an operating capacity of 75%. For projection purposes, operating capacity of 75% is considered during first year, 80% during next year and 95% capacity from 5th year and 6th year 100 capacity onwards.

The income tax rates have been considered as per rates applicable to a company according to the Income Tax Act, 1961. Income tax has been considered at 25.75% per cent on taxable profit inclusive of all the tax components. The incidence of tax ranges from INR 11.30 lakhs in the first year to INR 29.61 lakhs in Year 10.

PROFIT & LOSS ACCOUNT (Rs. In Lakh)												
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10		
Number of working days	300	300	300	300	300	300	300	300	300	300		
Number of shift	1	1	1	1	1	1	1	1	1	1		
Capacity Utilisation in %	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%		
A. Income												
(User/ Service Charge)	121.95	130.08	138.21	146.34	154.47	162.60	162.60	162.60	162.60	162.60		
B. Cost of Production :												
1. Utilities Power (Fixed + Variable)	2.92	3.07	3.22	3.37	3.52	3.67	3.67	3.67	3.67	3.67		
2. Direct labour and wages	8.86	9.45	10.04	10.63	11.22	11.81	11.81	11.81	11.81	11.81		
3. Consumable	1.33	1.42	1.51	1.60	1.69	1.78	1.78	1.78	1.78	1.78		
4. Repair and Maintenance	4.92	5.25	5.58	5.91	6.24	6.56	6.56	6.56	6.56	6.56		
5. Depreciation	46.87	40.32	34.83	30.16	26.15	22.70	19.72	17.15	14.92	12.99		
Total Cost of production	64.91	59.51	55.19	51.67	48.82	46.52	43.54	40.97	38.74	36.82		
C. Administrative expenses :												
6. Manpower (Indirect)	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60		

7. Rent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8. Insurance	1.78	1.56	1.35	1.18	1.03	0.90	0.79	0.69	0.60	0.53
9. Misc Expense	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Total Administrative Expenses	10.78	10.56	10.35	10.18	10.03	9.90	9.79	9.69	9.60	9.53
D. Financial expenses :										
10. Interest on Working capital loan @ 11% per annum	0.97	1.04	1.10	1.16	1.22	1.28	1.28	1.28	1.28	1.28
Total Financial Expenses	0.97	1.04	1.10	1.16	1.22	1.28	1.28	1.28	1.28	1.28
E. Total Expenses B+C+D	76.67	71.11	66.64	63.01	60.07	57.70	54.61	51.94	49.63	47.63
E. Total Expenses B+C+D F. Profit A - E	76.67 45.28	71.11 58.97	66.64 71.57	63.01 83.33	60.07 94.40	57.70 104.90	54.61 107.99	51.94 110.66	49.63 112.97	47.63 114.97
E. Total Expenses B+C+D F. Profit A - E G. P&P Expenses written off	76.67 45.28 1.05	71.11 58.97 1.05	66.64 71.57 1.05	63.01 83.33 1.05	60.07 94.40 1.05	57.70 104.90 0.00	54.61 107.99 0.00	51.94 110.66 0.00	49.63 112.97 0.00	47.63 114.97 0.00
E. Total Expenses B+C+D F. Profit A - E G. P&P Expenses written off H. Income before Tax (F-G)	76.67 45.28 1.05 44.23	71.11 58.97 1.05 57.92	66.64 71.57 1.05 70.52	63.01 83.33 1.05 82.28	60.07 94.40 1.05 93.35	57.70 104.90 0.00 104.90	54.61 107.99 0.00 107.99	51.94 110.66 0.00 110.66	49.63 112.97 0.00 112.97	47.63 114.97 0.00 114.97
E. Total Expenses B+C+D F. Profit A - E G. P&P Expenses written off H. Income before Tax (F-G) I. Adjustment of Loss	76.67 45.28 1.05 44.23 -	71.11 58.97 1.05 57.92 -	66.64 71.57 1.05 70.52 -	63.01 83.33 1.05 82.28 -	60.07 94.40 1.05 93.35 -	57.70 104.90 0.00 104.90 -	54.61 107.99 0.00 107.99 -	51.94 110.66 0.00 110.66 -	49.63 112.97 0.00 112.97 -	47.63 114.97 0.00 114.97 -
E. Total Expenses B+C+D F. Profit A - E G. P&P Expenses written off H. Income before Tax (F-G) I. Adjustment of Loss J. Income Tax (@25.75% for company)	76.67 45.28 1.05 44.23 - 11.39	71.11 58.97 1.05 57.92 - 14.92	66.64 71.57 1.05 70.52 - 18.16	63.01 83.33 1.05 82.28 - 21.19	60.07 94.40 1.05 93.35 - 24.04	57.70 104.90 0.00 104.90 - 27.01	54.61 107.99 0.00 107.99 - 27.81	51.94 110.66 0.00 110.66 - 28.50	49.63 112.97 0.00 112.97 - 29.09	47.63 114.97 0.00 114.97 - 29.61
E. Total Expenses B+C+D F. Profit A - E G. P&P Expenses written off H. Income before Tax (F-G) I. Adjustment of Loss J. Income Tax (@25.75% for company) K. Net Profit /Loss for the year	76.67 45.28 1.05 44.23 - 11.39 32.84	71.11 58.97 1.05 57.92 - 14.92 43.01	66.64 71.57 1.05 70.52 - 18.16 52.36	63.01 83.33 1.05 82.28 - 21.19 61.09	60.07 94.40 1.05 93.35 - 24.04 69.32	57.70 104.90 0.00 104.90 - 27.01 77.89	54.61 107.99 0.00 107.99 - 27.81 80.18	51.94 110.66 0.00 110.66 - 28.50 82.17	49.63 112.97 0.00 112.97 - 29.09 83.88	47.63 114.97 0.00 114.97 - 29.61 85.37

As evident from the table below, the project is financially viable. A cumulative surplus of about **INR 668.11 lakhs** shall be earned by the SPV even after accounting for taxation and depreciation at the end of ten years. This surplus generated shall be used for further addition in the machinery or improvement and up-gradation of facilities. Additionally, the SPV intends to conduct a lot of other development activities in the cluster that shall be funded through the surplus earned at the CFC.

6.8 Cash flow statement

Cash flow statement indicates the cash balance and the liquidity position of the project over the years. The table below presents the sources and disposal/uses of funds statement of the project.

CASH FLOW STATEMENT (Rs in Lakh)												
Particulars	Const Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
A. Source Funds :												
1. Cash Accruals (Net Profit + Interest Paid)		46.26	60.01	72.67	84.49	95.62	106.18	109.27	111.94	114.25	116.25	
2. Increase in capital	72.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3. Depreciation		46.87	40.32	34.83	30.16	26.15	22.70	19.72	17.15	14.92	12.99	
4. Increase in WC Loan		8.85	0.56	0.56	0.56	0.56	0.56	0.00	0.00	0.00	0.00	
5. Change in Expenses Payable		19.72	0.83	0.83	0.83	0.83	0.83	0.00	0.00	0.00	0.00	
6. Increase in Grant-in-aid from GoH	180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Sources of Funds	252.12	121.70	101.72	108.89	116.04	123.16	130.27	128.99	129.09	129.17	129.25	
B. Use of Funds :												
1. P&P Expenses	5.25	-	-	-	-	-	-	-	-	-	-	
2. Increase in fixed assets	378.50	-	-	-	-	-	-	-	-	-	-	
3. Increase in other Assets	2.95	40.00	8.19	9.79	11.71	14.01	16.78	19.91	23.89	28.67	34.40	
4. Increase in Sundry Debtors		10.16	0.68	0.68	0.68	0.68	0.68	0.00	0.00	0.00	0.00	
5. Interest		0.97	1.04	1.10	1.16	1.22	1.28	1.28	1.28	1.28	1.28	
6. Taxation		11.39	14.92	18.16	21.19	24.04	27.01	27.81	28.50	29.09	29.61	
Total Use of Funds	386.70	62.53	24.82	29.72	34.73	39.95	45.75	49.00	53.67	59.04	65.29	
C. Net Surplus (A -B)		59.18	76.90	79.17	81.31	83.21	84.52	79.99	75.42	70.14	63.96	
D. Cumulative Surplus		59.18	136.08	215.25	296.55	379.77	464.29	544.28	619.71	689.84	753.81	

Table 29: Cash Flow Statement
The cash flow statement highlights the available net surplus for 10 years of the CFC operations. Depreciation is also considered on a higher side on the Written Down Value method for cash flow calculations along with adjusted preliminary expenses. As most of the capital expenditure is supported as grant under the State Mini Cluster Development scheme, EPP 2015, therefore it does not have any negative effect on the Cash flow, in terms of interest, etc.

6.9 Projected Balance Sheets

The annual balance sheets for the CFC have been projected based upon estimates in the earlier sub-sections with regard to various current and fixed liabilities and current and fixed assets. As evident from the projections, a considerable amount of reserves and surplus is accumulated. These shall also be utilized for expansion of the CFC and undertaking other cluster development activities. Decision on deployment of reserves and surplus accumulated will be based on the performance of the project and requirements of cluster firms and members of the SPV. The projected balance sheets are provided in the table below:

	PROJECTED BALANCE SHEET (Rs in lakh)										
Particulars	At the end of impl. Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1. Fixed Assets :											
Gross Block	378.50	378.50	331.63	291.31	256.48	226.32	200.17	177.47	157.75	140.61	125.69
Less : Depreciation (WDV)		46.87	40.32	34.83	30.16	26.15	22.70	19.72	17.15	14.92	12.99
Net Block	378.50	331.63	291.31	256.48	226.32	200.17	177.47	157.75	140.61	125.69	112.69
Total Fixed Assets (A)	378.50	331.63	291.31	256.48	226.32	200.17	177.47	157.75	140.61	125.69	112.69
2. Current Assets :											
Cash & bank Surplus (B.F)		-75.41	1.49	80.66	161.97	245.19	329.71	409.70	485.13	555.26	619.23
Sundry Debtors		10.16	10.84	11.52	12.20	12.87	13.55	13.55	13.55	13.55	13.55
Margin Money for WC Loan	2.95	2.95	3.14	3.32	3.51	3.70	3.88	3.88	3.88	3.88	3.88
Other Current Assets		40.00	48.00	57.60	69.12	82.94	99.53	119.44	143.33	171.99	206.39
3. P&P Exp	5.25	4.20	3.15	2.10	1.05	0.00	0.00	0.00	0.00	0.00	0.00
Total current Assets (B)		-18.10	66.62	155.21	247.85	344.70	446.67	546.58	645.89	744.69	843.05
Total Assets (A+B)	386.70	<u>313.5</u> 3	357.93	<u>411.6</u> 8	474.17	544.87	624.15	704.33	786.49	870.38	955.74

Table 30: Balance Sheet

4. Current Liabilities :											
Working Capital Loan		8.85	9.41	9.97	10.53	11.09	11.65	11.65	11.65	11.65	11.65
Expenses Payable		19.72	20.55	21.37	22.20	23.03	23.86	23.86	23.86	23.86	23.86
Total Current Liabilities (C)		28.57	29.96	31.35	32.74	34.13	35.51	35.51	35.51	35.51	35.51
5. Fixed Liabilities											
Shareholders' Contribution	72.12	72.12	72.12	72.12	72.12	72.12	72.12	72.12	72.12	72.12	72.12
Grant from GoH	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Reserves and Surplus		32.84	75.85	128.22	189.31	258.63	336.51	416.69	498.86	582.74	668.11
Total Fixed Liabilities (D)	252.12	284.96	327.97	380.34	441.43	510.75	588.63	668.81	750.98	834.86	920.23
Total Liabilities (C+D)	252.12	313.53	357.93	411.68	474.17	544.87	624.15	704.33	786.49	870.38	955.74

6.10 Break-even analysis

The break-even (BE) estimates of the project indicate the level of activity at which the total revenues of the project equal the total costs. The Break even percentage indicates whether the fixed costs are being covered by the revenue generated from the operations, as well as profits are being generated after paying for such fixed costs. As per the calculations, the CFC achieves break even in the first year itself as no major interest costs are being incurred. Hence, BE estimates at level of activity relevant to the first year and subsequent years of activity are provided in the table below:

BRE	AKEVEN I	POINT AT	VARIOU	S C.U. (Rs	<mark>. In Lakh</mark>))				
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Capacity Utilization	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%
A. Total Earning by way of user charges	121.95	130.08	138.21	146.34	154.47	162.60	162.60	162.60	162.60	162.60
B. Variable costs										
Consumables	1.33	1.42	1.51	1.60	1.69	1.78	1.78	1.78	1.78	1.78
Utilities (Power-Variable Charges)	2.24	2.39	2.54	2.69	2.84	2.99	2.99	2.99	2.99	2.99
Interest on WC Loan	0.97	1.04	1.10	1.16	1.22	1.28	1.28	1.28	1.28	1.28
Repair & Maintenance	4.92	5.25	5.58	5.91	6.24	6.56	6.56	6.56	6.56	6.56
Manpower (Direct)	8.86	9.45	10.04	10.63	11.22	11.81	11.81	11.81	11.81	11.81
Total Variable Cost (B)	18.33	19.55	20.77	21.98	23.20	24.42	24.42	24.42	24.42	24.42
C. Contribution (A-B)	103.62	110.53	117.44	124.36	131.27	138.18	138.18	138.18	138.18	138.18
D. Fixed Overheads (Cash)										
Manpower (Indirect)	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60
Utilities (Power-Fixed Charges)	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Rent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Insurance	1.78	1.56	1.35	1.18	1.03	0.90	0.79	0.69	0.60	0.53
Misc. Expenditure	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Sub-total (D)	11.46	11.24	11.04	10.87	10.71	10.58	10.47	10.37	10.29	10.21
E. Fixed Overheads (Non-cash)										

Table 31: Break Even Estimates

Depreciation	46.87	40.32	34.83	30.16	26.15	22.70	19.72	17.15	14.92	12.99
Preliminary & Pre-operative expenses written off	1.05	1.05	1.05	1.05	1.05	0.00	0.00	0.00	0.00	0.00
Sub-total (E)	47.92	41.37	35.88	31.21	27.20	22.70	19.72	17.15	14.92	12.99
F. Total Fixed Overheads (D+E)	59.39	52.61	46.92	42.07	37.91	33.28	30.19	27.52	25.21	23.21
Break even point (F/C)	57.31%	47.60%	39.95 %	33.83%	28.88%	24.09 %	21.85%	19.91 %	18.24%	16.79%

Book break-even is achieved at 57.31% (of operational capacity at 75%) and at 47.60% (of operational capacity at 80%). The operation of the CFC is expected to break-even and realize profit from 1st year of operations. Therefore, very low risk is involved in the project.

Moreover, the SPV members have the potential to run the facility for longer than one shift resulting in enhanced capacity utilization and generation of more revenues. In that case, project will break even earlier than estimated. Additionally, the approach has been to develop projections based upon conservative estimates (costs on a higher side and user charge/ revenues on a lower side) whereas, in real the revenues may be far higher.

6.11 Feasibility analysis summary and sustainability indicators

A summary of the financial analysis in terms of key financial indicators such as Return on Capital Employed (ROCE), Net Present Value (NPV), Break Even Point (BEP) and the Internal Rate of Return (IRR) is presented in the table below. The indicators validate the financial viability and sustainability potential of the proposed project.

	FEASIBILITY	
S. No.	Particulars	Estimates
1	BEP (cash BEP at initial operating capacity of 75%)	57.84%
2	Av. ROCE (PAT/CE)	36.16%
3	Internal Rate of Return (IRR)	19.28%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) by GoH	NPV is positive and high (Rs.175.95 lakh) at a conservative project life of 10 years
5	Payback period	5 years & 11 months with Grant- in-aid assistance from GoH

Table	32:	Financial	Analysis
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The annual estimates in the context of ROCE are presented in the table 27 below:

	RETURN ON CAPITAL EMPLOYED (ROCE)										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Avera ge
Earning Before Interest and Tax (EBIT)	45.2 1	58.9 6	71.6 2	83.4 4	94.5 7	106. 18	109. 27	111. 94	114. 25	116. 25	91.17
Capital Employed (with grant)	252. 12	252. 12	252. 12	252. 12	252. 12	252. 12	252. 12	252. 12	252. 12	252. 12	252.1 2
ROCE = EBIT,	/Capital	Employ	ved								
ROCE (with Grant)	17.9 3%	23.3 9%	28.4 1%	33.1 0%	37.5 1%	42.1 1%	43.3 4%	44.4 0%	45.3 2%	46.1 1%	36.16

 Table 33: Calculation of Return on Capital Employed

The average value of ROCE is 36.16%. This indicates the high techno-economic viability of the project should the government contribute a significant portion of the project cost as grant. Capital employed includes both the grant component as well as SPV contribution to the project.

The Net Present Value (NPV) estimated at a discount rate of 10% is INR 175.95 lakhs. However, as reflected from the high values of NPV, it is positive at even 10%, the rate at which bank offers debt capital facility and even at higher discount rates. Project IRR is high at over 19.28% (at a conservative project life of 10 years). This substantiates the viability of the project.

6.12 Additional revenue sources

Additional sources of revenue shall also be explored by the SPV by offering procurement and marketing services in future to more enterprises. The SPV members are strong believers of the cluster concept

and would like to explore the potential of undertaking cluster initiatives to improve the backward and forward linkages of the cluster units.

However, in order to ensure conservativeness in income estimates, in the initial years, the income earning possibilities of such revenues are not captured in this DPR.

6.13 Risk Analysis & Sensitivities

Risk in the project is relatively low in the context of the following:

- Promoters are experienced: Risk in the project is quite low given the strength and profile of the SPV members. They have considerable experience not only in the foundry industry but also in undertaking cluster developmental initiatives.
- Facility is pre-marketed: Evidently, complete capacity of the core facility to be established in terms of various facilities may be easily availed by members of the SPV themselves, thus the facility would already have a captive market.
- Sustainability indicators in terms of the strength of the SPV and the economics of the project: Evidence of cooperative initiatives of SPV members as articulated in previous chapters; for instance, in terms of pursuing several joint efforts, registering the SPV, proceeding towards procurement of land, and securing commitment from members, vis-à-vis progressively mobilizing necessary paid up capital, all reflect the strength of the SPV.

High economic viability indicators upon considering the benefits of grant-in-aid under the State Mini Cluster Development Scheme and EPP 2015 also serve as evidence of techno-economic viability and sustainability of the project. A sensitivity analysis has been carried out to ascertain the impact on the project, should there be any loss of revenue. This has been calculated assuming drop in user charges. Major financial parameters are still attractive. The important parameters related to the sensitivity analysis are presented in the table 34 below:

	SENSTIVITY ANALY	'SIS			
S. No.	Particulars	Base case	With 5% decline in user charge	With 10% decline in user charge	With 15% decline in user charge
1	BEP (cash BEP at operating capacity of 75%)	57.31%	60.87%	64.90%	6913.00%
2	Internal Rate of Return (IRR)	19.28%	17.65%	15.98%	14.38%
3	Av. ROCE (PAT/CE)	36.16%	33.18%	30.20%	27.43%
4	Net Present Value (at a discount rate of 10 per cent) - incorporating viability gap funding (grant) GoH	175.95	142.86	109.78	79.13

Table	34:	Sensitivity	Analysis
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Even after assuming a fall in user charge, ROCE is favourable. From the above it is evident that the project is very viable even under (unlikely) risky environment circumstances.

