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E R U M A T H A L A P O S T

A L U V A

E R N A K U L A M D I S T R I C T

K E R A L A

PROPOSAL FOR SETTING UP OF A COMMON FACILITY CENTRE UNDER SMALL INDUSTRIES CLUSTER DEVELOPMENT PROGRAMME SCHEME OF OFFICE OF DC (SSI)

UNDER THE TECHNICAL GUIDANCE OF NTTF TECHNICAL TRAINING CENTRE, NETTUR P.O, TELLICHERRY.

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EXECUTIVE SUMMARY

a. **Industrial Department of Kerala State Government** has identified the plastic cluster at Ernakulam under cluster development programme and approved as **SIDO cluster**. There are 108 tiny and small scale plastic industrial units functioning in Ernakulam district under SSI sector. In this Cluster Development Programme presently 11 small scale plastic based industries in Ernakulam District have formed a consortium under the name and style of **M/S. ALUVA PLASTIC CONSORTIUM PVT. LTD.** The remaining plastic industrial units will become a member of this consortium immediately. The Diagnostic Study conducted on this Cluster will found some major issues and recommend certain solutions. The immediate requirements of this cluster is **a common facility centre for mould making, mould repairing, machinery repairing, machinery spare parts manufacturing, injection moulding etc.** which will benefit the units by way of improving the quality of the products, product differentiation, production cost reduction etc. Thus this CFC will improve the performance of this plastic cluster in total.

b. As per the direction of small industries service institute, Ayyanthole P.O., Thrissur, Kerala the consortium approached **NTTF technical training centre**, Tellicherry which is the competent organisation in die and mould engineering. This report is prepared under the technical guidance of NTTF.

c. The total project cost is estimated to be Rs. 460 lakhs of which 70% of fixed capital Rs.315 lakhs can be obtained as grant from Government of India under **'Small Industries Cluster Development Programme'** scheme, Rs. 92 lakhs from govt of Kerala and balance Rs. 53 lakhs is to be shared by the beneficiaries and stake holders. The projected performance of this common facility centre for the first eight years of operation is appended. The unit will generate profit from the first year of operation. The project is technically feasible and overall economics of the project is very attractive.

d. The active support for the project from the **industrial department of Kerala** in the form of implementing agency will benefit the plastic based industries at Ernakulam District and especially those in consortium.

e. The consortium will provide the necessary land and building for setting up this common facility centre as their contribution and execute necessary agreements and undertakings with the implementing agency - Industrial Department of Kerala.

f. The day to day operating expense of the common facility centre in terms of electricity charges, labour charges etc. will be borne by the consortium and the required periodic maintenance, modernisation etc. will be met by the **corpus fund** raised from the profit of the common facility centre.

g. The consortium will appoint necessary technical experts and skilled labours for running the common facility centre.

SECTION - I INTRODUCTION

BACKGROUND

Industry Status

There are 108 tiny and small scale plastic industrial units functioning in Ernakulam district under SSI sector. The capital investment of these industries vary from 5 to 350 lakhs. Total turn over per annum is about Rs. 380 Crores. Plastic industry in Ernakulam District is creating employment opportunities directly to 1500 persons and indirectly to 700 persons. The power requirement per each unit is around 30 to 150 HP.

Presently around eleven small scale plastic based industries have formed a consortium under the name and style of **'Aluva Plastic Consortium Pvt. Ltd.'** The remaining units will become the members of this consortium immediately.

Major Issues and Immediate Solution

Dies are moulds are fabricated to give desired shape to molten mass. Most of the units in this cluster are using moulds for making products. Moulds are necessary for making new products. Production mould are usually made from steel for the usual high pressure moulding that requires heating or cooling channels, strength to resist the forming forces, and wear resistance to withstand the wear of plastics, particularly that which has glass or other abrasive fillers. Now these units are making moulds out side Kerala. Besides the mould makers are duplicating these moulds and there-by-there interests are not protected. More than that the lead-time required for mould making is very high and time required for mould repair is also very high. For encountering these difficulties it is better to start a common centre for making and repairing moulds.