6.14 Assumptions for financial calculations:

The financial statements and project profitability estimates in this DPR are based on the following assumptions:

1. The total project cost is pegged INR 252.12 lakhs on the basis of estimates and quotations.

- 2. To finance the project, a total of INR 252.12 lakhs is required. The financing will consist of grant from Government of Haryana and contribution by SPV.
- **3.** In the financial projections and analysis, year 2018-19 is the envisaged period of project implementation also involving obtaining building on lease and installation of plant, machinery and other equipment. This period will commence from the date of final approval by the State Level Steering Committee under the State Mini Cluster Development Scheme. The financial projections thereafter are prepared for 10 years of operation starting 2019.
- **4.** The Registered SPV will manage CFC, and these services are to be provided by the SPV to member as well as non-member units. The common facility will benefit registered SPV as well as non-member firms who (in some cases) may not afford to contribute to necessary equity capital.
- **5.** The CFC will operate for 25 days a month, that is, for 300 days a year on an eight hour single shift basis. Operation on single shift basis is assumed for purposes of projecting income estimates.
- **6.** Capacity utilization is assumed at 75% in the first year; 80% for second, 85% for third year, 90% for fourth; 95% for fifth year and 100% thereafter.
- **7.** The workings with regard to expenses related to the project have been tabulated and categorized in terms of those related to consumables, manpower, electricity, and miscellaneous administrative expenditures.
- 8. Repairs and maintenance is provided @ 3% of plant and machinery cost at varying capacity utilization.
- **9.** Insurance is provided @ 0.5% on fixed assets including machinery and contingency as fixed cost at all capacity utilization.
- **10.**No separate electricity connection will be required as the same will be provided by the property owner of the building to be taken on lease.
- 11.Fixed charges per kW of electric connection shall be charged @ Rs. 160 and variable charges@ Rs. 6.40 per unit consumed.
- **12.**Income estimates have been projected most conservatively. The prescribed user charges are competitive vis-à-vis charges for similar services in other regions.
- **13.** Depreciation on fixed assets is calculated on Written Down Value (WDV) method.
- **14.**Provision for income tax has been made at 26%. This is the rate prescribed for companies as per the recent Budget 2018.
- **15.**Profitability estimates in terms of ROCE, NPV, and IRR are computed considering operating results for first 10 years of operation.
- **16.**Expenses Payables in Balance Sheet include one month's payables for consumables, power, work force and rent.
- **17.**Debtors Collection Period for the purposes of calculation of Working capital is taken as 3 months.
- **18.** Interest on WC Loan is taken at 11%.

Project Implementation and Monitoring

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- 7. Project Implementation and Monitoring
- 7.1 Project Implementation Framework

7.1.1 Time Frame

Project implementation is envisaged to involve a time-frame of about 6 months upon receipt of final approval of grant-in-aid assistance from the Government of Haryana.

7.1.2 User Base

The CFC has presently a user base of 71MSME units as members of SPV. These units shall avail the facilities installed at CFC by paying user fee. The facilities shall also be open to non-members as well by paying user fee as fixed by SPV. SPV shall also be open to new entrants as members subject to their subscribing to the shareholding of the Registered Society. Non-members may also use the facilities subject to user charges.

7.1.3 Project Implementation Schedule

The project implementation schedule is envisaged over a period of 6 months, and involves several activities. They are elaborated upon in the table below:

Activity/Month	1	2	3	4	5	6
Collecting Contribution from SPV/ stakeholders						
Receipt of final approval from Govt. of Haryana						
Bipartite Agreement						
Formation of purchase committee						
Finalisation of Bidding document for the procurement of Plant & Machinery & publish to tender on e-procurement portal						
Purchase of Machinery and equipment						
Installation and trial run of machinery and equipment						
Arrangement for working capital						
Monitoring of the project by PMC						
Commencement of operations of the facility						

Table 35: Project Implementation Schedule

7.1.4 Contractual Agreements / MoU with Member Units

Agreements have been indicatively finalized in terms of utilization of assets in respect of shareholders.

A total of 71 units are participating in the SPV and all these units have agreed to contribute towards the SPV share of the project cost. The utilization of the common facility will be in line with the proposed shareholding pattern. The consent letter wherein the member units agree for payments of 10% share of cost of CFC will be submitted in due course of time and as per final approval from Government of Haryana.

7.1.5 Memorandum and By-Law of Registered Society

MOAand bye laws are indicative of the management and decision making structure of the SPV. All the members of SPV have paid an advance and are members of the Registered Society. Few other units are also willing to be members of the SPV and once the CFC is approved and sanctioned from Government of Haryana, many more members will be interested to subscribe to the shares of the SPV.

7.1.6 Availability of Land & Status of Acquisitions

KAIMA has already procured 450 sq meters of land at Karnal Industrial Estate and building for CFC has been constructed land in the plot. Land and building has been taken as SPV's contribution toward project cost. Valuation report of building is attached as **annexure 4.** All 71 members of KAIMA have contributed towards purchase of land and construction of building.

7.1.7 Availability of Requisite Clearances

The land procured by KAIMA for CFC has all the required clearances. Electricity is already available in the area and the proposed CFC can easily be connected to the grid. The other required clearances (environment, labor etc.) shall be obtained in due course.

7.1.8 O&M Plan

The revenue stream for O&M is dependent on realization of user charges from the SPV members and other users/MSMEs in the case of various facilities. As detailed in the financial section, the cash incomes are sufficient to meet operating expenditures, overheads as well as depreciation for sustainable replacement of assets. The SPV will also have to keep a track of maintenance of assets through collection of user charges from the members/ users. The role of the SPV will also include:-

- O&M of assets created by way of collecting user charges from the members/ users.
- Ensuring that the services of the facilities created under the scheme are extended to maximum number of existing and potential enterprises.

7.2 Institutional, Project Monitoring and Financial Mechanisms

7.2.1 Institutional Arrangements

During the implementation of the Common Facilities Centre (CFC), the proposal involves the following key activities.

- Electrical works
- Purchase of machinery & commissioning

- Trial production
- Commercial production

The successful implementation of above activities will depend on the following aspects:

- Implementation of above within the time frame
- Supervising and overseeing the implementation of the proposals and fine tuning and advocating more measures, if needed depending on the site conditions
- Project level monitoring indicators to evaluate the implementation of the CFC proposal at recommended intervals
- Suitable purchase mechanisms for proposed plant & machinery
- Periodical reporting of the status of implementation and monitoring of the results of key performance indicators, and
- Constant evaluation of the measures implemented based on the data available from project level monitoring and status reports and providing directions accordingly

These activities have to be carried out by various agencies those who would be involved in the implementation of the CFC. It is also to be noted that all these activities will be carried out concurrently or at regular intervals. This makes it pertinent to all agencies involved work within a pre-defined set-up.

7.2.2 Project Monitoring

The committee may operate under the overall monitoring of the State Level Steering Committee (SLSC). Other key stakeholders such as representatives of cluster SPV, related government departments, support institutions, cluster level industry associations and consultants may be inducted as members under the committee.

The members may comprise the following:

- i. Additional Chief Secretary, Industries and Commerce, Government of Haryana (Chairman)
- ii. Director General, Department of Industries and Commerce, Member
- iii. Director MSME DI, Karnal, Member
- iv. Joint Director, DIC Karnal
- v. President of related industry association
- vi. Members of related SPV
- vii. EY Cluster Development Expert under MSME project

In addition, for implementing the Karnal Agricultural Implements cluster CFC project, a Project Management Committee (PMC) comprising the JD, DIC, Karnal, and representatives of SPV, and EY experts shall be constituted to directly oversee effective monitoring and implementation.

The project will be implemented through SPV and PMC will report progress of implementation to DIC Karnal.

8. Conclusion

The micro & small agricultural implements manufacturing units of Karnal are dependent on manual, low capacity and obsolete technologies for production and are barely surviving due to intense competition from large firms. The increasing costs of raw materials coupled with high production costs is driving many micro players out of the market. The micro & small units do not have the advanced machining facilities and hence are unable to procure orders from MNCs. To add to their woes, the micro and small units are unable to produce quality products for the biggest market segment in the region.

Against this backdrop, it is inevitable to support the micro & small agricultural manufacturing units in Karnal to adopt modern machining centre & testing equipment. This will reduce their processing costs significantly while increasing the quality of their produce.

The future of agricultural implements industry is bright. This segment is poised to grow at a steady rate with major applications being in engineering goods. Several factors are enhancing the demand and supply of agricultural implement products in India such as high growth of end-user industry, dynamically changing lifestyles, ready to use products, etc. Particularly in the Karnal region, the market possibility for high quality agricultural implement products is promising. The only constraint is the lack of technologies and related infrastructure which can be removed by setting up a CFC. The cluster firms have not been able to obtain bulk orders from large customers due to lack of quality, production capacity and poor quality of produce. The technologies required for upgradation are extremely expensive and the same cannot be adopted by any individual units in the cluster. Hence, the following facilities have been proposed in the CFC:

- Value added machining facilities
- Value added testing equipment

The total project cost (including plant/machinery and buildings) is estimated to be **INR 386.70 lakhs.** The project shall be implemented by the SPV **'Karnal Agricultural Implements Manufacturers Association'** which has been constituted by the cluster firms. The SPV has proactively undertaken a number of initiatives and had soft interventions. The details of the soft intervention programs has given in the **section-4.** A number of capacity building programs and exposure visits have been organised by the SPV for the benefit for its members.

The CFC will be set up with support from DIC and the state government (Department of Industries). The building has already been constructed by the Association. The state industry department is envisaged to provide grant for setting up of the modern machines & testing equipment under the Mini-Cluster scheme, Haryana EPP 2015. The SPV members have proposed to contribute **INR 72.12 lakhs** of the project cost. Support from Mini Cluster Scheme of the State Government of Haryana is envisaged for **INR 180.00 lakhs**. Working capital requirement for the project will be provided by any scheduled commercial bank. The project is financially viable and is expected to generate enough revenue to ensure its sustainability.

Annexure



9. Annexure

Annexure 1: Minutes of State Level Project Steering Committee

From Director of Industries and Commerce, Haryana, Chandigarh. The Joint Development Commissioner, To Ministry of Micro & Small Enterprises, Nirman Bhawan, Government of India, New Delhi. Memo No. Cluster/Up-date/MoMSME/4631-A Dated Chandigarh, the 08.05.2012 Subject: Update on MSE-CDP initiatives in the state of Haryana Please refer to the subject cited above. In this connection, it is to inform you that the department of Industries & Commerce has taken the following initiatives for the development of various clusters under MSE-CDP scheme of Ministry of MSME. Approval for conducting diagnostic study was accorded for the following clusters in the 25th Steering Committee meeting held on 28-1-11. 1. Leather and Leather Products Cluster, Gurgaon 2. Footwear Cluster, Bahadurgarh 3. Readymade Garments Cluster, Gurgaon 4. Foundry Cluster, Samalkha 5. Kitchen Utensils, Jagadhari Out of the above 5 clusters, the DSR's have been submitted to the MoMSME for 4 clusters viz. Leather and Leather Products Cluster;

Gurgaon; Readymade Garments Cluster, Gurgaon; Foundry Cluster, Samalkha; and Footwear Cluster, Bahadurgarh. The DSR for Jagadhari is being prepared and will be submitted by August 2012.

We have already forwarded details of expenses incurred for conducting the above mentioned DSR's with a request to release of balance payment towards DSR preparation.

In addition to the above 5 clusters, following 7 clusters are being targeted for the development under the MSE-CDP.

1. Karnal Printing and packaging Cluster
 2. Kundli Stainless Steel Cluster

- 3. Rai Printing and Packaging Cluster
- 4. Auto Components(Rubber) Cluster, Gurgaon
- 5. Faridabad Auto Components Cluster
- 6. Karnal Agri Implements Cluster
- 7. Karnal Pharmaceuticals Clusters

Further, we had earlier requested Shri Amarendra Sinha, Development Commissioner, MoMSME for allowing us to prepare DSRs and DPRs together as funding for soft interventions is not envisaged, which was approved vide letter dated 3rd January 2012. Accordingly, we have initiated action for preparation of DPRs for clusters where DSRs have been completed and both DSRs and DPRs for the other clusters. The DPRs will be uploaded on the web portal of MoMSME for each cluster as and when the SIDBI appraisal is complete.

The following table summarizes the status w.r.t DSR/DPR preparation for all 12 clusters targeted for development under MSE-CDP by the Government of Haryana as on 9 May 2012.

. No	Cluster Name	DSR	and the second second	DPR	- Aller
-		Status	Agency	Status	Agenc
Cluste	s Approved for DSR in	25th Steering	g Committee A	leeting	
1.	Gurgaon Leather and Leather Products Cluster	Completed	Grant Thornton	In Process	Grant Thornton
2.	Gurgaon Readymade Garments Cluster	Completed	Grant	In Process	Grant
3.	Samalkha Foundry Cluster, Samalkha	Completed	MSME Foundation	In Process	Grant
4.	Jagadhari Kitchen Utensils	In Process	Grant Thornton	In Process	Grant
D.	Footwear Cluster, Bahadurgarh	Completed	Grant Thornton	In Principle	Grant
	cluster initiatives by Go	vernment of H	aryana (DSR a	nd DPR togeth	er)
1	Karnal Printing and Packaging Cluster	Completed	Grant Thornton	Completed with SIDBI appraisal	Grant
1	Steel Cluster	Completed	Grant Thornton	Completed	Grant
1	Packaging Cluster	Completed	Grant Thornton		
T	Rubber) Cluster.	Completed	Grant Thornton	In Process	Grant Thornton
a	Auto Auto Auto Autor Where DSR who	Completed	Grant Thornton	In Process	Grant
	THE THE COM	npleted before	2011	The second se	

/	/		12		81
11.	Karnal Agri Implements Cluster	Completed	MSME-DI, Karnal	In Process	Grant Thornton
12.	Karnal Pharmaceuticals Clusters	Completed	MSME- DI, Karnal	In Process	Grant Thornton

You are requested to kindly provide us the list of documents to be attached at the time of online submission for 'in principle' approval of DPRs and also release the balance payment for the competed DSRs already approved in the 25th steering committee meeting.

ed.

Director of industries and Commerce, Haryana

From The Director of Industries & Commerce, Haryana, Chandigarh. To Sh. Upinder Dhingra, Consultant, M/s Ernst & Young LLP, SCO-166-167, 1st Floor, Sector 9-C, Madhya Marg, Chandigarh. Email :- upinder.dhingra@in.ey.com Memo No. Mini Cluster/Mini Tool Room/FBD/ 13036-A Dated Chandigarh, the 31/8/12 Regarding conducting Detailed Project Report (DPR) in case of Subject:-Excellence for Mini Tool Room under GOH cluster development scheme. Kindly refer on the subject cited above. In this connection, you are requested prepare Detailed Project Report in the case of Excellence for Mini Tool Room under GOH cluster development scheme under mini cluster scheme of the State Government. Assistant Director (Cluster) feceived

Annexure 2 (a): SPV Certificate of Incorporation

समिति पंजीकरण प्रमाण-पत्र (वर्ष 1860 का इक्कीसवाँ अधिनियम) क्रमांक NOS_ 059 वर्ष 2011-12 में एतदद्वारा प्रमाणित करता KAIMA COMMON FACILITY CENTRE PLOT NO. 111, SECTOR.3, ESLIDC INL. ESTATE, KARNAL- 132001. नामक समिति को समिति पंजीकरण अधिनियम इक्कीस ऑफ 1860 (तथा पंजाब संशोधन अधिनियम 1957 द्वारा यथा संशोधित) के अन्तर्गत पंजीकृत किया गया है। यह प्रमाण पत्र मेरे हस्ताक्षर से आज दिनांक 2014 मास JULY वर्ष 2011 को करनाल में जारी किया गया। r of Firm . Har जिला रजिस्ट्रार समितियां हरियाणा

Annexure 2(b): Bye-laws of Association

KAIMA COMMON FACILITY CENTRE (Regd.)

(Industrial)

Pot No. 111, Sector-3 HSIIDC Indl. Estate, KARNAL-132001 #0184-2221378. #9671230000

(Registered with the Registrar of Firms & Societies under the Societies Registration Act 1860) Firms

PRELIMINARY

In these Bye-laws unless there is anything repugnant in the subje-

- a) 'Act' means the Firms & Societies Act 1860
- b) 'Rules' means the rules framed under the Firms & Societies Act 1860
- c) 'Registrar' means the Registrar of Firm & Societies under the Firm & Societies Registration Act 1860.
- d) 'KAIMA CFC' means KARNAL AGRICULTURAL IMPLEMENTS MANUFACTURERS ASSOCIATION (Regd.) COMMON FACILITY CENTRE
- e) 'SPV, means Special Purpose Vehicle of KAIMA COMMON FACILITY CENTRE (Regd.).
- f) 'CFC' means Common Facility Centre
- g) MSE-CDP' means Micro & Small Enterprises Cluster Development Programme.
- h) 'Financing Bank' means Punjab National Bank, SSI Br. Karnal

Word and expressions defined in the Act and the Rules shall have the meanings assigned to them in the Bye-laws.

NAME: I.

The name of the Society is : KAIMA COMMON FACILITY CENTRE (Read.)

2. The registered Address of the KAIMA COMMON FACILITY CENTRE (Regd.) will be Plot No. 111, Sector-3, HSIIDC Industrial Estate, Karnal - 132001 (Haryana) for the time being till such time its own office becomes functioning at Plot No. 356, Sector-3, HSIIDC Industrial Estate, Karnal. If there is any change in the address, it shall be intimated to the Registrar Firm & Societies within 14 days from the date on which the change takes place.

(Manish Gaba) Treasurer

(Som Nath)

Rantin

(Ranbir Arora) President

Genl. Secretary



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With	the above objective	es, the SPC n	nay undert	ake the follow	wing;-	
1)	Get the land AGRICULT (Regd.) trans (Regd.) for c MSE-CDP.	allotted by H URAL, IMI sferred in th onstruction o	ISIIDC in t PLEMENT e name of of building	he name of i S MANUI f KAIMA C and setting u	ts parent Association " FACTURERS ASSO OMMON FACILITY p of CFC under the gui	KARNAL CIATION CENTRE delines of
2)	To take effec financial aid	tive steps for from State G	construction ovt./MSM	on of buildir E (Govt. of I	g and setting up of CP ndia)/members contribu	C with the ition.
3)	Purchase bui	lding materia	d/raw mate	rial/equipme	nt required for CFC.	
4)	Purchase too obsolete mac	ls, equipmen hinery.	t & machin	ery to be use	d in workshop or to dis	pose the
5)	To sell/dispo	se off the fin	ished prod	ucts to the m	embers of the SPV.	
6)	Obtain contra the belo of m	act from Gov	t./Public b	odies or othe	rs and get them execute	d with
7)	Borrow fund financial Inst	s by way of titutions/Ban	loans, depo k/members	sits, or other and financi	an as isoned from othe	stitutions/ er sources
8)	Develop and marketing sl (Regd.)	d promote kills, etc. w	entreprene ithin the	KAINA CO	agettil skills. technic Minion FACILITY	al skills, CENTRE
9)	Establish into with the dev etc. in order required	erface with t elopment org to promote it	he stake h ganizations ndustrial p	olders in the Govt. depa artnership ar	Cluster and to develop Research, Chamber of C d capacity building as	o linkages Commerce and when
10)) Import and p articles and :	stores and to	machinery do all th	, Implementings for atta	, apparatus equipment, ning the main objectiv	material, res of the
	SPV.		2010/06/06			
11	 Grant allowa: Establish, p the member : same and to 	nces, salaries rovide, main stake holders provide fo	t, gratuities tain traini and other the del	, pensions & ng-cum-resea s who may ivery and h	bonuses to the employ rch & Development c desire to avail themsel- olding lectures, demo	ees. enters for ves of the astrations
13	 exhibitions, c To do all sue objects and the 	lasses, meeti ch things as se social and	ngs and co are condu material p	nferences n rive or incid rogress of the	connection therewith; a ental to the attaining o members.	nd f the said
ARE	A OF OPERATIO	N & AFFA	IRS			
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For ac subsid article	thievement of the s lies, donation and p s of Association w	bove objects gifts etc. The ith the conse	, the said S SPV will nt of majo	PV shall hav change its ru rity of Gener	e the authority to accep les, regulations of busin al Body Members.	ot grants, ness and
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(Manish Gaba)

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(Som Nath) Cont Corretary

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(Ranbir Arora) President



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RULES & REGULATIONS - INTERPRETATION

In the interpretation of the Rules, unless there is anything in consistent with the subject or context:-

- KAIMA COMMON FACILITY CENTRE (Regd.) means the SPV a)
- b) Managing Committee means KARNAL COMMON FACILITY CENTRE (Regd.)
- c) Registered SPV means the SPV registered under the Firms & Societies Registration Act of 1860 or under any other law for the time being in force.
- d) Year means the period commencing from 1s of April and ending with the 31s of March every year.