Presently there is no facility for repairing machinery and supporting equipments in this cluster. The units have to spend huge amount and time for repairing machineries. Most of the spare parts are brought from North India at higher cost because of middle men. The lead time required for getting spare parts such as screw barrel, nozzles, die clamp, cylinders, gear boxes etc. are very high. There by the machineries have to be shut down for more days and production of the unit is suffered. By providing a common facility centre the cost and time required for maintenance of machineries can be reduced drastically.

Most of the member industries in the consortium group are small and tiny. They are not in a position to install latest micro processor control injection moulding machine suitable for meeting big orders. By installing a micro processor controlled injection moulding machine these units can meet big orders.

In this context the consortium decided to establish a centralised common facility centre to over come above problems.

Benefits for members.

The consortium members can utilise this common facility centre for making moulds and there by they can produce fresh items in their units and this will help

to increase their market potential. This will also help to compete with manufacturers of other states such as Maharastra, Gujrat, Delhi etc.

The injection moulding machine installed in the common facility centre can be utilized by the members in order to cater bulk orders. This common facility centre render the services on the basis of engineering hours.

This common facility centre will ultimately help the plastic industries in Ernakulam District to increase it's productivity, improve quality, improve capacity utilisation, improve marketing etc. In other words these small scale industries can produce bulk quality products at competitive rate.

Modus of operant

The common facility centre provide mold making, mould repair, machinery maintenance, and injection moulding services to members on hourly basis. It charge a nominal amount for meeting operational expenses and making corpus fund for future modernisation, up gradation and sustenance of the plant. If there is any additional spare time available in the centre can be offered to other industrial clusters such as rubber cluster, plywood cluster, rice cluster etc. Thus maximum capacity utilisation can be achieved.

The raw material required for making moulds, repairing moulds, repairing machineries etc. will be provided by the individual units. So there is no need of heavy working capital for maintaining inventory.

The technical experts in the common facility centre will give the technical specification of the material is to be purchased for making moulds and repairing machineries. They also give the details of quality raw material suppliers.

The micro processor controlled injection moulding machine installed in the CFC will help the member units for meeting orders (Export orders) which requires high quality and good appearance.

SECTION - II

TECHNICAL ASPECTS

The word "tooling" refers to hard ware necessary to produce a particular product. A considerable amount of tooling is the result of work performed by the tool designer. Tooling, as viewed by the tool designer, consist of a vast array of cutting devices, jigs, fixtures dies, gauges, etc., used in normal production. The type of production will determine to a large extent the type of tooling. The most common classification of types of tooling is as follows:

1. Cutting tools, such as drills, reamers, milling cutters, broachers, and taps.
2. Jigs and fixtures for guiding the tool and holding the work piece.
3. Gauges and measuring instruments.
4. Sheet-metal press working dies for all types of sheet-metal fabrication.
5. Dies for plastic moulding die casting, permanent moulding, and investment casting.
6. Forging dies for hot and cold forging, upsetting, extrusion, and cold finishing.

A Competent mould designer must have a through knowledge of the principles of mould making as the design of the various parts of the mould depends on the technique adopted for this manufacture.

The majority of moulds are manufactured by the use of conventional machine tools found in most modern tool rooms. From the manufacturing view point we classify the mould into two parts (i) the cavity and core, and (ii) the remainder of the mould. The later part is commonly referred to as bolster work.

The work on the cavity and core is by far the most important as it is from these members that the plastics moulding takes its form.

The moulding parts for the simple form are produced on such machine tools as the lathe and the milling machine, where as the more complex form requires the use of some kind of copying machine.

MACHINE TOOLS

The purpose of any machine tool is to remove metal. Each machine tool removes metal in a different way. Which machine tool is to be used for a particular job depends to a large extent upon the type of machining required.

The machine tools which will be found in the modern tool room are as follows:

(i) Lathes for turning, boring and screw cutting, etc.
(ii) Cylindrical grinding machines for the production of precision cylindrical surfaces.
(iii) Shaping and planning machines for the reduction of steel blocks and plates to the required thickness and for squiring up these plates.