1. FUNDS

The funds may be raised by the SPV through:-

i) Fees v) Grants ii) Subscriptions

iii) Donations vi) Contributions vii) Transfer o

2. MEMBERSHIP

An individual above the age of 18 (Eighteen) years, who is competent to contract and is a bonafide artisan; engaged in AGRICULTURAL IMPLEMENTS MANUFACTURING Industry, having the primary membership of its parent organization KAIMA, abiding with the rules & regulations of the said Association, and resides in the area of operation referred to above shall be eligible for admission as member of the SPV.

The Central Govt.(MSME) and State Govt. shall also be eligible for admission/ nomination as member of the SPV.

The following may be inducted as members of the SPV:-

- Persons duly enrolled as Member of the KARNAL AGRICULTURAL a) IMPLEMENTS MANUFACTURERS ASSOCIATION (Regd.)
- b) Persons who may hereinafter be adgritted according to these bye-laws.

(Manish Gaba)

Treasurer

Ranhiem

gn. KAIMA

(Som Nath) Genl. Secretary

(Ranbir Arora) President

Contd nh Every person admitted to membership shall:-

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Pay an admission fee of Rs. 100/-

Must have contributed towards CFC building fund with its parent Association (KAIMA), except Govt. nominees.

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3. CANCELLATION OF MEMBERSHIP

The membership shall be liable to be discontinued if the member first

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- Acts and conduct against the use and propagation of SP a)
- b) Ceases to be primary member of the KAIMA
- Not responding to remit Association Subscription/out and ing for ing c) han 2 months of general demand and in particular even after one water of is intimation in writing by the SPV. Once removed from membership, shall be eligible for admission only on payment of outstanding and also the admission renewal fee with penalty imposed by SPV governing body, if any.
- d) Any member firm can resign on submitting resignation to the President/General Secretary.
- Any member firm, whose membership has been cancelled, shall not be entitled to ¢) any refund of the admission/subscription/donation/contribution amount, irrespective of the date on which the membership has been cancelled.
- f) Consecutive absence to attend 3 executive/general body meetings without sufficient cause and prior intimation is liable to removal of an executive body member and vacancy shall be filled up from amongst the others by exercising discretionary powers of President/SPV. An executive member is, however, allowed to depute proxy from amongst the Association members/major family members in case of emergency to attend the General Body meeting, but the presence in the Executive body meeting is essential to quality for 3 consecutive meetings.

4. GENERAL BODY

The first meeting of the General Body of SPV shall have the same powers as are herein given to the General Body meeting, before proceeding to transact other business.

- To elect a person from amongst signatories to the Memorandum of Association of the a) SPV to preside over the first meeting.
- b) To consider and decide applicants for admission to membership.

(Manish Gaba) Treasurer

(Som Nath) Genl. Secretary

(Ranbir Arora) President

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The following amongst others are functions of the General body:-

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i) To elect an Executive Body

To annually get accounts audited from Chartered Accountant/Auditor appointed ii) by the SPV

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- iii) To receive from the Managing Committee reports and review those of the working of the SPV during the preceding financial year together with statement showing the receipt and expenditure and assets and liabilities and profit and loss account for the year.
- To consider the audit memo and any other communication received from the ivì Govt. agency/State Board or from financing agencies in respect of the matter concerning the business of the said SPV.
- To consider amendments to Rules & Regulations.
- vi) To consider any other business referred for consideration by the Managing Committee.
- vii) The Annual General Meeting of the General Body shall be called within three months from the close of the financial year and shall transact the business as per the rules and regulations:
 - a) In the case of Annual General meeting 7 days notice shall be given in writing specifying the date, hour and place for holding the meeting and shall state the business to be transacted at the meeting.
 - b) The notice of General Body meeting shall be given in the following manners: x) By sending a notice through e-mail of Firms

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- y) By circulation of notice or copies thereo, members thereof.

5. QUORUM

Mar (Manish Gaba)

Treasurer

any busine 40% of the total members shall form a quorum to trans of the SPV. In absence of quorum within an hour, the meeting shall be adjourned to smother day not less than a week later and if again on the day on which the meeting is adjourned, no quorum is obtained, the business shall be disposed off without a quorum and decision of such a meeting shall not be void by reasons of lack of quorum.

- i) All decisions of the general body and Managing Committee/Executive Body shall be taken by majority of the total members present and voting,
- ii) The Secretary shall be responsible for calling General Body meeting. If the President considers that the Secretary has, without valid reasons failed to call General Body meeting as required under the rules, he may himself call the meeting.

(Som Nath) Genl. Secretary

(Ranbir Arora) President

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DUTIES OF PRESIDENT

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To preside over all the meetings and to sign and confirm the proceedings.

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b) In the absence of the President, the meeting shall be presided by Sr. Vice President or a Patron member so elected.

DUTIES OF THE SECRETARY

- To convene all the meetings of the General Body and the Managing Committee to attend and record all the proceedings of such meetings in the Minutes Book.
 To carry on the correspondence of the said SPV.
- iii) To present yearly report on the working of the said SPV in the Annual meeting.

DUTIES OF THE CASHIER

- To maintain accurate accounts of the cash and stock of the said SPV.
- b) The said SPV will open its account in any of the scheduled Bank and shall be operated jointly by any two of the President, Secretary and Cashier, who should be duly authorized by the SPV for the purpose.
- c) To ensure that each in hand more than Rs. 20,000/- is normally deposited in Bank in multiple of Rs. 10,000/- and rest is retained on the rest with day to day petty expenses.

5. MISCELLANEOUS

- No amendment or alteration or addition in the extering relevant the and SPV or the enactments of new rules shall be made except at the meeting of the general body of the members convened for the specific purpose and shall be deemed to have been passed on the 60% majority of the members are present and majority of them vote for it. It is further provided that al the amendments, additions/alterations shall be carried over in the existing rules and regulations only with the consent of the General body and shall also be registered with the Registrar of Firm & Societies.
- ii) Whereas it will obligatory on the part of the SPV to inform all the patrons and Executive Body/Genera Body members by issuing notice of the meeting, the patron members shall be at liberty to attend the same, but it will be necessary for an executive member to be present at all the meetings with exception of emergency absence for genuine and sufficient cause to be intimated. Consecutive absence to attend 3 executive body meetings is liable o his removal and vacancy shall be filled up from amongst the others by consensus or election as the case may be.

(Manish Gaba) Treasurer (Som Nath) Genl. Secretary Rantalion

(Ranbir Arora) President

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Should any doubt arise as to the constructions of interpretation of the rules, the Managing Committee shall refer the same to the General body for consideration and decision by 3/5th majority present and majority of them vote in favour.

iv) The said SPV shall sue and be sued through its President or the Secretary.

- Should any sum belonging to the said SPV be either stolen or otherwise lost and found irrecoverable after thorough investigation is made, it shall be open to the Managing Committee to write off after obtaining the consent of the majority members in General Body in the Annual General Meeting.
- vi) The proceedings of all the meetings of the General Body/Managing Committee and Sub committee appointed by the Managing Committee shall be entered in separate book for the purpose and signed by the President or the Chairman of the meeting.

vii) The Secretary on receipt of requisition in writing stating clearly the purpose under the signatures of at least 25% members of the general body or a member of the Managing Committee shall call the meeting of the General Body or the Managing Committee as the case may be at the notified venue within a month from the date of receipt of such requisition. In case the Secretary fails in calling the meeting, the President or the Chairman as the case may be, shall be competent to call accurate ting of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Managing Committee respectively as the best of the General Body or the Body of the Body of the General Body of the General Body of the General Body

viii) No member of the said SPV shall be eligible at any interfar any sharein the profit of the said SPV. The income and property of the Association shall be applied solely towards the promotion of the objects of the Association and the memorandum of Association. No member of the Executive body of the Association shall be appointed to any salaried office of the Association or any office of the paid by fees, and that no remuneration shall be given by the Association to any member of such Executive Body except repayment of out of pocket expenses and interest on money lent or rent for premises demises to the Association.

Members not less than 3/5th of all the members of General Body may determine and express wish for such dissolution by their votes at a general meeting convened for the purpose that the said SPV be dissolved and thereupon it shall be dissolved forthwith.

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(Manish Gaba) Treasurer (Som Nath) Genl. Secretary

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(Ranbir Arora) President

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Annexure 3: Proof of Land: Conveyance Deed

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sale of Immovat	de Propertias	Ò	Indian-Non Haryana	Judicial Stan Government	• 谢	/ Date: 17/02/20	17
Certificate N	M0Q2017	B1791			Stamp Dut	y Paid : ₹ 142300	
GRN No.	24301278				Penalty :	.*0	
			Seller / First	Party Detail	Sta Sare Gran		
Name:	Hside Through	Estatemana	ger				
H.No/Floor	Na	Sector/W	and 3	LandMark :	Industrial area		
City/VEtage :	Kamal	Distric	t: Kamal	State :	Haryana		
Phone:	9416034841	Bhoude	Buyer / Secon	d Party Detail			
H No/Floor	358	SectorM	and 3	LandMark	Heijde		
City/Vilbage	Kamal	Distric	t Karpal	State	Harvane		
Phone :	7206061117	Public P		10,000			
				0	Total C Stamp	ost of Plot: Rs <u>20,32,7</u> Duty @ <u>7 %</u> : Rs <u>1,42,3</u>	<u>18/-</u> 00/-
The a	utwardicity of this docu	iment can be w	willed by scapeONV	Star	Total C Stamp np duty paid rec phone or on the wel	ost of Plot: Rs 20,32,7 Duty @ 7.59: Rs. <u>1.42,3</u> Ript no. GSR/001: Isite https://egraphry.nic.in	<u>18/-</u> 00/-
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दिर्चक (08/03/2017 प्रलेख नः 8280 डीड सर्बधी विवरण डोड का नाम CONVEYANCE WITH IN MC AREA तहमील/सब-तहसील करनाल गांव/शहर करनाल धन सबंधी विवरण राशि जिस पर स्टाम्प डयूटी लगाई 2,032,718.00 रुपये स्टाम्प डयूटी की राशि 142,310.00 रुपये रजिस्टेशन कोंस की राशि 12,500,00 रुपये पेस्टिंग शुल्क 3.00 रुपये भी बुक न. M0H2017C32 राशि 10 रूपये বিনার 03/08/2017 Service Charge: 200.00 रुपये Drafted By: FeelP यह प्रलेख आज दिनौंक 08/03/2017 दिन जुघवार समय 10:53:00AM क्रजे औ/ओम्सी/कुमारी EMHBR कानल daw प्रवेग बुग्रि/नुग्रें/श्रें/सेन्चे अं४/अंभतो/कुमारी निवासी करनल द्वारा पैंजीकरण हेतु प्रस्तुत किया गया। Jardeep Kimer र्वजीयन अधिकारी उप/सर्वकत करनाल डो EMHBIL करनाल thrasedu कुमार ऑसस्टेश्ट(OTHER) उपरोकत विशेश व ओ/ओमती/कुमारी KAIMA मार्फत ममुक सेक्टी केता हाजिर है। प्रस्तुत प्रलेख के तथ्यों को रोनों पंथों ने सुनकर तथा समग्रकर स्वीकार किया। देनो पक्षो को पहचान औ/श्रीमती/कुमारी मुकेशनम्बरत पुत्र/पुत्री/पत्नी श्री जिकसी संसलप व औ/औमती/क्सारी संवधकुमार वर्कत पुत्र/पुत्री/पत्नी औ/औमती/कुमारी निवासी करनमा ने को। साधी नः । को हम नम्बरदार/अधिवक्ता के रूप में जानते हैं तथा वह साक्षी नः 2 की पहचान करता है। दिनॉक (08/03/2017 उप/सियुकत पैंजीयन अधिकारी करन यह प्रमाणित किया जला हे कि पंजीकृत वालेका की सकैन प्रति jamabandi.nic.in यर डाल दी गई है। सर्पुंक्त पंजीयन अधिका

Revenue Department Haryana

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DC OI EINIDIAL	ALC PROPERTY.	O	Haryana Go	vernment	. @	Date: 08/03/2017
Certificate N	b. M0H20170	327		17	Stamp Duty Pa	aid: ₹10
GRN No.	25440426				Penalty :	₹0
			Seller / First Pa	rty Detail	(Rs. Date Ong	
Name:	Hslide Through I	Estatemanage				
H.No/Floor :	Na	Sector/Ward	3	LandMark :	Industrial area	
City/Village :	Karnal	District :	Karnal	State :	Haryana	
Phone:	9416034841	Bu	iyer / Second P	arty Detail		
Name :	Kaima Through i	Bhavuk				
H.No/Floor	356	Sector/Ward	3	LandMark :	Hsiide	
City/Village:	Kamal	District :	Kamal	State	Haryana	
Ohene +	7206061117					
Phone +						

For Karnal Agricultural Implements Manufacturers Association (Regd.) Genl. Secretary

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Subsequently, on his/its request change in constitution was allowed by the transferor in favour of M/s N.A vide letter dated N.A...../supplementary agreement dated.....N.A.....executed with the transferor, which shall continue to remain part and parcel of this deed.

*Strike out if not applicable.

Whereas the transferee has made the full payment amounting to Rs. N.A. (Rupees. N.A.) as on date, towards the price of the said plot/shed to the transferor.

NOW THEREFORE, this deed witnessed that for the purpose of carrying into effect the allotment letter / re-allotment letter, agreement & supplementary agreement and further in consideration of the said sum of Rs. 20.32.718/- (Rupees <u>Twenty Lacs</u> <u>Thirty Two Thousand Seven Hundred Eighteen Only</u>) paid by the transferee, the transfer or hereby grants and conveys to the transferee all that part and parcel of Plot No.356 Phase/Block/Sector in Industrial Estate Sector-3A measuring 450 sq. meters on the following terms and conditions :-

- 1. That any additional price of the aforesaid plot/shed, as a consequence of enhancement in compensation that may be awarded by the Court(s), in any matters/cases arising out of the acquisition proceedings or any incidental or connected matter thereto, shall be payable by the transferee, in lump sum, within 60 days from the date of issuance of demand notice without any interest or in six half yearly equal installments alongwith interest @ 11% p.a., on the balance outstanding. Default in payment of installments shall entail interest @ 14% p.a. for the defaulted period on the defaulted amount, compounded annually. In the event of non-payment of such enhanced compensation within permitted period, the aforesaid plot/shed shall also be liable to be resumed.
- 2. That the aforesaid plot/shed has been allotted on the "as is where is basis" and that the transferor will not be responsible for leveling uneven site; and that the yransferee shall be liable to pay additional sum/money for any structure/super structure, tree & plants, boundary/compound wall or any other fixture that may be standing/existing thereon at the time of allotment, for which compensation, as assessed, had been paid by the transferor.
- 3. That the transferee has already constructed / shall construct the building on the aforesaid plot after getting the building plans approved from the competent authority and the said building plans have been/shall be approved in conformity with the building bye-laws, as applicable from time to time.

Contd. Page-3

Estate Manager, HSIIDC, Indl. Estate, For Karnal Agricultural Implements Manufacturers Association (Regd.)



Revenue Department Haryana

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 "That the transferee has obtained an occupation certificate from the competent authority and has not made any alteration/addition after obtaining such occupation certificate.

*That the transferee shall obtain an occupation certificate from the competent authority, before occupying the building and shall submit a copy of the occupation certificate in the concerned field office of the transferor within fifteen days of obtaining such occupation certificate. Further, the procedure to grant occupation certificate shall be governed by the rules a regulations of Department of Town a Country Planning, Haryana, as amended from time to time. * strike whichever is not relevant.

5. *That the transferee shall be required to implement the project, for which the aforesaid plot has been allotted, within a period of three years from the date of offer of possession; or actual possession of the plot, whichever event is earlier or within such extended period as may be allowed by the transferor in writing. Implementation of the project shall mean the commencement of commercial production after coverage of construction of building in accordance with the norms specified in EMP-2011 and after obtaining occupation certificate from the competent authority and installation of plant and machinery.

That notwithstanding the period of 3 years stipulated qua implementation of the project on the plot, the transferee, as far as possible, shall take the following steps within a period of two years of the date of offer of possession or actual possession, whichever is earlier:

- i) Taking over physical possession of the plot
- ii) Submission/approval of building plans
- ii) Closure of financial tie-ups (Promoter's capital and loans etc.)
- iv) Commencement of construction at site
- v) Technical and marketing tie up
- vi) Placement of orders of machinery and other capital goods.

*That in case of shed, the transferee shall be required to implement the project, for which the aforesaid shed has been allotted, within a period of two years from the date of offer of possession or actual possession of the shed, whichever event is earlier or within such extended period as may be allowed by the transferor in writing. Implementation of the project shall mean the commencement of commercial production, after installation of the plant and machinery and in accordance with the norms specified in EMP-2011.

Estate Manager, SHDC, Indl. Estate,

Contd. Page-4

For Karnal Agricultural Implements Manufacturers Association (Regd.)

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Reg. No. Reg. Year Book No. 8.280 2016-2017 1

प्रमाण-पत्र

प्रमाणित किया जाता है कि यह प्रलेख कमांक 8,280 आज दिनौंक 08/03/2017 को बही न: 1 जिल्द न: 562 के उन्द न: 84 पर पैनीकृत किया गया तथा इसको एक प्रति अतिरिक्त बही सख्या 1 जिल्द न: 12,845 के उन्द सखया 29 से 30 पर चिपकाई गयी। यह भी प्रमाणित किया जाता है कि इस दस्तावेज के प्रस्तुतवर्ता और ग्यादों ने अपने हस्ताधार/जिशान अंगुदा मेरे सामने किये हैं।

ferfai: ()8/03/2017

DDO Code: 2305	E - CHALLAN Government of Haryan	AG/ Dept Copy a
Valid Upto: 18-03- 12-03-	2017 (Cash) 2017 (Chq./OD)	
GRN No. 002544	3808 Date: 08 M	Aar 2017 11:44:46
Office Name: 230	5-tehsildar	
Treasury: Kan	nat	
Period: (20	16-17) One Time	
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Deduction Amount	2	0
Total/Net Amount:	*	12503
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Revenue Department Haryana

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* That the project on the aforesaid plot/shed has been completed and project completion certificate obtained from the concerned Estate Manager, the transferee shall continue to utilise the plot/ premises only for the approved industrial activities as per EMP-2011.

* Strike out whichever is not applicable.

6. (a)* That the plot has been allotted under On-going Scheme (*Prestigious project involving investment of more than Rs.30/20/10 crore, or project by NRI/PIO or unit with 33% or more FDI in total investment or project by person with disabilities) as per EMP-2011, the transferee shall be required to implement the project for which the aforesaid plot has been allotted within a period of three years from the date of offer of possession or actual possession of plot, whichever is earlier or within such extended period as may be allowed by the transferee shall be required to take possession of plot, submit building plans and start construction at site within two years of offer of possession or actual possession or actual possession of plot, whichever is earlier. However, in case no investment is made in the project by the transferee within the initial period of three years or the investment made is below 25% of the projected investment, the plot shall be liable to be resumed.

(b)* That the plot has been allotted for setting up prestigious project involving investment of more than Rs.30/20/10 crore, the transferee shall be required to complete the investment level of requisite amount in the project (as mentioned in the approved project report) for which a further period of three years, beyond the initial stipulated period of three years may be allowed without payment of fee provided the first phase of the project has been implemented after obtaining occupation certificate and installation of plant and machinery. In case, the transferee fails to achieve the requisite amount of investment within six years, the fee/penalty shall be payable in the following manner:-

Sr.No.	Investment achieved	Fee/Penalty (as % of the
1)	Above 50% but upto 75% of investment.	50%
ii)	Above 75% but less than the investment of Rs. 30/20/10 crore the case may be)	25%

Strike out in case not applicable

Estate Manager. HSHDC Indl. Estate.

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For Karnal Agricultural Implements Manufacturers Association (Regd.)

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7. *The period of three years for implementation of the project on the plot, may be further extended by the transferor by two years (three years in case of plot size of 4050 sq. mtr. and above) on year to year basis, on payment of prescribed extension fee, applicable from time to time, with applicable interest, subject, however, to the conditions that the transferee has complied with the norms specified in EMP-2011 and satisfies that the transferee had taken effective steps for the implementation of the project within the requisite period of three years, but for the reasons beyond his control, he could not commence the commercial production.

*The period of two years for implementation of the project by the transferee of the shed, may be further extended for one year by the transferor on payment of prescribed extension fee, applicable from time to time, with applicable interest, in case the transferee has installed/placed orders for installation of the substantial part of the plant Et machinery, depending on merits of the case.

Upon failure on the part of the transferee to adhere to the schedule/time available for implementation of the project, the transferor shall be competent to resume the aforesaid plot/shed after giving show cause notice.

* Strike out in case not applicable

8. That the transferee shall be deemed to have completed the project if he, within the period available for implementation of the project, achieves construction coverage as per the norms specified in EMP-2011 and starts commercial production of the project after installation of plant & machinery in accordance with the provisions contained in EMP-2011.

Further, the transferee shall also deemed to have completed the project, if he has completed the construction equivalent to 95% of the total permissible covered area and has not been able to commence the commercial production, for whatever reasons, provided he has obtained occupation certificate from the competent authority and has informed the concerned Estate Manager within fifteen days of obtaining such occupation certificate.

The transferee shall, within fifteen days of completion of project, submit an application, on the prescribed format alongwith all the relevant documents/information, in accordance with the provisions contained in EMP-201 1, to the concerned field office of the transferor, for issuance of project completion certificate.

9. That the transferee shall use and utilize the aforesaid plot/shed for the purpose for which it has been allotted and shall not change the nature of the project or related activities in any manner whatsoever, except with the prior permission, which may be granted by the transferor, only after considering the ground(s) and

Estate Manager, Indl. Estate.

Contd. Page-6

For Karnal Agricultural Implements Manufacturers Association (Regd.)

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such other factors, as contemplated in the EMP-2011, provided that the allottee has paid requisite processing fee alongwith written request in this behalf. Violation, if any, shall entail resumption of the plot/shed.

- 10. That the use of the land and the building erected on the above said plot/shed shall be governed by the zoning plan of the Estate. The permissible covered area shall be governed as per rules & regulations of the department of Town & Country Planning, Haryana, as amended from time to time. Zoning violations and the deviation from the approved building plans at any stage shall cause a notice to rectify the breach by the transferee. In the event of non-compliance by the transferee within the time permitted by the transferor, the aforesaid plot/shed shall be liable to be resumed and the transferee shall be required to remove such structure/debris from the plot at his own cost within a period of three months from the date of order of the resumption, failing which the transferor may get the cost of construction of the building assessed from the approved valuer/Chartered Engineer and pay this amount to the erstwhile transferee.
- That the transferee shall not bifurcate the aforesaid plot except with the prior permission of the transferor. Bifurcation of the plot/shed shall, however, be governed and regulated in the manner as provided in the EMP-2011.
- That the transferee shall have no right to transfer the land and building standing thereon by way of sale or gift, mortgage, lease or any other way, without specific written approval from the transferor.
- 13. That the transfer of the above said plot/shed may be allowed by the transferor if the project has been completed by the transferee, project completion certificate has been obtained from the transferor and the construction of building is as per the laid down norms, conveyance deed executed and only after the expiry of one year of project completion as defined in EMP-2011, subject to the condition that transferee shall utilize the plot/shed only for the permissible industrial activities. Such transfer shall, however, be subject to the provisions contained in EMP-2011 and payment of transfer fee with applicable interest at the rates prescribed in the Industrial Policy (IP) of the State Government and EMP-2011, as revised from time to time.

No transfer fee would be leviable after the project of the transferee had been in commercial production for more than five years but the processing fee at the rates prescribed from time to time, in the EMP-2011 shall be payable by the transferee. However, the transferee shall be required to obtain prior permission of the transferor before transfer of the plot/shed failing which transfer fee at the normal rate as specified in EMP-2011, along with applicable interest shall be charged from the transferee.

Estate Manager. Indl/Estate, 6 HSHDC

Contd. Page-7

For Karnal Agricultural Implements Manufacturers Association (Regd.)

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14. That the transfer of the aforesaid plot/shed, due to inheritance, will or within the family members of the transferee (except in the case of preferential allotment in favour of NRI/person with disability), succession due to death of the transferee/majority share holders or taken over by a Bank/Financial Institution may be allowed without charging transfer fee but the processing fee at the rates as prescribed in the EMP-2011, from time to time shall be charged. However, wherever applicable, the transferee shall be required to obtain prior permission of transferor before transfer of the plot/shed failing which transfer fee at the normal rate as specified in EMP-2011, along with applicable interest shall be charged from the transferee.

The transfer of majority shareholding, change of ownership by whatever means i.e. through sale deed, an agreement with an intent to transfer on a future date, or by way of power of attorney (except in favour of family members) shall also be treated as transfer.

 That for seeking permission for transfer of the aforesaid plot/shed, the transferee shall apply to the transferor along with following documents:-

- a) Original letter of allotment.
- b) Letter of eligibility for transfer of the plot/ shed from the concerned Estate Manager.
- c) Agreement to sell.

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- d) Project report of the transferee, in case of any change of project.
- e) Statement of means of financing of the transferee.
- f) Other relevant details as may be specified by HSIIDC.

The transferee shall, however, be required to submit his request for the proposed transfer within a period of 60 days from the date of agreement to sell, but before execution of sale deed in favour of the purchaser, failing which transfer fee at double the normal rate as specified in EMP-2011 with applicable interest shall be payable by the transferee. In case the transfer is allowed, the transferee shall be required to execute sale deed duly registered with Sub Registrar in favour of the purchaser as per law and a fresh agreement for transfer of the industrial plot/shed shall be required to be executed by the purchaser with the HSIIDC.

16. That the change in constitution in favour of partnership firm/company may be allowed on payment of applicable processing fee only if the original allottee(transferee) or his family members (spouse, son, daughter, parents, brother, sister, grand son, grand daughter and their spouses) retain entire share holding /ownership of the firm/company/project. Prior permission of the transferor shall be mandatory. In case of preferential allotment, in favour of NRI/person with disability, the allottee must retain at least 51% stake in the firm/company/project till one year after project completion. In case, the change in constitution involves induction of the third party (other than family members as

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Estate Manager, Mil. Estate,

For Kamal Agricultural Implements Manufacturers Association (Regd.) Buch

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defined in EMP-2011) into the firm/company/project, before completion of the project, the same may be allowed by HSIIDC on payment of fee equivalent to50% of transfer fee as defined in EMP2011, for dilution of equity upto 26% and 100% of transfer fee for dilution of equity above 26% and upto 49% subject to the condition that the original allottee(transferee)/his members family retain minimum 51% share in the firm/company/project till one year after project completion. Prior written permission of transferor shall be mandatory. In case, the share of original allottee(transferee)/partners/shareholders in the firm/company/project fails below 51%, it shall amount to transfer and shall be dealt with under the relevant provisions.

That in case of the transferee being a private limited company, if becomes a public limited company and is listed with recognized stock exchange, the change in constitution may be allowed on payment of applicable processing fee subject to the condition that the transferee or his associates (family members), retain the largest share holding with management control, otherwise it shall be treated as a case of transfer and shall be dealt with under the relevant provisions.

- 17. That in order to ensure optimum utilization of the Industrial areas/Industrial estates, leasing/renting of the built up premises for permissible industrial activities may be allowed, if the transferee has made construction as per the standard norms, obtained occupation certificate, completed the project as defined in EMP-2011 and has obtained project completion certificate from the concerned Estate Manager. Such permission may be granted by the transferor on payment of applicable leasing/processing fee, with applicable interest as prescribed in the EMP-2011, which may be amended from time to time. However, prior approval of the transferor for leasing shall be mandatory. Lease instruments exceeding 11 months period shall be required to be registered as per legal requirements. The provisions with regard to leasing of premises, as detailed in EMP-2011 shall be strictly adhered to by the transferee.
- 18. That there shall be no limit/restriction on the number of leases permissible in any premises subject to the condition that the premises is leased out only for permissible industrial activities and meets the normal safety requirement. The transferee shall be at liberty to change the tenants subject to the transferee keeping the transferor informed about such changes immediately but not later than 15 days of execution of the lease deed, alongwith requisite details. The transferee shall also file an annual certificate/return (by 30^{ca} April each year) confirming the number and the name of lessee(s), area leased out, uses of the premises leased out during the year and status as on date.
- 19. That the transferee shall have to take water for unit set up and other area of the said plot/shed from the water supply system of the transferor on

Contd. Page-9 Estate Manager, HSHDC. Igdl. Estate. For Karnal Agricultural Implements Manufacturers Association (Regd.) 8 Buchte Genl. Secretary

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payment in accordance with the rates fixed from time to time. The transferee shall not dig or install any tube well/bore-well within or outside his plot/shed for meeting his water requirements.

20. That the transferor shall continue to be the owner of all mines and minerals, whatsoever, including sub-soil water in or underneath the surface of the plot/shed with all such rights and powers as may be necessary or expedient for the purpose of searching, working, obtaining, removing &t enjoying the same at all such times and in such manner as the transferor may deem fit, with power to carry out any survey of all or any part of the said plot/shed and to sink pits, erect building, construct lines and generally appropriate and use surface of the said plot/shed for the purpose of doing the full enjoyment of the exceptions and reservations herein contained.

Provided that the transferee shall be entitled to receive from the transferor such payment for the occupation by the transferor of the surface and for the damage done to the surface or building on the said land by such works or workings or letting down as may be agreed upon between the transferor and the transferee or failing such agreement shall be ascertained by reference to arbitration.

- 21. That the Govt. may in the near future acquire possession and proprietary rights over the land surrounding the industrial estates and the Govt. or any other authority on behalf of the Govt. may thereafter, in its discretion, decide to convert this area or a part thereof into a green belt or to use it for any other common purpose and in the event of such happening, the cost of the acquisition and development of the part of land so utilized payable by the transferor to the Govt. or any authority on its behalf will be recoverable by the transferor HSIIDC from the transferee proportionately. Any amount demanded by the transferor on account of such external development charges will be payable by the transferee to the transferor in lump-sum or in installments, with applicable interest, as may be decided by the transferor.
- 22. That the transferee shall pay to the transferor such proportionate external development charges spent by the transferor or as may be payable to the Government or any other agency by the transferor for external water supply, electricity installation, roads, storm water, drainage, sewerage, CETP etc., in addition to already stated in clause 29 above, within 30 days from the date of the letter of demand failing which the transferee shall be liable to pay the sum alongwith interest @ 18% p.a. In the event of failure of the transferee to make payment of the amount demanded within three months from the date of issue of the said letter of demand, the plot/shed shall be liable to be resumed.

Estate Manager. HSHDC, Indl. Estate.

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For Karnal Agricultural Implements Manufacturers Association (Regd.)

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- 23. That the transferor may, by its officers & servants, at all reasonable times and in reasonable manner after giving 24 hours notice in writing, enter in upon any part of the plot and building erected there on for the purpose of ascertaining that the transferee has duly performed and observed the conditions to be observed under the provisions of the agreement/RLA.
- 24. That the transferor shall have full right, power and authority at all times, to do through its officers or servants, all acts and things which may be necessary or expedient for the purpose of enforcing compliance of all or any of the terms, conditions and reservation imposed and to recover from the transferee, as first charge upon the said land/building, the cost of doing all or any such act and things and all costs incurred in connection therewith or in any way relating thereto.
- 25. That the transferee shall comply with all the Estate Management regulations dealing with Malba, Cleanliness, quantum and the quality of effluent discharge, solid waste disposal, green cover obligations, vehicle parking regulations etc., among other things for proper maintenance of the industrial estate and its surrounding. The transferor shall be within its rights to ensure compliance of measures considered necessary for its maintenance and levy charges, fines and penalties, if necessary, towards achievement of its objectives.
- 26. That the transferee shall have to pay local and general taxes, rates or cesses etc., as imposed on the said plot/shed by the competent authority from time to time.
- 27. That the transferee shall pay the proportionate maintenance & service charges fixed from time to time and as communicated by the transferor. The maintenance Et service charges will be payable on per square meter basis within 30 days of raising of demand by the Estate Manager, failing which applicable penal interest shall be payable by the transferee.
- 28. That the transferee agrees and undertakes that he/she/it shall, as far as possible, employ 75% of un-skilled workforce and shall give preference for other categories to candidates from among the Haryana Domiciles in the unit to be set up on plot/shed.
- 29. That the transferor allots this plot/shed for setting up and running an industry and thereby contributing to the overall economic activity in the State. In case the transferee does not continue to remain in production and the production gets held up, the transferor shall issue a notice to the transferee to resume production within a period of three months. In case the transferee fails to resume production activity within the given time, the plot/shed shall be liable to be resumed.

Contd. Page 11

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For Karnal Agricultural Implements Manufacturers Association (Regd.) ***** 11 *****

- 30. That if the transferee appoints ANY ATTORNEY, (in favour of any family member as defined in EMP-2011), he/she/they shall submit with the transferor the certified copy of the Registered Power of Attorney alongwith photograph and signatures of the transferee and that of the attorney duly attested by the First Class Magistrate within a week from the registration of the deed by Regd. A/D post or in person.
- 31. That so tong as the transferee fully performs and complies with and continues to so perform and comply with each and all the terms Et conditions herein made and provided, but not otherwise, the transferor will ensure to the transferee full and peaceful enjoyment of the rights and privileges herein and hereby conveyed in this deed.
- 32. That the transferor will be competent to resume plots/sheds in its Industrial Estates in case the transferee defaults in complying with the terms and conditions of allotment/transfer/leasing/provisions of EMP-2011 etc. The resumption of plot/shed would be done by the transferor after giving show cause notice. Upon resumption, the principal amount deposited by the transferee will be refunded after deducting 10% of the price of the plot/shed without any interest. The amount of interest and penalty, if any, paid on the installment(s), shall also stand forfeited. In case of resumption, the transferee shall be required to remove the structure/debris within a period of three months from the order of the resumption, failing which the transferor may get the cost of construction of the building assessed from the approved valuer/Chartered Engineer and pay this amount to the erstwhile allottee.
- 33. That the plot/shed once resumed shall not be restored by the transferor. However, an appeal shall lie to a committee, comprising of the Financial Commissioner, Industries & Commerce Deptt., Haryana, Director of Industries, Haryana & Managing Director, Haryana Financial Corporation against the order of the transferor. Such an appeal shall be filed within ninety days of passing of resumption order. The decision of the aforesaid committee shall be final and binding.
- 34. That all the acts and expenses of or incidental to the execution of this deed including the cost of stamp duty, registration etc. shall be borne by the transferee.

Estate Manager, HSHDC, HAIL, Estate, KARIAN Contd. Page-12

For Karnal Agricultural Implements Manufacturers Association (Rege.)

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35. That the transferee is fully aware of provisions of IP-2011 & EMP-2011 and has gone through the same. The transferee agrees & undertakes to be bound by the said provisions of IP-2011 and EMP-2011 as amended from time to time.

IN WITNESS WHEREOF, the parties to this deed have set their hands/seals on the dates mentioned against their signatures.

PARTY OF FIRST PART:

for and on behalf of Haryana State Indi. & Infra. Dev. Corpn. Ltd.

Estate Manager

Witnesst PARTY OF SECOND PART: Witness

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For Karnal Agricultural Implements Manufacturers Association (Regd.)

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Estate Manager, HSHDC. Indl. Estate,

For Karnal Agricultural Implements Manufacturers Association (Regd.)

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Annexure 4: Verification of units by DIC, Karnal

From Joint Director **District Industries Centre** Karnal To To Whomsoever It May Concern Memo No. DIC/KNL/Cluster/ Dated Certifying the list of members of SPV for KAIMA(Karnal Agricultural Implements Subject:-Manufacturers Association) for Mini Tool Room Setup under Government of Haryana Scheme. Please refer to the subject cited above . This is to inform that Karnal Agricultural Implements Manufacturers Association is in pursue for Mini Tool Room setup and desires a certified copy of list of SPV members. Hence enclosed please find herewith list of SPV members and list indicating the name of all the members of the Cluster alongwith their addresses, e-mail, Telephone/Mobile Numbers, IEM/UAM numbers and the products being manufactured, duly verified, as desired. Encl. as Above Joint Director **District Industries Centre** Karnal ID& MSME-88

Revents Need ful To, Dated-21-07-18 2/2/18 The It. Director, Q.I.C. KARNAL. Sub: Cartified copy of List of Members of S.P.V. Respected Sin, This is to inform you that as our association is pursue for Mini Tool Room Situp. Under Gott - Schere. It is required to get the certified copy of list of members from DiTile. It is requested to give us certified copy of list of relevables of KAMASRI Thanking you, For Karnal Agricultural Implements Manufacturers Association (Regd.) Briend Genl. Secretary Contest: -7206061117.