(iv) Surface grinding machines for the production of precision flat surfaces.
(v) Milling machines for the rapid removal of metal, for machining slots, recesses, boring holes, machining splints, etc.
(vi) Tracer-controlled milling machines for the accurate reproduction of complex cavity and core forms.

In addition to the above list of major machine tools there is, of course, ancillary equipment without which no tool room would be complete. This includes power saws, drilling machines, tool post grinders, hardening and polishing facilities, etc.

Lathe.

The primary purpose of the lathe is to machine cylindrical forms. Rotating the work with respect to a single-point cutting tool generates the contour. For machining the out side surface, the cutter is moved parallel to the axis of rotation. This operation is called turning. Alternatively, metal may be removed from the inside of the work in which case the operation is called boring. When the tool is moved across the face of the work it is called facing. The lathe is extremely versatile and is used for making a large variety of mould parts. For example, guide pillars, guide bushes, circular support blocks, ejector rods, ejector rod bushes, push back pins, etc, are all manufactured on the lathe. In addition to this bolster work the cavity and core are also produced on a lathe if the moulding form is cylindrical. Turning is a relatively fast machining operation and for this reason moulds for circular components are cheaper to produce than corresponding moulds for components of any other form.

Internal and external thread forms are also easily generated. In these cases it is necessary to make some allowance for the plastic material shrinkage on the mould thread pitch (i.e. the mould thread pitch must be machined slightly larger than required to allow for the material shrinkage on cooling).

Cylindrical Grinding Machine.

This machine tool is use for precision grinding cylindrical mould parts. Metal is removed by the action of a rotating abrasive grinding wheel, which is brought into contact with a contra-rotating work piece. The axes of both the grinding wheel and the work piece are parallel for normal operation.

An important feature of the grinding machine is that it can cut hardened metal. This characteristic, together with the close tolerances and the high surface finish obtainable, makes this machine tool an essential piece of tool room equipment.

In normal grinding of cylindrical parts, the wheel slide is adjusted forward until the rotating grinding wheel just contact the contra rotating work piece. Further forward movement of the wheel slide sets the depth of cut. The table is then caused to reciprocate, thereby grinding the outside surface of the work piece over a preset distance. This operation is repeated and the depth of cut progressively increased until the required diameter on the work piece is obtained.

Shaping and Planning Machines.

A mould normally includes a number of steel plates suitably secured together. Each of these plates must have parallel faces and, ideally, the four sides should be square. Now, as the primary purpose of a shaping machine is to produce flat surfaces, this machine tool is used in the initial preparation of mould blocks.

Surface Grinding machine.

The surface-grinding machine performs a similar function for flat surfaces, and grinding normally follows the shaping or planning operation. An excellent surface finish combined with accuracy can be achieved on hard or soft steel with this machine tool.

Milling Machine

Milling is a metal is removed from a work piece by a rotating milling cutter. The work piece can be moved in three directions at right angles to each other, with respect to the cutter. The three directions are longitudinal, transverse and vertical respectively. There are two basic types of milling machine. In one the axis of the cutter is perpendicular to the surface of the work piece and this is called a horizontal milling machine. Both types are used extensively in the manufacture of various parts of the mould.

Spark Machine

This is one of the more recent additions to mould making methods and strictly speaking, it should come under the machine tool section. However, as the principle of operation is different from that of all other basic machine tools it is preferable to discuss this technique separately.

Spark machining is a process in which steel, or other metals, can be machined by the application of an electrical discharge spark. The spark is localized and metal is progressively removed in small quantities over a period of time.

Hardened steel can be machined by this technique so that intricately shaped hardened cavities (which might be impracticable by conventional machine-tool methods because of possible distortion during hardening) can be formed.

Spark machine finds many applications in the repairing and modifications of hardened cavities and core. For instance, a small pocket can be machined in to the mould plate and a suitable insert fitted, which saves the necessity of softening the mould plate with the possibility of distortion, etc.

The major limitation of the process is that several tools are required to produce one cavity. If the cavity form is complex, the cost of machining these tools may make the use of this technique uneconomic.

Bench Fitting.