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DID ADDATE 21		umitlaj72@hotmail.com	Sh Sumit Taluja s	94160-00028	M/s Laj Enterprises	2
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111001001010101		kaushikagro75@yahoo.com	Sh Amir Kaushik	74041-72000	Bazida Jattan Road, Near Dunar Foods, Karnal	70 F
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	06 006 1100356 PART II			BATER RESTA	M/S Vishal Udyog,	69
	06 006 1200082 PART II		Shri Vishal Dhawan	6911129686	275/3, HSHDC, Karnal,	89
		rahulkatya190@gmail.com	Shri Rahul Katyal	0607500144	M/s Vishal Freeman	
HR10A0001208	06 006 1100142 PART II	cnampionagro.tirupati@gmail.com	Start Ficiti Numar	Dilliontoora	M/S Universal Steel Discs (P) Ltd.	67
HR10A0000833	05 05 28528		Chel Deam V	9416031601	37/7 HSIIDC Kanal	66
		japjeet23@gmail.com	Sr. Inder Pal Singh	9416030869	310/3, HSHDC, Karnal	
	06 006 1100313 PART-II	contact@kiranfoundry.net	URUDAL DIG MODAL	LT CROSSES	M/s T.M.Agro Industries	20
HR10A0002471	06 006 1100291 PART-II	and a second sec	Chall Ball Mark	F160009686	M/S Surya Parkash Krishi Udyog	64
HR1080000342	00 000 1200 120 PART II	Superagri7/@ormail.com	Sr. Harbhajan Singh	9813290004	Namastey Chowk, GT Rd Knl	0.5
	06 006 1000128 PADT II	rippenm@yahoo.com	Shri Rippen Miglani	14004001+C	M/s Super Agrl, Ind.	6
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	05 006 1100233 PART II	a contraction of the second se	Shri Anil Calcas	9254123400	261/3 HSIIDC Kannal	61
	06 006 1100009	shiventerprises05@vahoo.co.in	Shri Sanjay Kumar	9416034841	C-301, Palm Residency, Knl.	60
TTOOOMT TT			Shri Subbash	9416989106	Vilay Ngr. GT Road, Karnal.	1
HEINANNATTO		and a survey of the second second			M/s Sharma Agro Industries	50
HR10A0001120	EM-1 050522046	san 72amb/disaboo com	Shri Sanjay Sharma	9215522931	Nali Road Kunjpara	58
		prateeksachdeva24@gmail.com	Shri Manoj k Sachdeva	9896255587	272/3, HSHDC, Karnal	15
UAN	SSI Registration	Email ID	Contact person	Mobile No.	Address	10
		-			Name of Firm	R

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Annexure 5: Valuation Report of Land & Building

A ।। श्री सदगुरू देवाय नमः	" Architect
	Valuer
RCHITECT	Builder
Dalip Khurana & Associates	

PERFORMA FOR VALUATION REPORT IN RESPECT OF IMMOVABLE PROPERTY Name of Registered Valuer: Ar. Dalip Khurana Regiseration No. CCIT/PKL/2007/2008/34A8/08 (With State Commissioner of Income Tax) Date of making valuation 25.05.2018 1. Copy of Conveyance Deed No. 8280/1 dt. 08.03.2017 1 List of Document 2. Copy of Approved map 2 Name of the Owner(s) of the Property M's Karnal Agricultural Implements Mfg. Association (KAIMA) 3 If the property is under joint ownership/Co. Firm Ownership ownership, Share of each such owner. Are the shares Undivided? Building on Plot no. 356, Situated at Sector 3-A HSIIDC 4 Brief description of the Property Industrial Estate, Karnal. Sector 3-A HSIIDC Industrial Estate, Karnal. Location. Street ward no. Is the property situated in Industrial area residential/commercial/mixed area/Industrial area Classification of locality -High Class /Middle **High Class** Class/ Poor Class 5 Whether the building is in accordance with Ptan Yes approved by the competent authority 6 Proximity to civic amenities like schools, All amenities available within Limit hospitals Offices, markets , cinema halls etc. 7 a) Area supported by documentary proof. 450.00 Sqmt. (Rectangle Shape) Shape, dimensions and physical features. As per Conveyance Deed No. 8280/1 dt. 08.03.2017 North 30 Mtr. Industrial Plot no. 355 South 30 Mtr. Road East 15 Mtr. Road Ar. DALIP KHURANA West 15 Mtr. Industrial Plot no. 357 AnA Regd. No. GAGOUHUM Architect, Valuer, Plannel & Interior Designer

1825, Sector-13, U.E., KARNAL. Ph.: 0184-4037825, MOB .: 94160-32136. e-mail:khuralta1825@gmail.com

b) Furnish details of the building on a separate Annexure-I Attached sheet giving number of floors, plinth area floorwise , year & type of construction finishing(floor-wise) 8 Is it freehold or leasehold Land? Yes, It is a Free Hold Property 9 If leasehold, the name of Lessor/Lessee, nature N.A. of lease, dates of commencement and termination of lease 10 Is there any restrictive convenant in regard to Industrial use use of land? If so, details be given 11 Does the land fall in an area included in any Under HSIIDC Karnal Town Planning scheme or development plan of Govt. of any statutory body? If so,give narticulars. 12 a) Is the building owner-occupied /tenanted Owner-Occupied /both? b) If partly owner-occupied , specify portion and N.A extent of area under owner -occupation 13 a) Names of tenants/lessees/licensees etc. N.A. b) Portions in their occupations. N.A c) Monthly or annual rent/compensation / N.A license fee etc. paid by each. 14 Is any dispute between landloard and tenant NA regarding rent pending in the court of low 15 The valuer should give in detail his approach to I have personally visited the site and valuation of the property and indicate how the enquired the rates from market value has been arrived at supported by property consultants of the area. necessary calculations. Market Value of the Property ₹ 1,43,62,000.00 Declaration: I hereby declare that:

a) The information furnished above is true and correct to the best of my knowledge and belief.

b) I have no direct or indirect interest in the property being valued

c) I have personally inspected the property on 25-06-2018

d) My registration with State Chief Commissioner of Income Tax is valid as on date.

Date: 25-06-2018 Place - Kamal

Signature and seal of Registered Valuer 10.01

AT. 11

Rend No Chicket Architect Valves, Plan R onneed Daurity R onneed Daurity # 1825 Better 17, U.F. VANISA

1	No. of floors and height of floor.	Workshop ht. 20"-0"
		Office Block & Guard Room ht. 10'-0"
2	Plinth area	Work Shop = 1758.90 Sqft. Office & Guard Room G.F. = 375.80 Sqft. Office F.F. = 303.80 Sqft.
3	Year of construction	5 Years old
4	Type of construction -load bearing walls /RCC frame/street frame	RCC frame structure with Load bearing wall
5	Type of foundation	Steep Faating Foundation
6	Wals	Brick work in cement sand mortor 1:7
7	Doors and Windows	Iron Rolling Shutter & Wooden Door & window
8	Flooring	Tiles Flooring in Office Block & Simple Flooring in other area
0	Finishing	White wash on walls

ANNEXIURE-1

CONTRACT DETAIL OF THE BUILDEN

Add I/s for Gate Boundary wall & Open Area Rooring

Total Plot Area 450.00 Sqmt or 538.00 Sqyds. @ ₹ 20,000/- per Sqyds. ₹ 1,07,60,000.00

Total ₹ 1,43,62,090.00

₹ 5.00.000.00

Say ₹ 1,43,62,000.00

Ar. DALIP KITT NA NA

Regid. No. CACLO-HI Architect, Valuer, Plan-& Interior Designi 1825, Sector-13, U.E., KARLI-

PHOTOGRAPS OF THE PROPERTY



Annexure 6: Machinery Quotations



KARNAL AGRICULTURE IMPLEMENTS MANUFACTOURERS ASSOCIATION CFC 356,SEC-3,HSIIDC KARNAL

QTN No-MAC/KAIMA-3

Kind Attn. Mr. BHAVUK MEHTA)Gen. Secratory-KAIMA



QUOTATION

Sr. no	Description	Price
ı	3 Axis CNC Milling Machine –KD1055 With Weihong NK300-cx Window Base Controller Windows 7 5.5/7.5kw AC Spindle -10000 RPM-59.9Nm at 1500 Rated Rpm-BT-40-Cells Taiwan Direct driver Spindle OD-120mm	31,50,000/- Ex-Work Bhiwadi
2	ATC-24 tools	

Technical Specifications:-

	the second se		
1.	Table	1.4	1100 x 500 x 70mm -Cl casting with 1816 T- slot
2	Travel		1000 x 550 x 500 mm
3.	Spindle Nose to Table	+	150-500mm (GAP between Table to spindle nose 650mm)
4	Body	1	CI Casting Stress relieved Cantilever structure
5.	Spindle power	±	5.5/7.5Kw-BT-40 -3-Ph-380V
6.	Auto Tool Changer	14	24 Tools
7.	Spindle speed		10000 RPM AC spindle motor
8.	Tool Clamp capacity	1	BT40 Pneumetic Tool change
9.	Max.Cutting capacity	+	50.0 diameter for Cutting in steel
10.	LMG Rail	Ē	45.0mm-HSR series- THK-Japon
11.	Ball screw	128	40.0mm precision Ballscrew-Hiwin – Taiwan
12.	Motor		Servo Motor 2.5KW
13.	Drive	-	Digital Servo Drive
150	221078		
14.	Controller	+	Weihong Window Base Milling controller Windows 7
15.	Rapid Feed rate	1	20,000 mm/min
16,	Feed rate	1	10,000 mm/min
17.	Hand wheel		MPG
			(S) DROPCO
18.	Auto lubrication	1	Dropco make Centralize automatic lubrication system
19.	Accuracy	+	0.010mm
20.	Repeatability	÷	0.010mm/300mm
21,	Cooling tank	1.5	yes
22.	Cooling pump	1.1	Rajamane-Bangalore
23.	Isolation Transformer		8Kva
24.	Spanners	:	yes
25.	Machine weight	1	Approx 5000 kgs
26.	Machine diamension	12	8.0x7.0x8.0 feet
27.	Tower Light	12	yes
28.	Work light	34	yes
	20 - 20 C - 20 T - 20 T - 20 C		
29.	Coupling	2	KTR-Rotex –Germany
			Teles
30.	Ballscrew Support unit	1	Sungil- Korea
	August 100 - 00 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200		TETEHOENKX MARTIN
31.	Wiring terminals	-T	Phoenix contact -Germany, Wago -France LidCONTACT - Contact
			Schoeider
32.	Contactors	1	Schneider-France
			Schpeider
33.	MCB		Schneider-France
		10	and/or servers
34.	Relay Board	+	Wago –Germany
35.	Wire		Havells-India, RR cables HAVELLS RR / KABEL
			FILLER
36.	Proximity Switches	14	FOTEK-Tahwan CONTROLS
2017		10	

TERMS AND CONDITIONS IF O.R. DESIMATION DELIVERY BASES

PRICES: our prices are F.O.R destination in rupees excluding packaging. Towarding, height & Inwance.

PAYMENT: 50% along with Purchase Order in Advance Balance before Delivery

TAXES : GST 18% SHALL BE APPLICABLE.

PLACEMENT OF ORDER: Order shall be place in favour of "Multi Axis CNC"

DELIVERY: 2 months, from our works after receipt of technically and commercially clear Purchase order.

VALIDITY: Our offer shall remain valid for 10 days from the date of opening of quotations.

WARRANDY: 12 months from the date of dispatch against any manufacturing Defect

and/or bait workmanship/damaged, if Misuse and accident will not be emerialised anyway.

TRAINING: we shall provide 55 days training at your works (at Rama) for operating the one machine and making jobs.

SUPPORD-we shall provide assistance with the CNC programmes for typical Jobs # you have any difficulty for one year without charges.

Maintenance--We shall immediately arrange to attend any servicing problem ogainst the Machine break

down within 24 hours of information of break down send by you.

Spare Parts- We will provide standard tool Box along with Machine, and keep inventory with us of

Bectro Mechanical parts if marchine undergone any breakdown, the servicing will be here of cost within warranty period.

AMC > 2%Areual maintenance Charge of Invitice Value will apply immediate after one year of m/c. Installation, in thet period we will attend your problems absolutely free, if any Electro-mechanical parts Will damaged, the servicing/replacement charges born by you.

P&F > 2% Packaging and Forwacing charges will be applicable of invoice Value, box

Freight & insurance > born by consignee

FORCE MAJEURE CLAUSE: Regarding all circumstances beyond our control such as rols, strikes, lockouts, war.cvil disturbances act of God, Government decision, stoppage of sale of any product for reason, we shall not be held responsible for non-execution of orders. DEMURRAGE CHARGES: In case the customer does not collect the goods from "hanport/ Cargo/ Railways, the demunage charges will be borne by the customer.

Our Bank details:-

Bank Name:-CANARA BANK

A/c no:- 3560201000202

GTIN No.-OBALPPR6913Q128

Branch:-TAPUKARA-ALWAR IFSC code:-CNR80003560 PAN- ALPPK8313Q

For, Multi Axis CNC

RKuchush

Rajesh Kushwaha (proprietor)91-9717953433







ur Ref. :- VSL			223,1271,22102540,107275.0202
ur Ref. :- VSL		BUDGETARY QUOTATION	1
	/TND-101/2018	-19	Date : 21.01.2019
Customer Name & Address	TO, KARNAL A MANUFAC 556, Sec – Kind Attn.	GRICULTURAL IMPLEMENTS TURERS ASSOCIATION CFC 3, HSIIDC, KARNAL, HR ; Mr. Bhavuk Mehta (Gen Secy/ KAIMA)	
SUBJE	<u>CT</u> :- SCOPE OF	SUPPLY FOR CNC WIRECUT EDM MACHINE N	NODEL EZEECUT HNXG 3240
A CNC	Wirecut EDM I	Machine	17,65,256.00
B Insta	llation, Training	g & Transportation	1,18,000.00
		Grand	Total 18,83,256.00





Branch Office: 3442, Sector- 32, Opp. Grewal Petrol Pump,Chd Road, Ludhiana-141010 Regd. Office: #8, St. No. 5, Gobind Nagar, Opp Bhandari Hospital, 33 Feet Road, Mundian Kalan, Ludhiana-141015 Tel: +91-161-4069771, +91 9988007771, Email: vsl@vsltech.in, Website: www.vsltech.in

A. Budgetary Quotation For Cnc Wirecut Edm Machine

Sr. No.	Description	Qty in Nos.	Unit Ex-works price	Total Ex-works price
1	CNC WIRE CUT EDM MACHINE MODEL : EZEECUT H NXG 3240 (windows based with closed loop system) with standard Consumables.	1 no	13,75,980.00	13,75,980.00
2	Computer Set With part Programming CAM Software Features	1 no	80,000.00	80,000.00
3	Stabilizer	1.no	40000	40000
		14,95,980.00		
		2,69,276.40		
			Total A	17,65,256.00





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B. Budgetary Quotation for Installation Training & Transportation

Sr. No.	Description	Unit Ex-works price	Total Ex-works price
1	Installation & commissioning & training for 2 days	55,000.00	55,000.00
2	Transportation	45,000.00	45,000.00
		1,00,000.00	
		18,000.00	
		Total B	1,18,000.00

VSL tech Branch Of	fice: 34	VSL TECH 12, Sector- 32, Opp. Grewal Petrol Pump,Chd Road, Ludhiana-141010
Aega On	CC: #8,	St. No. 5, Gobind Nagar, Opp Bhandan Hospital, 55 Peet Road, Mundian Kalan, Ludhiana-141015
Tal: +91-:	161-4069	1771, +91 9988007771, Email: vsl@vsltech.in, Website: www.vsltech.in
	C. <u>1</u>	erms & Conditions
1. Price	2-	Ex Factory
2. Transportation	1-	By your side
3. Unloading & Machine		
Placement as per Floor Plan	36	By your side, on their own crane and man power.
4. Octroi & Other Local Taxes	\$-	Paid by at actual (If Any)
5. Payment Terms	÷*	Advance 30% and 70% before dispatch.
6. Delivery Period	ł.	7-9 Week after technically & commercially complete your P.O.
7. Validity of Quotation	-	90 days here off.
8. Warranty	20	One year after Installation & Commissioning or 13 Month of
a Tours and Duding		invoice date witch ever earlier .
9. Taxes and Duties		All taxes at actual at the time of dispatches.
10. anportant note	24	All your terms & conditions will be applicable only on receipt of supply order which is technically and communicity
		clear and accepted by us in writing
BANK NAME 1- AXIS BANK LTD		
A/C NO. :- 9120200341897	80	
BANK ADDRESS :- MUNDIAN KAL	AN, LU	DHIANA .
RTGS / NEFT IFSC CODE –UTIB000	1417	
FOR VSL TECH,		
FOR VSL TECH, AUTHORISED SIGNATORY VIKESH BHAROL (SALES MANAGER Mob 9988007771	ŋ	





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D. Specification of machine.

1	Number of CNC axes	04 (X, Y, U, V)
2	Vertical axis-Z	Z-motorized
3	Simultaneous controlled axis	X, Y, U, V
4	Cutting wire source	Moly Wire
5	Work table size	640 X 400mm
6	Axis traverse (X,Y, Z) (mm)	320 X 400 X 350
7	Vertical axis height (mm)	350 mm
8	Job weight	300 kg
9	Taper cutting angle	±3 degrees over 100 mm thickness
10	Wire diameter, used on machine.	Brass 0.250 mm,
		Molybdenum-0.180 mm
11	Resolution of each axis	0.001 mm
12	Least input increment	0.001 mm
13	Axes drive motors	Stepper Drive
14	Feedback devices - X & Y Axis	Linear scales
15	Linear motion screws - X & Y Axis	X & Y Ball screws
16	Linear motion guides - X & Y Axis	LM Guides
17	Linear motion guides – Z Axis	LM Guides

E.EDM Technology

ł.	EDM technology	Built in, Standard item
2	Pulse generator	Built in, Standard item
3	Wire Feed technology	Reciprocating wire type
4	Dielectric medium	Soft water along with multi pass paste
5	Maximum cutting speed	80 mm2/min (Max)

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	Regd. Office: #8, St. No. 5, Gobind Nagar, Opp Bhandari Hospital, 33 Feet Road, Mundian Kalan, Ludhiana-141015
	F. CNC System
	1. A fives axes CNC Control system with integrated programmable logic controller (PLC) for wire cut machine with simultaneous control of four axes.
	2. Standard Features of CNC control
2.1	MDI
2.2	Dry Run
2.3	Mid Program- To start or end at any given block
2.4	2D graphic simulation of wire path
2.5	Edge finding function
2.6	Center finding function
2.7	Dry spark mode for wire vertical alignment
2.8	Single block execution
2.9	Resumption of cutting from power fail position
2.10	Wire break sensing
2.11	Auto gap short recovery
2.12	Back Ground programming facility
	* Extra Highlighted Features of CNC control
2.13	Pre spark function
2.14	Pre jog facility
2.15	Online Offset Correction
2.16	Full Closed Loop X, Y (linear scale) with error compensation
G. <u>Dis</u>	play
1	Color TFT display
2	Cutting rate in mm/min or mm ² /min
3	Previous, current and next block
	2D display of Tool asth length and length to ap
4	The architely of your because and reading on the

E	Branch O Regd. Off Tel: +91	VSL TECH Mice: 3442, Sector- 32, Opp. Grewal Petrol Pump,Chd Road, Ludhiana-141010 ice: #8, St. No. 5, Gobind Nagar, Opp Bhandari Hospital, 33 Feet Road, Mundian Kalan, Ludhiana-141015 -161-4069771, +91 9988007771, Email: <u>val@valtech.in</u> , Website: www.valtech.in				
6	Operator Help and error messages					
7	Meter for Machine gap volt	age				
8	Meter for gap current					
9	Compensation parameters display and edit					
н.	Software Own CAM Software called "RRCAM" CNC controller compatible with preloaded cutting programming software package designed for CNC Wire cut EDM machine for cutting of metals plats in 2d shape with draft (Ucensed version- Windows 10). Software capability for Auto transformation Auto CAD files into G codes & M codes / Machine language					
1	General capabilities: Programmed preview, edit mode. Software will support AUTO CAD 'dxf' forma file transfer.					
2	Functions - move, rotate	, copy, mirror, scale, reverse mirror				
3	Display with rotate and z	oom options				
ι.	Data input Output					
1	Keyboard : standard ASCI	Keyboard Applicable				
2	Optical Mouse- USB					
3	USB ports 2no					
L	Dielectric Unit					
1	Dielectric capacity	Soft Water + Additive resin (Multipass paste). (Ratio 50:1)				
z	Tank capacity	50 liters				
3	Filter	Magnetic filter or latest applicable				
к.	Input power supply	R.				
1.	3 Phase AC, 415V ± 10%, 5	0 Hz ± 3Hz				
		Page No. 7				





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Spares and other materials included with the Machine.

Standard Accessories.

SR.NO.	ITEM DESCRIPTION	QTY.
1	CNC controller with color monitor.	1 NOS
2	Coolant Unit.	1 NOS
3	Leveling Pads with screw and adjuster.	4 NOS
4	Job mounting clamps set for 100mm,200mm and 400mm.	1 NOS
5	Wire tension roller.	1 NOS
6	Wire feed Drum handle.	1 NOS
7	Wire vertical block.	1 NOS
8	Job mounting stands and rails.	1 NOS
9	Standard toolkit,	1 NOS
10	Set of glass fuses	1 NOS
11	Wire spool mounting assembly.	1 NOS
12	Wire cutter.	1 NOS
13	Forceps	1 NOS
14	Multipass paste	2 Kg
15	Moly wire spool	1 Spool
16	Bearing puller set	1 NOS
17	Operating manual	1 NOS
18	Pen drive with Part Programming application software RRCAM and EZEEWIN software.	1 NOS

(NOTE : The machine needs a 3 phases 415V, 5 KVA servo stabilizer / Separate Electrical Earthing . This has to be procured separately.)

VAT TIN - (3042107938		GST No:- 03ATKPK9555H1ZE
		BUDGETARY QUOTATIC	ON
lur Ref. :- VS	L/TND-102/2018	3-19	Date :- 21.01.2019
Customer Name & Address	MANUFAC 556, Sec – Kind Attn.	TURERS ASSOCIATION CFC 3, HSIIDC, KARNAL, HR ; Mr. Bhavuk Mehta (Gen Secy/ KAIN	AA)
SUBJE	CT :- SCOPE OF	SUPPLY FOR EDM MACHINE MODEL 5530	ation
B Inst	allation. Trainini	e & Transportation	9,10,370.00
		Gra	nd Total 10,16,570.00



VSL TECH

Office: 3442, Sector- 32, Opp. Grewal Petrol Pump,Chd Road, Ludhiana-141010 Regd. Office: #8, St. No. 5, Gobind Nagar, Opp Bhandari Hospital, 33 Feet Road, Mundian Kalan, Ludhiana-141015 Tel: +91-161-4069771, +91 9988007771, Email: vsl@vsltech.in, Website: www.usltech.in

A. Budgetary Quotation For Edm Machine

Sr. No.	Description	Qty in Nos.	Unit Ex-works price	Total Ex-works price
1	EDM Machine Model "EDM 5530 ENC 35"	1 no	6,62,200.00	6,62,200.00
2	EDM OII	420 ltr	165.00	69,300.00
2	Stabilizer	1 no	40,000.00	40,000.00
		7,71,500.00		
		1,38,3870.00		
		9,10,370.00		


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B. Budgetary Quotation for Installation Training & Transportation

Sr. No.	Description	Unit Ex-works price	Total Ex-works price
1	Installation & commissioning & training for 2 days	45,000.00	45,000.00
2	Transportation	45,000.00	45,000.00
		Total	90,000.00
		Service Tax @ 18.00%	16,200.00
		Total B	1,06,200.00

Page No. 3

ns & Conditions
ms & Conditions
Ex Factory
By your side
By your side, on their own crane and man power.
By your side (If Any)
Advance 30% and 70% before dispatch.
4-6 Week after technically & commercially complete your P.O.
90 days here off.
Dne year after Installation & Commissioning or 13 Month of
nvoice date witch ever earlier.
All laxes at actual at the time of dispatches.
All your terms & Conditions will be applicable only on eceipt of supply order which is technically and commercially clear and accepted by us in writing
DHIANA .

Page No. 4

	Office: 3442, Sector- 32, Opp. Grewal Petrol Pump,Ch Regd. Office: #8, St. No. 5, Gobind Nagar, Opp Bhan Mundian Kalan, Ludi Tal: +91-161-4069771, +91 9988007771, Email: vsl@v	d Road, Ludhiana-141010 dari Hospital, 33 Feet Road, hiana-141015 valtech.in, Website: www.vsitech.in
<u>. The j</u> 1. м	achine tool unit specification as per model catalog.	
2. St	andard accessories.	OTY
1	Tank door gasket	1 NO
2	Flush aid	1 NO
3	Filter bowl ring	1 NO:
4	Universal electrode holder	1 NO:
5	Leveling bolt	4 NO:
6	Leveling pad	4 NO:
7	Trial work piece	3 NO:
8	Trial electrode	3 NO:
-	Standard tool kit	1 NO:
10	Set of alsee fuses	1.80
10	Jer of Biggs (gass)	1100

(NOTE : The machine needs a 3 phases 415V, 5 KVA servo stabilizer / Separate Electrical Earthing . This has to be procured separately.)

Page No. 5

Offlice: 3 Regd Tel	8442, Sector- 32, Opp. Grewal Petrol P L Office: #8, St. No. 5, Gobind Nagar, O Mundian Ka E +91-161-4069771, +91 9988007771, Emi	ump,Chd Road, Ludhiana-141010 pp Bhandari Hospital, 33 Feet Road, ilan, Ludhiana-141015 all: <u>vsl@vsltech.in</u> , Website: www.vsltech.
E.	Machine specification	
EL	M 5530 Specification (Comparison Sheet
_	in conception of the second	
1	Work Tank Dimensions	800 x 530 x 300
2	Table size	550 x 300
3	1 Slot	3 x 10 mm
4	X axis travel	280 mm
5	Y axis travel	200 mm
0	Z axis travel	250 mm
7	Max Job Height	210 mm
8	Max Electrode Weight (kg)	50 kg
9	Max job Weight	170 kg
10	Pump Motor rating	0.5 HP, 3 Phase
11	Machine X & y axis	Lead Screw
12	Machine Z axis	Lead Screw
13	Controller Z axis	DC Servo
14	Over all dimension (WxDxH)	1500 x 1450 x 2150 mm
15	Over all machine weight	1000 Kg
Pu	lse Generator	WARAN CONTRACTOR
1	Max Working Current	35+3
2	Pulse on- off setting	99x9
3	Max MRR Copper to steel	235
4	Max MRR Graphite steel	240
5	Max MRR Steel to Steel	150
6	Minimum Electrode Wear	<0.1%
7	Surface Finish	0.8-1.3
8	Connected Load	3.5 Kva
9	Power Supply	3 Phase , 415VAC, 50 HZ
D	ielectric Unit	
1	Dielectric Canacity	300
2	Filter element	10 micron paper filter
3	No of Filter	I I I I I I I I I I I I I I I I I I I
E	antimas	
I'	catures	•
1	Programmable Z axis and EDM	Pram
12	50 Programs can be stored	
3	10 steps per program	
4	In built 3 axis DRO	
3	Higher MRR with Eco Pulse	
6	MOSFET for Superior finish	
7	Carbide cutting/Graphite Cutting	8
8	Adaptive Multistage anti-arc	
9	DC Servo for Z axis with High s	peed jump
10	Reverse servo and reverse polar	ity machine
11	Universal electrode holder	

		G .H			(O) >-((M) >-((M) ?-(0161-6542453 18140-21153 39141-13981
		mill	GR	INC	DERS (I	NDIA)
NERS UNIVE CONTO NUTER NUMA	A ENFORMENCIAL GRONDING REAL OF DIMENSION GRONDING SEDE MM GREESS GRONDING MACHINES INAL GRENCISS MACHINES INAL METHANICAL HYDRIAU		B XXU Jasen Luppu	r, 538/3 Banste m-1410	5 D, Мерертині, Ак Волл, Мелер Елети 15	en B-C, ine Chones,
QT2811	/2018-2019.	Quotation			30.01.2019	
M/s: Vi	nodh Kumar					
Lu	dhiana.					
Dear Sir	5					
	With reference to	telephonic discussions ha	d with you			
Please f	ind enclosed herewit	h under noted quotation for	or Univers	al Cyli	ndrical Grinder	
\$.no.	Description		qty	Rate	Amount.	
	1 One Universal cyl	indrical Grinding Machine			3	
	Cap: 455mm Adm	it Between centers				
	Mechanical with	with electrical and all				1
	Standard accesso	ries complete	1	Each	557,000.00	
			-	-		

106,000.00

11,500.00

9,800.00

8,800.00

10,500.00

4,400.00

11,500.00

21,700.00

125,000.00

TERMS AND CONDITIONS

The above prices are with elcterical and Ex-works Ludhiana

VAT/CST/Packing/Insurance charges should be extra if applicable.

Price

Delivery 3 months after the receipt of confirm order and advance

25% advance with order and balance before delivery.

Thanking you and look forward for your valued orders, which will receive

our prompt attention at all the times.

Yours faithfully.

Extra attachments

Internal Grinding Attachment

Three Point Steady Rest

Two Point Steady Rest

Radius Truing Device

Balancing Stand

coolant Unit

Balancing Mandrel

Spare Wheel Flange

Automatic lubrication pump

Magnetic Cum paper band

for Smith Grinders (India)

Proprietor.

E-mail : unith@unithgrinder.com, unithgrinder.india@gnuil.com

Visit us : www.unithgrinder.com



	Contraction of the Owner water	11	and the second s
GSTIN : 03AZS	P58011L1ZW 98	ิทโรสูง นูกปร แ	(M) 96722-32
YU	VRAJ	MACHI	YE TOOLS
Spl. in Surface (Manual, Automatic Magnet Check New,	Orinding Machine, 6 A Hydraulic & Repair & Charging	H. No Near Luthia	2464, Street No. 4, Janta Nager, Kwality Kanda, Gill Road, ana-141003. (Pb.)
Ref. No.		N / ORDER	Dated
TO M/a_K	ARMAL AGRICA	TURAL IMPLI	NTS MANOFATUR
Dear Str CEG	- can be Whit	lem as kaima c	FC356 Sec34KILD
We thankfully acknowl As desired, We quote	ledge the receipt of your a prices of our Surface Gri	inquiry No nder Machines as under	Dated KARMAL
Table Size			Price (Ex. Works)
1. 10"x20" Oildip 2. 12"x24" Oildip	Surface Grinder Mach Surface Grinder Mach	nine 12×24	175000/= N
Extra Accessor	102	017	- III DODDA - No
1. Magnetic Chuk (close poll) 8×18"	tybe la	the account
2. Cooling system	Le c. ic		195000/=
1. For Hydraulic aut	to feed please add Rs		to the above mentioned
2 About of Manual	Machines.		
2. Above prices are Please add. Pa	for Manual Model of our	Surface Grinder Machin	nes, For Mechanical Auto-fe
		to the above mention	ed prices of Manual Machin
 Wheel spindle wit coupling system. Flench type brand Started-Switch (Pr Lubrication Pure 	h 2 Nos. of imported be led motor with 2800 Rm ush Type / Auto Trip) is is also provided only or	arings anglo-contact sp <i>Binuat Bec</i>) - HP mfd. by us supplied with the mach	beed with pressure plate &
CONTRACTOR OF A CONTRACTOR OF	10.4	ny waar adtoleed/Hydra	iulic machine.
Terms & Condition			
Terms & Condition	above are fix and no dis	count is permissible	
Terms & Condition 1. Prices mentioned a 2. GST, Packing, Loa 3. 40% advance is re- Demand Draft /NEF 1. Delivery will be give advance, we hope	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible d extra as applicable a rder. Balance payment y. 	t the time of delivery. t with GST is payable by date of confirmed order wit
Terms & Condition 1. Prices mentioned a 2. GST, Packing, Loa 3. 40% advance is re- Demand Draft /NEF 5. Delivery will be give advance, we hope hanking you	above are fix and no dis ding etc. will be charge quired with confirmed o FT at the time of deliver en within	d extra as applicable a rder. Balance payment y weeks, from the competitive.	t the time of delivery. t with GST is payable by date of confirmed order with Yours faithful
Ierms & Condition 1. Prices mentioned (2. GST, Packing, Loa 3. 40% advance is re- Demand Draft /NEI 5. Delivery will be give advance, we hope hanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive.	t the time of delivery. t with GST is payable by date of confirmed order with Yours faithful YUVRAJ MACHINE TOOL
Ierms & Condition 1. Prices mentioned (2. GST, Packing, Loa 3. 40% advance is re- Demand Draft /NEf 5. Delivery will be give advance, we hope hanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive.	t the time of delivery. t with GST is payable by date of confirmed order with Yours faithfu YUVRAJ MACHINE TOOL
Ierme & Condition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is re- Demand Draft /NEF 5. Delivery will be give advance, we hope hanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment yweeks, from the competitive.	t the time of delivery. t with GST is payable by date of confirmed order with Yours feithfu YUVRAJ MACHINE TOOL
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Ierme & Condition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is re Demand Draft /NEf 1. Delivery will be give advance. we hope Thanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive. For	t the time of delivery. t with GST is payable by date of confirmed order with Yours feithful YUVRAJ MACHINE TOOL
Ierms & Gondition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is no Demand Draft /NEF 1. Delivery will be give advance, we hope Thanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive. For	t the time of delivery. t with GST is payable by date of confirmed order with Yours feithful YUVRAJ MACHINE TOOL
Ierme & Condition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is re Demand Draft /NEI 1. Delivery will be give advance. we hope Thanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive. For	t the time of delivery. t with GST is payable by date of confirmed order with Yours feithful YUVRAJ MACHINE TOOL
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Internet & Condition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is re Demand Draft /NEI 5. Delivery will be give advance. we hope Thanking you	above are fix and no dis iding etc. will be charge quired with confirmed o FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment yweeks, from the competitive. For	t the time of delivery. t with GST is payable by date of confirmed order with YOURAJ MACHINE TOOL Prop
Ierme & Condition 1. Prices mentioned 4 2. GST, Packing, Loa 3. 40% advance is re Demand Draft /NEI 1. Delivery will be give advance. we hope Thanking you	above are fix and no dis inding etc. will be charge quired with confirmed of FT at the time of deliver en within	count is permissible. d extra as applicable a rder. Balance payment y. weeks, from the competitive. For	t the time of delivery. t with GST is payable by date of confirmed order with Yours faithful YUVRAJ MACHINE TOOL

AMETEK INSTRUMENTS INDIA PRIVATE LIMITED 302 - 303, 3rd Floor, DLF Towers - A, Jasola District Centre, Jasola, New Delhi -110025. Telefax No: (011) 40573552/ 40520163.



Dear Walse

 Sound Strategies
 Solid Performance

AIPL/NAIMA/DEL4	Ji Date: 22 January 2019
PROJECT DETAILS Customer Name Address Contact Email	 W/s. Karnal Agricultural Implements Manufacturers Association CFC 356, Sector-3, HSIIDC, Karnal – 132001, INDIA +91 7206061117 Br.vindshama.22@gmail.com
CONTACT PERSON Customer Contact 1	DETAILS : Mr. Bhavuk Mehta (General Secretary)
Reference	Telephonic discussion with Mr. Eqbal Raza regarding SPECTROCHECK for testing Fe, al and Cu Alloys.
and the second se	



Regd. Office: 1st Flaor, Left Wing, Prestige Featherlite Tach Park, Plot No. 148, EPIP 2nd Phase, Whitefield, Bengaluru - 560 066. Karnataka, India. Tel: + 91 80 6782 3200, Fas: + 91 80 6782 3232. www.ametek.com



NEW SPECTRO CHECK METAL ANALYSER FROM SPECTRO GERMANY DELIVERS HIGH PERFORMANCE RESULTS AT AN AFFORDABLE PRICE

Kleve — March 2, 2015 — SPECTRO Analytical Instruments today announced its new SPECTRO CHECK metal analyser — designed to provide high performance metal analysis for small to medium-sized foundries and machining operations — at an affordable price. Same time assure customers that their metal has been reliably tested to meet the most rigorous specifications for content and quality.

All this is achieved with new patent pending optical technology – a break through and clean-slate approach by SPECTRO Germany. Optical chamber is isolated, and temperature maintained for stability and optimized for the elements found in common foundry metals minimizing spectral interference.

Foundries must continuously rely on dependable metal analysis to maximize process productivity. The new high-quality, German-engineered — yet budget-focused — SPECTRO CHECK metal analyser is ideal for the routine metal analysis of elemental content in iron-, aluminium-, and copper-based metals — providing test results to meet the most rigorous specifications. Features include:

- Ease of use and simplicity of operation: From a new spark stand and simplified software interface
 to step-by-step instructions and commissioning video guide, the SPECTRO CHECK metal analyser is
 designed for maximum usability, fast start-up, and intuitive operation without the need for
 specialised training.
- High value and low cost: SPECTRO CHECK features both low initial purchase price and low cost of
 ownership as well easy customisation with modular plug-in functionality, and ICAL logic that
 eliminates constant expensive recalibrations.
- Precise performance across the entire application-relevant spectral range: SPECTRO CHECK is
 optimized for the metal analysis of elements found in common foundry alloys to minimize spectral
 interferences, maintain high stability, and enable better separation of neighbouring spectra in line
 rich analyses. New patent-pending innovative optics combines a compact multiplex optics
 polychromator with selected wavelength image feedback technology (SWIFT). The optical chamber
 is isolated, and temperature maintained for measurement stability, and argon-purged for light
 transmission.
- Ergonomically design in a compact benchtop form factor with easy, safe access to components and an integrated computer for easy connection of input devices.

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About SPECTRO:

SPECTRO, a unit of the Materials Analysis Division of AMETEK. Inc., manufactures advanced instruments, develops the best solutions for elemental analysis for a broad range of applications, and provides exemplary customer service.

SPECTRO's products are known for their superior technical capabilities that deliver measurable benefits to the customer. From its foundation in 1979 until today, more than 40,000 analytical instruments have been delivered to customers around the world.

About AMETEK, Inc.:

Leading global manufacturer of electronic instruments and electromechanical products with over 15,000 colleagues at more than 120 manufacturing and sales and service operations in the United States and 30 other countries around the world.

About AMETEK INDIA:

A subsidiary of AMETEK, Inc., headquartered in Bangalore with regional offices at Mumbai, Delhi, Chennai, Kolkata, Hyderabad and service centers at Pune, Kolhapur, Nagpur, Aurangabad, Nagpur, Baroda, Ahmedabad, Rajkot, Jamshedpur, Coimbatore & Ludhiana, Until today, more than 2000 plus systems have been delivered to customers in India.



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tem	Part No.	Description	Qty.	Price INR €
1	Type LMM01 Bench Top Version	 SPECTRO CHECK – Factory Calibrated Direct Reading Optical Emission Spectrometer, Basic Hardware and Software: High resolution CCD Multi detectors optic. Wavelength range 178 – 611 nm, Automated profiling ICAL - user-friendly standardization with One Control Sample. Spark stand self-cooled with minimum argon gas consumption. Fully digitalized PLASMA GENERATOR with digital discharge definition, digital pulse generation and digital offline pulse control High Speed Spectrometer control with Readout system, fast and precise. Ease of use "Spark Analyzer Pro CHECK" under WINDOWS. In-built PC with WINDOWS operating system Sample Result Overview. 	110-	
5	MATDIX	Operating & servicing manual on CD. Control Dation Analytic	1 NO.	included
6	DOPUS BAS	Ferrous Rase	1.80	Includer
_		Aluminium Base	1 No.	includer
		Conner Base	1 No.	Includer
3	Modules	CONFIGURATION ANALYTIC	11401	111149-01
-	Fe-01	Fe-Orientation	1 No.	Includer
	Fe-10	Fe-Low Alloy	1 No.	Includer
	Fe-20	Fe-Cast Iron	1 No.	Include
	Fe-30	Fe-Stainless Steel	1 No.	Include
	AI-01	Al-Orientation	1 No.	Include
	Cu-01	Cu-Orientation	1 No.	Include
	Cu-20	Cu-Cu/Zn Alloy	1 No.	Include
	Cu-30	Cu-Cu/Zn/Ni Alloy	1 No.	Include
	Cu-50	Cu-Gun Metal	1 No.	Includes
4	Spares.	Consumable Package		
	75270180	Standard consumables package	1 Set	Include
		Packing Forwarding and Insurance Charges up to Works	(Karnal)	Includer
		Total F.O.R. (Works) Pric	HINR F	24.85,000.0

For Ametek Instruments India Private Limited S. Sridharan

Director - Marketing

412=20



[%]	Fe	-01	Fe	-10	Fe-	20	Fe-	30
	Orientation		low alloy		cast iron		Cr-Cr/NI	
Element	Min	Max	Min	Max	Min	Max	Min	Max
C	0.002	4.5	0.002	1.5	1.4	4.5	0.002	2.5
51	0.01	6.5	0.005	5.5	0.005	5	0.01	4.25
Mn	0.001	20,3	0.001	2.35	0.001	4.2	0.001	15,9
Р	0.005	2.45	0.0015	0.125	0.0015	2.45	0.0015	0.15
5	0.004	0.45	0.001	0.2	0.001	0.24	0.001	0,4
Cr	0.003	33.5	0.002	8.7	0.003	9.5	0.003	33
Mo	0.005	9.9	0.004	2.5	0.004	2.25	0.004	7
Ni	0.003	43.9	0.003	5.6	0.003	5.5	0.003	43.9
Al	0.002	2.85	0.002	1.9	0.002	1.35	0.002	2.85
Co	0.005	18.7	0.004	2.1	0.004	0.21	0.004	18.7
Cu	0.001	8.4	0.001	1.15	0.001	2.55	0.001	6,4
Nb	0.005	3	0.001	0.33	0.002	0.28	0.005	3
п	0.002	2.9	0.001	0.85	0.0005	0.46	0.002	2.9
v	0.002	10.2	0.001	1	0.001	0.64	0.002	10.2
w	0.05	21.4	0.02	3.2	0.02	0.13	0.02	6.3
Pb	0.01	0.36	0.005	0.2	0.01	0.058	0.01	0.07
Sn			0.0015	0.135	0.0015	0.24	0.002	0.2
Mg	0.002	0.23			0.002	0.23		
As			0.003	0.135	0.005	0.2		
Zr			0.0015	0.23	0.0015	0.07		
Ca			0.0001	0.0125				
Ce					0.01	0.095		
в	0.001	0.115	0.001	0.014	0.001	0.115	0.001	0.01
Zn			0.004	0.026	0.004	0.044		
Le					0.001	0.025		