Irrespective of the tool or technique used to manufacture the various parts of mould, the final responsibility for the finishing of the individual parts and for fitting them together lies with the bench fitter. The mould finishing and assembly procedure adopted by the bench fitter varies from tool room to tool room and quite often between individual toolmakers working in the same tool room; it is there for impossible to set down a standard pattern for the work. The various stages in the bench fitting involved manufacture of a simple mould.

Stage 1 Finishing the Impression

When the mould plates are received from the machine tool section, the impression form (on both plates) is in the rough machined state. Cutter marks, burrs etc, are varying apparent on the surface. The bench fitter's first job is to produce a cavity and core free of machine marks and to the shape and dimensions specified on the mould detail drawing.

Basic hand tools, such as files, scrapers and chisels, are used for this operation, various sizes, grades and shapes being used as and when applicable. In addition, where ever possible, power driven flexible shaft equipment is used to speed up this operation. This equipment incorporates various heads, which accommodate special needle files or scrapers. The heads can have a rotary or a reciprocating motion.

Once the cavity (or core) is free of machine marks the next stage is to remove the marks left by the final and the scraper. This is achieved by one or more of several techniques depending on the shape of the cavity.

Stage 2 Aligning Cavity and Core

Once the cavity and core have been semi-finished, the next operation is to align the two parts with respect to each other so that the moulding produced will have the correct wall section. This is achieved by using packing pieces between the cavity and core. The two mould plates are clamped together and returned to the milling or jig-boring machine to have guide holes bored through both plates. When this operation is complete, the clamps are removed, the mould plates separated and the guide pillars and guide bushes fitted. The two mould plates are again brought together and checked to ensure that the core is an alignment with the cavity. A dummy moulding is often made at this stage, using wax, so that the wall section of the product can be checked. Any slight inaccuracies need to be corrected, of course.

Stage 3 Bedding Down

The next stage is to bed down the two mould halves. This is the process of ‘marrying’ the two opposing mould halves together to prevent the plastic material escaping between the two surfaces when the material is injected into the impression. Basically the process of bedding-down is simple. One surface is given a very fine coating of toolmakers blue. The two plates are then momentarily brought together and where there are high spot on the second mould plate blue will be picked up. Scraping and filing remove these high spots. This procedure is repeated until an even film of blue is transferred from one plate to other.

Stage 4 Water Cooling Circuit

The holes drilled for the water circulation in the mould plate are tapped and plugs, baffles, or connectors fitted as appropriate. The circuit is checked to ensure that the flow is unidirectional and that no leakage occurs.

Stage 5 Fitting Ejector System

(a) The holes to accommodate the ejector pins and push back pins are markedout on the mould plate and subsequently bored and reamed.
(b) The retaining plate is normally clamped in position below the mould plate.The ejector holes, etc, are spotted through to this plate.
(c) The remaining plate is drilled and counter board to accommodate the ejector pins and push-back pins. The ejector plate and retaining plate are marked out, drilled, counter board, and tapped where appropriate to permit the two plates to be held rigidly together by socket-headed screws. Assembled the ejector plate assembly.
(d) The ejection half of mould consisting of the mould plate, support blocks and back plate are marked out according to the mould detail drawing, drilled, counter bored and tapped where specified. The entire moving half of the mould isassembled.

Stage 6 **Fitting Sprue bush and register ring**

Turning to the fixed mould half, the square bush and the register ring are located and fitted. Clamping holes are marked out drilled and tapped.

Stage 7 **Polishing, Hardening and Try-out.**

The mould is disassembled and the cavity and core form polished. All parts which require heat treatment are sent for hardening. When this operation is complete the mould is reassembled and the cavity and core form given a final polish. The mould is then sent for try-out on an injection machine to produce a sample moulding. This is checked and, if necessary adjustments are made. The mould is ready for production.

SECTION - III LAND AND BUILDING

LAND :

The common facility centre is proposed to set up in 75 Cents of land in survey number 177/1Pt Aluva East Village, Aluva Taluk, Ernakulam District. The cost of Land for common facility centre is Rs. 7.50 Lakhs including land developments.