SPECTRO CHECK – Proposed Analytical Program, Ferrous Base

All the above ranges are in percentage (%)



[%]	Al-01-Na		
	global calibration		
Element	Min	Max	
Si	0.0025	24.4	
Fe	0.0025	11.8	
Cu	0.0015	54.6	
Mn	0.0015	31.4	
Mg	0.0020	10.9	
Cr	0.0010	0.48	
Ni	0.0030	2,95	
Zn	0.0050	11.6	
Ti	0.0010	5,15	
Ag	0.0010	1.00	
В	0.0015	0.0220	
Se	0.0001	0.0220	
Bi	0.0050	0,74	
Ca	0.0001	0.040	
Cd	0.0050	0.34	
Co	0.0030	1.60	
In	0.0030	0.100	
la	0.0015	0.0160	
Li	0.0002	8.40	
Na	0.0001	0.0210	
Pb	0.0050	1.50	
Sb	0.0150	0.57	
Sri	0.0050	21.0	
Ŝr.	0.0003	0.135	
V	0.0020	0.115	
Zr	0.0010	0.240	
Sc	0.0005	0.41	

SPECTRO CHECK - Proposed Analytical Program, Aluminium Base

All the above ranges are in percentage (%)



[%]	Cu	-01	Cu	-20	Cu	-30	Cu-	50
	Cu-Orientation		Cu/Zn-alloys		Cu/Zn/Ni-alloys		gunmetal	
Element	Min	Max	Min	Max	Min	Max	Min	Max
Zn	0.0100	50.9	1.00	50.9	15.00	32.0	0.0200	12.10
Pb	0.0030	22,80	0.0030	5.25	0.0030	2.50	0.0030	7.60
Sn	0.0030	15.40	0.0020	9.80	0.0015	0.35	1.00	9.80
Ρ	0.0040	1.05	0.0020	0.240	0.0020	0.115	0.0020	0.240
Mn	0.0050	18,80	0.0015	18.80	0.0015	0.74	0.0015	0.240
Fe	D.0030	6.50	0.0030	4.80	0.0020	1.10	0.0020	0.81
Ni	D.0050	35.0	0.0030	4.70	10.00	20.80	0.0030	5.70
Si	D.0040	6.30	0.0020	6.30	0.0020	0.105	0.0020	0.045
Mg	D.0010	0,180	0.0010	0.0210				0.12
Cr	0.0015	2.50	0.0010	0.090	(0.0080	0.053
As	D.0050	0.40	0.0025	0.230	0.0025	0.0220	0.0025	0.260
Sb	D.0200	1.75	0.0100	0.82	0.0100	0.030	0.0100	1.75
Bi	D.0100	6.00	0.0030	6.00	0.0020	0.0220	0.0020	6.00
Ag	0.0030	1.60	0.0015	0.034	0.0010	0.110	0.0015	0.064
Co	0.0050	2.45	0.0040	0.43	0.0040	0.230	0.0040	0.43
Al	D.0020	13.00	0.0020	8.60	0.0020	0.051	0.0020	0.125
S	0.0020	0.220	0.0015	0.052	0.0020	0.160	0.0010	0.220
Be	0.0020	3.10	0.0020	0.0100	1223		122.5	0.222
В		111	0.0015	0.0060			2222	1000
Ti	9105	212			1223		2223	332
Nb	0.0030	1.25						-

SPECTRO CHECK - Proposed Analytical Program, Copper Base

All the above ranges are in percentage (%)



GENERAL TERMS AND CONDITIONS OF SALES

Prices:

- All prices are quoted in INDIAN RUPEES INR ₹
- Prices guoted are on FOR Factory Basis.
- Prices quoted are excluding all relevant & applicable local taxes.

GST:

18% Extra

Order in favor of:

- AMETEK Instruments India Private Limited, Divyasree NR Enclave, 4th Floor, Block A, Plot No.1, EPIP Industrial Area, Whitefield, Bangalore 550 065
- Kind Attn: Mr. S. Sridharan [Director Sales] [+91 95000 51620] [Sridharan.s@ametek.com]

Payment:

 40% advance by RTG5/Demand Draft along with order, rest 60% two weeks before shipment of machine shall be made in favor of AMETEK INSTRUMENTS INDIA PRIVATE LIMITED.

AMETEK Bankers:

- · HDFC Bank Limited, IT Park Branch, Whitefield, Bangalore,
- Bank Account Number 00778630000071: SWIFT code: HDFCINBBBNG
- RTGS/NEFT/IFSC Code: HDFC0000077

Road Permit:

Way bill for Road permit should be provided by customer if applicable.

Belivery:

- Delivery time 10 weeks from the date of receipt of advance payment.
- Delivery of the instrument is subject to Covt. Authority approval, whether an export License is necessary to issue.

Warranty:

- The goods are warranted for a period of 12 months from date of installation against manufacturing defects.
- The warranty does not cover defects arising out of mishandling by operators during use.
 The defective parts will be either replaced or repaired during warranty period. The

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warranty replacement parts will be supplied free of cost to you. However, duties, taxes if any applicable will be borne by you.

Installation and Commissioning:

Ametek Instruments India Private Limited. Engineer will do the installation and your operators will be trained at site. however following accessories and utilities to be provided from your end at the time of installation & commissioning of spectrometer (if not ordered along with instrument) –

- TFT Monitor, Printer (Model HP Officejet Pro 6230) and keyboard.
- 2 KVA On-Line UPS with in-built isolation transformer, 30 minutes' battery backup.
- 10 X 10 Air-conditioned room.
- High Speed Disk Polishing Machine for Fe base and Mini Lathe Machine for AL& Cu base application.
- High Purity Argon Gas Cylinder with Double Stage Stainless Steel pressure regulator.
- CRM Sample for verification / cross checking performance.
- 'Whatman' Make Lens Cleaning Tissue Paper, No-105 and Iso Prophenol AR Grade->99.7% Purity (1 Ltr.).
- Vacuum Cleaner with high speed motor and minimum 1500-watt power.

Technical Specification:

 We reserve the right to change the technical specifications at any time if necessary for technical progress.

Validity:

- This offer is valid for 60 days from date of submission.
- This offer is valid for delivery, use, installation & operation of the instrument in India only.

For Ametek Instruments India Private Limited

S. Sridharan Director - Marketing





Dated

28-01-2019

SALES QUOTATION

REF No: MSA 2018 DLST

To:

Billing	KARNAL AGRICULTURAL IMPLEMENTS	Delivery	
Address	MANUFACTURERS ASSOCIATION	Address	
	CFC356, Sec-3, H5EDC, KARNAL		

Kind Attn : Mr. Bhavuk Mehta (Gen. Secv./KAIMA)

As per your requirement, we are pleased to quote the price for the following items.

SI No.	Item Code	Description	HSN	UOM	Qty	Unit Price (INR)	Total Price (JNR)	Delivery Period
1	517-307K	GRANITE PLATE SIZE:1000X750X150MM, GRADE:(0) WITH CALIBRATION CERTIFICATE	90179000		1 Set	99,230.00	99,230.00	4-5 Months
2	517-206-4	STEEL STAND/1000X750	73261990		1 Set	38,750.00	38,750.00	4-5 Months
Ē	-			TOTAL		1,37,980.00	1,37,980.00	

We are enclosing our terms and conditions for your reference and necessary action.

Thanking you, Yours faithfully, FOR MITUTOYO SOUTH ASIA PVT. LTD

Deepak Chandra Vishwakarma

Aret, Manager- Sales 8505164494

Page 1 of 2





		Terms & Conditions:				
Price Basis:	Prices are quoted in Indian R	upees, Ex Our Warehouse. GST extra as applicable				
Validity of offer:	30 days from the quotation date.					
Payment Terms:	30% Advance along with the Balance 20% against Proform The payment to be made by Ltd., covering at New Delhi.	order (Non-refundable), na Invoice prior to Dispetch. DD/Cheque/ECS or direct transfer of funds favoring M/s Mitutoyo South Asia Pvt.				
	Bank Details for RTGS/ N	EFT				
	Bank Name	CITI Bank N.A				
	City & Branch	New Delhi & 124, Jeevan Bharti Bulidino, Connaught Circus				
	Name of Long Colors	Nithdraw Could Asia Dat 1 Md				
	Account the of beneficiary	425043235				
	Account Tune	CA.				
	UESC Code	CTT 0000002				
	MICE Code	110037002				
	Note: Customer to mention to RTOS/NEFT and also share	he P.O. No./ Invoice No. in the remarks column while making UTR No. immediately once payment male.				
Ordering:	Purchase Order should be in Mitutoyo South Asia Pvi C-122, Okhla Industrial A New Delhi -110020, India Tel.No.:91 11 26372090 GSTIN No: 07AAACM6682	the name & Address of : t. Ltd rea, Phase-I A Fax No.: 91 11 26372636 2R1ZP				
Delivery:	As mentioned above from th	e date of technically &. Commercially clear Purchase order.				
Packing / Forwarding:	2% of the Order Value.					
Freight:	Extra at actuals.					
Insurance:	1% of the order value.					
Other Local Taxes:	Local taxes if any, to your ac	count.				
Warranty:	12 months from the date of 1	involce against manufacturing defects Only.				
Calibration Certificate:	(AC adaptors, Detectors of fo Colibration certificate is not p Prices indicated do not includ	Im products & Consumables like Styli are not covered under warranty.) rowided by us with every instrument. The same can be acquired on chargeable basis. ie charges for the same.				

Page 2 of 2





						Quotation
Quotation No.:	MSA:DEL/18	81			Deter	28-Jan-19
Í O: KARNAL AGRICUI Sec-3, HSIIDC, KA	TURAL IMPLI	EMENTS MANUFACTURERS ASSO	CIATIO	i oʻcis	6,	
Ond Attn : Mr. B	havuk Mehta	(Gen. Secy./KAIMA)				
Mitutoyo mak	e high perfo	ormance 2D measurement sy	stem			
Model: LINEA	AR HEIGHT	, LH600-EG				
		Scope of Supp Standard acce Compensation C Cover	ly with convert Sage, Ba	Basic M ¢5mm Clery Pa	lachine ball probe, Deta I Sk, AC Adeptor, Power C	Processor Unit, Probe Dis able, User's Manual, Machine
1000		Select Features	u			
5		Additional World das acc	mecy of	(1.1+0.6	L/600]µm	
		Colour TFT LCD	Display	i Sector		
1111		Recent during of the second during the second du	o durn	capacity	1)	
- 41 112		Ergonomic mad	nine des	ips and	power grip operation	
	TAXABLE !!	Perpendicularity	chunta	i) of Syan	and straightness of Apr	m.
-	Same of	Pneumatic full/s	emi-fio	eting sys	tem	
	1000	Brief Specificati	one			
		Meaturing rang	e (stroku	e - 3	0-\$77mm (600mm)	
		Resolution (sele	ctable)		0.0001/0.001/0.01/0	1 Inorn
-	.	Repeatability (2)	0)		Plane: 0.Aum, Bore: 0.	9µm
		Drive method	al anna		Manual / Motor (5 - 40	mm/s, 7 steps)
		Number of store	ed data i	Iemi	60.000 (mex.)	
item Code No.	HSN	Description	Qty	UOM	Unit Price (INR)	Taxable Amount (INR)
518-3526-21	90818000	LH-630EG (with power grip)	1	Set	4,83,000.00	4,83,000.00
	122000			1000	Total	4,83,000.00





Terms and Conditions:						
Price Basis:	Prices are guated it	in Indian Rupees, Ex Our Watehouse, GST extra as applicable				
Validity of offer:	30 days from the q	uptation dies.				
Payment Terms	30% Advance along	g with the order (Non-refundable);				
	Balance 20% against Proforma Invoice prior to dispatch					
	The payment to be made by UD/ Cheque/ECS or Direct transfer of funds through RTISS/ NEFT Jouaring M/s					
	Mitutoyo South Au	ia Pvt. Ud., payable at New Delhi				
	Bank Name 1	CITI Bank				
	Account Name :	Mitutoyo South Asia Pvt Ltd				
	Account No. :	0425043226 (A/c Type : Current)				
	MICR Code:	110037002				
	IFSC Code/ RTGS : CITIO000002					
	Note: Customer to	mention the P.O. No./ brooke No. in the remarks column while making RTGS/ NEFT				
	and also share UT	R No. Immediately once payment mode.				
Delivery:	Within 2-3 months	from the date of technically & commercially clear Purchase order.				
Packing / Forwarding:	2% of the Order Va	dur.				
Freights	Extre et actuels.					
Insurance:	1% of the order val	hue.				
Goods & Services Tax (GST)	GST at applicable	rate shall apply.				
Other Local Taxes:	Local taxes if any, to your account.					
Werranta:	13 months from the date of Invoice or 12 months from the date of Installation, whichever is earlier.					
	Service for portable equipments will be provided at our service centre only & not 'co-site'.					
	Warranty is against manufacturing defects only, IAC adaptors, Detectors of form products & Consumables					
	Her Styll are not covered under marranty.)					
	The packing should only be opened in front of Mitutoyo Engineer. We shall not be liable to any claim, damage or shortage incase where the original packing has been opened by the outcomer.					
	We recommend us Voltage Transform prevent electrical I bacause of Non us	e of Stabilized Power supply through Voltage Stabilizer with Spike Guard or Constant er(CVT) of 200 V AC with proper Earthing Ground to Neutral Less than 2 Volta), to failures of the parts of the machine. The Warranty does not cover failures resulted age of Stabilized power supply & authing.				
Ordering:	Purchase order to I	be released in favo				
	Mitotoyo South As	sia Pvt. trd.				
	C-122, Okhia Indus	strial Area, Phase 1.				
	New Dally 110 020.					
	GSTIN No. 07AAAA	M6682812P				
Installation/ Commissioning:	Separate invoice shall be raised for installation/ Commissioning. Charges its 20,000/- to be paid immediately after the machine is installed and commissioned. GST will be charged extra.					
	Customer shall en	soure to keep the site ready as per site condition. Machine will be installed and				
	commissioned as p	rer Mitutoyo norms. Training will be imparted for 2 days to maximum 3 Persons (Single				
	Group). Customer	should ensure that the proposed trainers are computer literate, conversant with				
	engineering datasi	ngs, tolecancing standards, and familiar with metrology and inspection practices and				
	procedures. Natur	Training charges @ Rs.7500/- per day will be charged for every additional day				
Acceptance Criteria:	The machine will b	e installed / commissioned and calibrated as ner the Mitutown norms. No other				
Construction of the last	acceptance otheria	are applicable.				
Manuals	One set of User's h	denuel is supplied with the machine				
Disputes (if any) subject to Del	N jurisdiction	Concerning of the second se				
the second se						

Desgak Chandra Vishwakarma

Aust. Manager-Sales



					Guotoreou
Quotation No.: MSA:DEL/1882				Date	28-Jan-29
To: KARNAL AGRICULTURAL IMPLEME Sec-3, HSHDC, KARNAL	NTS MANUFACTURERS ASSO	CIATION CFC3	56,		
Kind Attn : Mr. Bhavuk Mehta (Ge	n. Secy./KAIMA)				
Mitutoyo make Digital Rockw	vell cum Superficial Hardr	ess Tester			
Model: HR-320MS					
	Scope of Su Standard ac d1/16", Ste 60HBC, Han Adaptor, Vi	pply with Bas cessories: Dia el ball (spare) dness test blo nyl Cover, Acc	ic Machin mond inc #1/16*, P ck 30HRC #ssory B:	enter for Rockiwe lat anvil ø64mm, , Hardness test bl or, User's manual,	ell, Steel ball indenter Hardness test block lock 90HRB, AC Level
1	Salient Fast Twin type () proliminary Loading ray	tures: tockwell/Rock test force by rigator indicat	iwali sup dial switz ion	erficial) hardness hing	besher
	Test force o	ontrols. Moto	r drive, b	utten start	
	Digital Disp Success or I Hardness co	lay (resolution ailure decision anversion func	c 0.1HP() In function Stion		
· ·	Maximum s	pecimen size	(HsD*): 1	80 x 165mm	
Item Code No. HSN Code	Description	Qty	UOM	Unit Price (INR)	Taxable amount (INR)
963-231E 90248091	HR-82DMS	1	Set	5,46,000.00	5,46,000.00
				Tota	5,46,000.00



Terms and Conditions:

Price Basis: Prices are guoted in Indian Rupees, Ex Our Warehouse, GST extra as applicable Validity of offer: 30 days from the quotation date. Payment Terms. 30% Advance along with the order (Non-refundable); Balance 70% against Proforma invoice prior to dispatch. The payment to be made by DD/ Cheque/ECS or Direct transfer of funds through RTGS/ NEFT favoring. M/s Mitutaya South Asia Pet, Ltd., payable at New Delhi Bank Name 1 CITT Bank Account Name : Mituteye South Asia Pvt Ltd Account No. : 0425043226 (A/c Type : Current) 110037002 MICR Code: IFSC Code/ RTGS : CIT10000002 Note: Customer to mention the P.O. No. / Involve No. in the remarks column while making ITGS/ NEFT and also share UTR No. immediately once payment made. Delivery: Within 2-3 months from the date of technically & commercially clear Purchase order. Packing / Forwardin 2% of the Order Value. Freight: Extra at actuals. Insurance 1% of the order value. Goods & Services GST at applicable rate shall apply. Other Local Tases: Local taxes if any, to your account. 13 months from the date of invoice or 12 months from the date of installation, whichever is earlier. Warranty: Warranty is against manufacturing defects only. (AC adaptors, Detectors of form products & Consumables like Styli are not covered under warranty.) The packing should only be opened in front of Mitutoya Engineer. We shall not be liable to any claim, damage or shortage incase where the original packing has been opened by the customer We recommend use of Stabilized Power supply through Voltage Stabilizer with Spike Guard or Constant Voltage Transformer(CVT) of 280 V AC with proper Earthing(Ground to Neutral less than 2 Volta), to prevent electrical failures of the parts of the machine. The Wananty does not cover failures resulted because of Non usage of Stabilized power supply Ordering Purchase order to be released in favor of. Mitutoyo South Asia Pvt. Ltd. C-122, Okhia Industrial Area, Phase - 1, New Delhi 130 020. GSTIN No. 07AAACM6682R12P Installation/ Separate invoice shall be raised for installation/ Commissioning. Charges 8x 60,000/- to be paid immediately after the Commissioning machine is installed and commissioned. GST will be charged extra. Includes installation. Celibration and beau training. Customer shall ensure to keep the site ready as per site condition. Machine will be installed and commissioned as per Mitutovo norms. Training will be imparted for 1 days to maximum 3. Persons (Single Group). Customer should ensure that the proposed trainees are computer literate, conversant with engineering drawings, tolerancing standards, and femiliar with matrology and iropection practices and procedures. Acceptance The machine will be installed / commissioned and calibrated as per the Mitutovo norms, No other acceptance oriteria are Criteria: applicable. Manuels One set of User's Manual is supplied with the moduline. Disputes of any) subject to Delhi jurisdiction. For Mitutovo South Asis Pvt. Ltd. Deepak Chandra Vishwakarma Asst. Manager-Soles 8585164494





EXECUTIVE SUMMARY

KEY OBJECTIVES FOR TECHNOLOGY IMPLEMENTATION

Regest Challenge and requirement of today's Technical colleges is to generate Employable Human resource for the CORE ENCINEERING INDUSTRY. For this Industry ready Skills are very critical for the faculty and the students. Heritoge is an important aspect for the relatively new & upcoming colleges to create a sustainable business model and having a continuous Year on Year growth. This growth is based on & calculated in terms of

- COLLABORATIVE TEACHING METHODOLOGY
- ACTIVITY BASED LEARNING
- ➢ RESEARCH & CONSULTANCY EXPOSURE
- INDUSTRIAL TIE UP's

Legacy or the reputation building is a continuous process and all the staff including College Management, Administrative Officials and Technical staff along with Students needs to participate and create an environment of EXCELLENCE and EFFICIENCY, implementation of the <u>Right Technology Backed With The</u> <u>Innovative & Thoroughly Researched Content Supported by a System & Faculty To Deliver That Content</u> are the key factors for the college to became technology incubator for the Generation of Industry ready professionals & hows a greater acceptance in the today's industrial accession.

IDSPL AS TECHNOLOGY PARTNER

We would like to introduce curselves as IDEAS DISIGN SOLUTIONS (P) LTD a leading Solution Provider company of cutting edge technologies in the area of CAD/CAE/CFD/CAM for Mechanical Engineering and related streams. We are the preferred and exclusive Value Added Partners for <u>DASSAULT SYSTEMES</u> <u>SOLUMORES CORPORATION</u> world leading 3D MEAD ontware Solution Company. We help engineering colleges with IOPTWARED / TRAININGS / <u>PROJECTS / CERTIFICATIONS / PLACEMENTS</u> to generate industry employable manpower and add value to the overall teaching and delivery by the virtue of our

- > 34 years of rich experience in implementing technology in the industry & colleges.
- > Best technical tears in business & Best Infrastructure in India Award (from SolidWorks, USA)
- > Our understanding of diversified industrial application of technology.
- > More than 450 direct industrial Client base

This Software Bundle & Training Content is designed keeping in view the requirements of today's industry and to-

- Inculate industry ready skills in the students thereby to generate a Qualitative and industry stable man power.
- > Bridge the gap between the industry and Technical Institutes hence creating better job placements for the technical margower.

i source you best of our services and implementation support by the continuous improvement in our training programs, infrastructure and the understanding of technology.

l	SOLIDWORKS EDUCAT	ION SOFTWARE BUNDLE DETAILS	
•	SOLIDWORKS* 3D CAD (Mechanical & Electrical Design)	SOUDWORKS SIMULATION PREMIUM (FEA & FEM)	
	o Part Modeling o Surface Modeling o Assembly Modeling o Sheet Metal o Weldments o Routing o Mold Design o Photoxiew 360 o SolidWorks Toolbox o SolidWorks Toolbox o SolidWorks Toolbox o SolidWorks Toolbox o Forwings Professional o FeatureMorks	o includes linear stress o Displacement o Parts & Assemblies o Gap/Contact Analysis o Frequency & Buckling o Thermal analysis o Fattgue analysis o Fattgue analysis o Drop Test o Optimization o FEA translators o Advanced Dynamics o Nonlinear	
•	o Simulates the Mechanical operations o Simulates the Mechanical operations o Power Consumption o Interference between moving parts	SOLIDWORKS PLASTICS o. Fill, Pack, Cool, Warp Analysis o. Mesh Insprovements o. Nominal Wall Thickness Advisor o. Sominal Wall Thickness Advisor	

- SOLIDWORKS FLOW SIMULATION (CFD with HVAC & ECS)

 - o Laminar and Turbulent Flows o Internal and External flow o Compressible and Incompressible Flows o Heat Transfer o Mixing of Fluids o Surface to Surface and Solar Radiation
- o Venting Analysis
- SOUDWORKS SUSTAINABILITY (LCA)
- o Intuitive LCA Tool o Envirormental Impact Dashboard o Baseline Measurement o Find Similar Material

PRICE QUOTATION

DESCRIPTION	TYPE OF LICENSES	PRICE In INR
SelidWorks Education Edition Private career Latest Version (2018-19) (PERPETUAL LICENSING)	1.) SolidWorks Education Edition Private camer (Upto 05 Ucenses)	7,15,000 /- (Seven Lacs Fifteen Thousand Only)
SOLIDWORKS CAD COMMERCIAL LICENSE	2) SolidWorks Standard for Consultancy/Commercial purpose (1 License)	3,10,000 /- (Three Lacs Ten Thousand Oxiy)
GST @ 18% willbe	charged extra or as applicable at the time	of involcing
	This Bundle Includes	
➢ FACULTY TRAINING PRO	SRAM	
> ONLINE & OFFSITE TECH	INICAL SUPPORT.	
> 1 YEAR UPGRADE		
> FREE CSWA Certificatio	ns (Worth 100 \$ each) for Trainees.	
> SOFT COPY OF COMPLE	TE STUDY MATERIAL & TEACHING MATER	INI.

TERMS AND CONDITIONS

1. DELIVERY: Delivery within three to four weeks of the release of the purchase order along with the payment.

2. TAXES: GST (# 18% will be charged exce or a applicable at the time of Investment
3. VAUDITY: Quote is valid up to 15 February 2019.
4. PAYMENT TERMS: As per the university/Institution norms.
5. OUR BILLING ADDRESS: We bill from Chandigarh, so the order has to be placed to IDEAS DESIGN SOLUTIONS (P) LTD, SCO: 41, Second Floor, Sector 31-0,Chandigarh- 160030.

Thanking You in Anticipation Best Regards, Richa

2121/2019 Gmail - Pwt: Proposal Autodeals M Gmail Kanal Agricultural implements manufacturers association stamo.2009@gmail.ows> Fwd: Proposal_Autodesk 1 monarage Tuo, Feb 5, 2010 at 3:37 PM rani gulari kravigulon@gmail.czes» Teckaina.2003@gmail.com

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	Item	Oty	Unit Price	Total(INR)
	Autodesk			
1	AutoCAD - including special and toolsets AD Commercial New Single-user ELD Annual Subscription	Ŕ	67,600,00	67,600.05
	Terms and Conditions		Subtotal	F 67,600.00
	Taxes : Guoted Price are enclusive of SOST/COSTAGST and will be charged as applicable		GIST (18%)	F12,165.00
	Price Validity: Guoded crice are valid for 5 Days Only		Total	1 79,768.00
	Order Placement : In the name of WROFFY TECHNOLOGIES PRIVATE LIMITED.			
	Poyneet Terres : 10316 Advance Along with the Approved Order, interest Charges (§ 2/13 PM will be applicable for delayed poyneers. And INP. 1000 Will be charged for dishosored Chequit			
	Support and Warranty : As per the OEM			
	Gompany GST number : 06AACC/W11278120			
	Poyment Datalis Assount Name : Worky Taster Asgins Private Limited Assount no. : 2010(1354143 IFBC : INDROCOP43			

Feel they to revent me back in case of any technical commercials clarification.

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Email - Pwt: Proposal_Autodeak

KADBA is going to open Coteneor Facility Center in Sec. 3 HSTEDC for the facilitation _development of our Agriculture Indement Industry with the aid of State Sovermoent. For that purpose we used to open small CAD center for giving education to sor employees/ shall for better understanding of broduct Redel and Detailing.

software to be installed there addressing " KARIVAL AGRECULTURAL LINVEMENTS MANUFACTURERS ASSOCIATION"

so please give me your best Quote for the AUTO Cod software so that we converse further in future.

Thenks

Repords

Rovi Guleri

9896376109



Manufacturer & Exporter of EOT Cranes, Hoist & Elevators, Safetrack DSL System. Vill. Tibba, Dehlon Road, Sahnewal, Ludhiana. Email:- <u>Info@grcranes.com</u> M:++91-9814085890, 0161-2545515

Ref No. (DH/GRC/2018-19/76989

M/s: KAIMA CFC 356, Sec-3, HSUDC, KARNAL Emað – <u>kalma 2003@gmail.com</u> M:-+91-7206061117

Kind Attn. Mr. BHAVUK MEHTA(Gen Secy)

SUB: EOT Cranes

Dear Sir,

We take immense pleasure to introduce GR Cranes & Elevators as leading mark of Quality in the field of E.O.T. Cranes, Galiath Cranes, H.O.T. Cranes & Haists & Elevators all across the world. As a leader in our country, we have dedicated ourselves to achieve the ultimate in excellence in our products & services. We are in this industry since and we manufacture cranes as per IS 807, 3177 & 4137 standards which assure the best quality of the product.

We manufacture E.O.T. Cranes, Goliath Cranes, H.O.T. Granes & Hoists & Elevator & Industrial Elevator to suit the Customer's requirements all across the world. We have huge number of satisfied customers in across INDIA and in 10 countries abroad, which include different types of industries like Steel Plants, Sugar mills, Pipe mills, Power Plants, Rolling Mills, Paper mills, Heavy fabrication Industries & Allied industries.

We provide end to end Solutions right from the design of the product to maintenance of your Oranes and we lead the industry by Innovation.

Thanking you and assuring you of our best of services & co @ operation.

You're Trully Far GR Cranes & Elevators

10164112 Charanilt Singh Sidhu

Charanpt Singh Sidhu (Managing Director) M:+91-9814085890

Dote - 28/01/2019



Manufacturer & Exporter of EOT Cranes, Hoist & Elevators, Safetrack DSL System. Vill. Tibba, Dehlon Road, Sahnewal, Ludhiana. Email:- <u>Info@grcranes.com</u> M:++91-9814085890, 0161-2545515

Ref No. (DH/GRC/2018-19/76989

M/s: KAIMA CFC 356, Sec-3, HSHDC, KARNAL Emað - <u>kalma, 2003@gmail.com</u> M:-+91-7206051117

Kind Attn. Mr. BHAVUK MEHTA(Gen Secy)

SUB: EOT Cranes

Dear Sir,

We thank you very much for your inquiry and contacting us regarding your requirement of EOT crane for your new plant. We are enclosing herewith followings for your consideration.

- Of Commercial terms & conditions of sale
- 02. Technical specification of EOT crones
- 03. List of customers.

Hope you will find the same in order. Please feel free to contact undersign if any clarification require.

Thanking you

You're Trully

For GR Cranes & Elevators

5100 6px 102

Charanjit Singh Sidhu (Managing Director) M:-+91-9814085890

Date :- 28/01/2019



Manufacturer & Exporter of EOT Cranes, Hoist & Elevators, Safetrack DSL System. Vill. Tibba, Dehlon Road, Sahnewal, Ludhiana. Email:- <u>Info@grcranes.com</u> M:++91-9814085890, 0161-2545515

COM	MERICIAL TERMS &	CONDITIONS OF SALE	PROJECT -735					
M/s.	KAUMA CFC							
PRIC	E SCHELUDED :-							
SrA	lo Items Descript	Items Description						
01	Design, Supply SINGLE GIRDER Cap 3 Tao x Sp with "GR" mai	Design, Supply Of System SINGLE GIRDER EDT Crane Cap 3 Too x Span 10 Mitr x Lift 6 Mitr with "GR" make Ware Rope Hoist with VVFD DRIVE						
02	DSL Shrouted	Conductor System (15 Mtr)	Rs. 21,000.00 Each					
.03	Erection & Can	nmissioning	Rs. 35,000.00 Each					
04	Supporting stri No of Column	Supporting structure for Gantry Rail (ISM8 – 300MM, 5Q-40 MM) No of Column -8 Nas (ISMC – 250 MM) (Approx. Wt. 6500 Kgs)						
05	Civil Works		Rs. 1,80,000.00					
COM	MERCIAL TERMS / 0	CONDITIONS:	1					
01	Price	Ex Works - Ludhiona.						
02	Freight	Extra as actual						
0.3	P&F	3% Extra						
04	GST	18% Extra						
05	Payment Terms	40 % advance along with order 60 % against Performa involce.						
05	Delivery period	Within 6 - 8 Weeks from the date of receipt of your order Along with Advance & approval of drawings.						
07	Validity	15 days from the date of offer.						
08	Warrantee	1 Year from the date of bill.						

Thanking you

You're Trully

For GR Cromes & Elevators

STAT 16 4 855 Charanult Singh Sidhu

(Managing Director) M:-+91-9814085890



Type

GR CRANES & ELEVATORS

Manufacturer & Exporter of EOT Cranes, Hoist & Elevators, Safettack DSL System. Vill. Tibba, Dehlon Road, Sahnewal, Ludhiana. Email:- <u>Info@grcranes.com</u> M:++91-9814085890.0161-2545515

TECHNICAL SPECIFICATIONS Project - 739 DOUBLE GIRDER EOT CRANE " GR " Sr No Make 01 Manufactured by GR Crane & Elevator 02 Address Works VIII Tibba , Sahoewal - Delhon Road , Sahnewal Palki Restaurant Complex, Opp. Industrial Estate, Link Road, Office Luamiana. 03 3 TOW Cap of crane 04 SWL 3 TON TYPE DOUBLE GIRDER EOT CRANE 05 06 CLASS II (As Per IS 13834) 15 3177.1999,15 80715 2062 15 Standard 07 IS 3938.1983 IS 875, BS 2573 68 Span 10 MTR 6 MU 09 ίŋη, 10 Application induor Application Electric Operated 11 Operation 12 Speed (MPM) 2.5 MPM Main Noist Micro speed 10 MPM Cross Travel Micro speed Long Travel 15 MPM Micro Speed Wire Rope Lisha Martin 13 Chin 12 MM 6*36 Const No of Falls 2 Falls Motor Td. 5-4 Crune duty Type IP-44/IP-54 Protection / insulation No of starts / hour 250 Crompton / Siemens / ABB OR Any Reputed Make Motor Make Main Hoist 5 110 Cross Travel THP Long Travel I HP x 2 Nos Brakes 15 Main Haist Electromagnetic Disc Type Brake Wheel EN-9 16 Materia/ 250 -300 BHW Cross Travel 4 x 154 MM Long Travel 4 x 200 MM 17 Rail size Long Travel Provided Bearing Provided 18 Make Provided



Manufacturer & Exporter of EOT Cranes, Hoist & Elevators, Safetrack DSL System. Vill. Tibba, Dehlon Road, Sahnewal, Ludhiana. Email:- <u>Info@grcranes.com</u> M:++91-9814085890, 0161-2545515

19	Bearing Black	EN-16min_CR-5 (Alloy steet)
20	Construction	Cast iron / steel or Mild steel
	Pulley	Seamless steel pipe ASTM-105 Grade -8 & A
	Rope dram	Less than 40 db
	Gear & pinions	
	Input pinions	PVC ARM, 3c x 1.5 Sq mm
	Noise Level	1.5 Sg mm
22	Cable	0.75 mm
	Rigid	Heavy duty
	Flexible	
	Control	GR Moke
22	Gear Boxes	Grease / Oil
23	Type of Lubricant	+/- 415 Volts
24	Power supply	Rubber stopper
2014	Stopper Type	4 Nos.
	No	Provided
25	End Stops	24 / 110 volts
	Control Voltage	As per IS 807 / IS 3177/ S 800 Std. Beams of M.S. Rolled sections
24	Derife a	bonen to end camages.
20	Bridge	Provided with be provided in one state.
	End Camages	Box type in construction & Fabricated from Johnd sections
28	C.T. Wheels	4 nos. straight freaded type: EN 8 forged steel double flanged
29	Hook	As per IS 8610/15 3815 made from forged steel C 20, C30 or equivalent. It is collar or shank type in construction with safety latch
310	Panel	Mounted on hoist totally enclosed with IP 55 protections consisting of control transformers, isolators master contactors for main ON/DFF, MCCB contactors and overload relays for all motors.(Control Panel)
32	Operator Training	Crane aperator will trained for satisfactory operation & maintenance of cranes and hoist by our engineer at site.
32	Workman ship	All work will be completed in accordance with best modern shop practice in the m(g of high grade equipment
33	Test Certificate	Test certificate for performance / load test will be issued
24		

For Gilt Cranes & Elevators

STATALLAS

Charanyit Singh Sidhu (Managing Director) M:-+91-9814085890

Jo Farual notation Amount (₹) S. No. Particulars Earthing Electrode a 3000 (Carl enscal NOTE: g.S.T Extra 18.1. · Jaleour charges 2500 of each earthing will lee charged extra. Payment wash. (CK BIRLA GROUP

Our offices

Ahmedabad

2nd Floor, Shivalik Ishaan Near CN Vidhyalaya, Ambawadi, Ahmedabad - 380 015 Tel: + 91 79 6608 3800 Fax: + 91 79 6608 3900

Bengaluru

"UB City", Canberra Block 12th & 13th floor No.24, Vittal Mallya Road Bengaluru - 560 001 Tel: +91 80 4027 5000, +91 80 6727 5000 Fax: +91 80 2210 6000 Fax: +91 80 2224 0695

Chandigarh

1st Floor, SCO: 166-167 Ernst & Young Pvt. Ltd. Sector 9-C, Madhya Marg, Chandigarh, Punjab 160009 Tel: +91 172 6717800 Fax: +91 172 6717888

Chennai

TPL House, 2nd floor No 3, Cenotaph Road Teynampet Chennai - 600 018 Tel: + 91 44 4219 4400 + 91 44 6632 8400 Fax: + 91 44 2431 1450

Hyderabad

205, 2nd floor Ashoka Bhoopal Chambers Sardar Patel Road Secunderabad - 500 003 Tel: + 91 40 6627 4000 Fax: + 91 40 2789 8851

Oval Office, 18, iLabs Centre, Hitech City, Madhapur, Hyderabad - 500081 Tel: +91 40 6736 2000 Fax: +91 40 6736 2200

Kochi

9th Floor, Abad Nucleus NH-49, Maradu PO Kochi, Kerala 682304, India Tel: + 91 484-3044000 Fax: + 91 484 2705393

Ahmedabad

2nd Floor, Shivalik Ishaan Near CN Vidhyalaya, Ambawadi,

Kolkata

22, Camac Street Block 'C', 3rd floor Kolkata - 700 016 Tel: + 91 33 6615 3400 Fax: + 91 33 2281 7750

Mumbai

6th floor & 18th floor Express Towers Nariman Point Mumbai - 400 021 Tel: + 91 22 6657 9200 (6th floor) + 91 22 6665 5000 (18th floor) Fax: + 91 22 22876401 (6th floor) + 91 22 2282 6000 (18th floor)

Block B-2, 5th Floor, Nirlon Knowledge Park, Off Western Express Highway, Goregaon (E), Mumbai - 400 063 Tel: +91 22 6749 8000 Fax: +91 22 6749 8200

15th Floor, The Ruby, 29, Senapati Bapat Marg, Dadar (W), Mumbai - 400 028, India Tel: +91 22 6192 000

NCR

Golf View Corporate Tower - B Near DLF Golf Course Sector 42 Gurgaon - 122002 Tel: + 91 124 464 4000 Fax: + 91 124 464 4050

6th floor, HT House 18-20 Kasturba Gandhi Marg New Delhi - 110 001 Tel: + 91 11 4363 3000 Fax: + 91 11 4363 3200

4th and 5th Floor, Plot No. 2B, Tower 2, Sector 126, NOIDA - 201 304 Gautam Budh Nagar, UP, India Tel: +91 120 671 7000 Fax: _91 120 671 7171

Pune

C-401, 4th floor Panchshil Tech Park Yerwada (Near Don Bosco School) Pune - 411 006 Tel: + 91 20 6603 6000 Fax: + 91 20 6601 5900

Kolkata

22, Camac Street Block 'C', 3rd floor Kolkata - 700 016 of 181 Tel: + 91 33 6615 3400
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ED 0515

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