TECHNICAL CIVIL WORK :

The proposed factory and office building have a total plinth area of 900 Sq.Mtrs. required for common facility centre. All the heavy machineries are installed in the ground floor and the designing centre, office, stores etc are established in the first floor. The total construction cost of the proposed technical civil work is Rs. 37.50 lakhs.

The ground floor is divided in to two sections

1. Engineering Section

2. Injection Moulding Section

The consortium will provide this land and building as their contribution. The consortium will execute necessary agreements and undertakings with the implementing agency.

SECTION - IV PLANT AND MACHINERY

A plant is a place where men, material, money, equipment, machineries etc. are brought together for manufacturing products. Today in modern industry equipment and machineries are very important part of the total production effort than the case years ago.

The following machineries are required.

1. High speed precision lathe straight bed,with center height minimum250 mm
2. All graded heavy duty precision lathe(Centre ht 400 mm).
3. Radial drilling machine, Drilling cap. 50 mm dia
4. Pillar type drilling machine, Drilling cap.40 mm.
5. Heavy duty vertical milling machine, 1600x300 (1 No)
6. Turret milling machine with DRO 250x1200
7. Surface grinding machine Surface capacity 700 x 1020
8. Surface grinding machine 250 x 500
9. Cylindrical grinding machine with Center height 150 mm
10 Air Conditioner split type 1.5 ton capacity –Total 4 Nos.
11. Heavy Duty Air Compressor
12. Electrically operated Staker
13. CAD, CAM Software- Master CAM/Solid worked /AutoCAD
14. Gas Cutting Set
15. EOT Crane –2 Nos.
16. Horizontal Metal Cutting Band Saw-175 mm round
17. EDM Tank Capacity 1750 x 650
18. CNC Wire Cut Machine work piece size 730 x 500 x 300
19. CNC Heavy Duty Vertical Milling M/c (1600x810x700)
20. CNC Heavy Duty Vertical Milling M/c 1000x 510x610
21. Injection Moulding Machine 730 ton Capacity 1 No.
    (Including Chiller, Hopper & Drier)
22. Measuring Instruments & Tools.
23. Diesel Generator Set
24. Electrification-

The details are shown in Annexure II.

Supporting Equipment

The common facility center is in need of office equipment and computers.

The total proposed investment required for office furnishing and automations is shown in Annexure III.

SECTION - V MAN POWER REQUIREMENTS

The consortium will arrange necessary technical experts and skilled operators for running this common facility centre. The continuity of professionals and skilled workers are ensured by the consortium by conducting training programmes.

According to organisational structure envisaged for the common facility centre, General Managers will be in charge of functions of the unit. He looks after the production, and finance. There will be two Design Engineer, 30 machine operators, 5 tool makers, 3 maintenance staff, 5 skilled workers and 6 unskilled workers reporting to General Manager.

There will be 2 accountant in helping Managers in matters like accounting, book keeping, banking and other finance related affairs. There will be 3 Office Staff in charge of office matters.

In total there will be 57 persons including Manager employed in the unit. The monthly salary and benefits will come to Rs. 4,91,050/- shown in Annexure - VI.

SECTION - VI OTHER PROJECT DETAILS

A. UTILITIES :

1. Power :

Required power is available from Kerala State Electricity Board. The total connected load for common facility centre is 229.35K.W. The annual electric charge is Rs. 31.44 lakhs at fully capacity utilisation. Details are given in Annexure - IV. The consortium will pay this amount from the service charge obtained from its members.

B. MISCELLANEOUS EXPENSES :

These items includes repair and maintenance of building, plant and machineries, postage charges, cost of printing and stationary items, insurance charges. An amount of Rs.14.73 lakhs per annum has to be incurred towards for the smooth operation of the unit. The details of estimation are given in Annexure - VIII.

C. PRELIMINARY AND PRE-OPERATIVE EXPENSES :

These items include company registration, project report preparation, building design and drawing, technical consultancy fee etc. Thus the preliminary and pre operative expense required for implementing the proposed project is approximately Rs. 9.71 lakhs. The details of estimation are given in Annexure - IV.

SECTION - VII PROJECT PARTICULARS

PLANT CAPACITY AND CAPACITY UTILISATION

The common facility centre will provide around 20 hours service per day. Around 6000 engineering service hours are available from this tool room annually. Because of down time and other various reasons, the capacity may not be releasable and it is assumed that 65% of the capacity utilisation will be achieved during first year and 75% during second year 80% during third year and 85% capacity utilisation will be achieved, fourth year onwards.

Particulars	Qty in Hours	Rate Rs.	Ps.
1. Service Charge from High speed precision lathe straight bed,with center height minimum250 mm	5200		200
2. Service Charge from All graded heavy duty precision lathe	2500		150
3. Service Charge from Radial drilling machine, Drilling cap. 50 mm dia	3500		150
4. Service Charge from Pillar type drilling machine, Drilling cap.40 mm.	5000		300
5. Service Charge from Heavy duty vertical milling machine, 1600x300 (1 No)	4000		300
6. Service Charge from Turret milling machine with DRO 250x1200	4000		300
7. Service Charge from Surface grinding machine Surface capacity 700 x 1020	4500		350
8. Service Charge from Surface grinding machine 250 x 500	3500		200
9. Service Charge from Cylindrical grinding machine with Center height 150 mm	3000		350
10. Service Charge from Horizontal Metal Cutting Band Saw-175 mm round	3000		250
11. Service Charge from EDM Tank Capacity 1750 x 650	3500		350
12. Service Charge from CNC Wire Cut Machine work piece	3000		1500
13. Service Charge from CNC Heavy Duty Vertical Milling M/c (1600x810x700)	3000		2200
14. Service Charge from CNC Heavy Duty Vertical Milling M/c 1000x 510x610	4200		1200
15. Service Charge fromDesign Software	3000		264
16.Service Charge from Injection moulding machine	4500		1200

The details are shown in Annexure IX.

The individual units will bring mild steel, alloy steel etc. to the common facility centre. This proposed common facility centre will charge on hourly basis.

Cluster members can utilise this common facility centre for repair and maintenance of their existing moulds and machine parts.

Presently around 2500 moulds of worth Rs. 2000 Lakhs are used by the cluster members. Around 10 to 15 percentage of cost of mould is required every year for their maintenance and making of new moulds. That means this cluster all together spend around Rs.300 lakhs for purchase of new moulds and for repair and maintenance of existing moulds and machine parts. Now this cluster depends common facility centre in Mumbai and Pune for this work. By setting up a common facility centre the entire mould work of the cluster can be done. The injection moulding machine also can be utilized by the consortium members on hourly basis. So consortium members can meet bulk orders by using this common facility centre.

SECTION - VIII FINANCIAL ASPECTS

The estimated capital outlay of the project is Rs. 460 lakhs as shown in Annexure - X. The capital expenditure is proposed to be raised as the contribution of consortium to the extent of Rs. 53 lakhs in terms of land and building and the Grant from DCSSI under small industries cluster development programme for setting common facility centre is expected to Rs. 315.00 lakhs and from govt of Kerala is Rs. 92.00 lakhs.

I. Viability of the Project :

Assumption to Profitability Estimates :

The projected profitability of the unit is shown in Annexure XIII and are based upon the following assumptions.

1. The unit will be 20 engineering hours per day and the unit will work for 300 days in year.
2. The installed capacity of the unit is 6000 engineering service hours per year.
3. The capacity utilisation is at 65% first year, 75% during second year, 80% third year and 85% fourth year onwards.
4. The main utilities is power. The total power requirement is 229.35 K.W. The power charge is calculated considering the tariff fixed by KSEB.
5. Repairs & Maintenance is provided @ 2% on building and 3% on Plant & Machinery.
6. Details of computation of depreciation is attached as Annexure-XI & XII. Straight line method of depreciation is applied for project purpose. However, for income tax purpose, written down value method is applied for.
7. Administrative expenses is provided in the profitability estimate. It includes rates & taxes travelling expenses, postage telephone & telegram, printing & stationery, other office expenses etc.
8. Income tax is provided considering the rates applicable to private limited company. Computation of income tax is attached as Annexure - XIV.
9. A corpus fund is raised from the profit of the common facility centre.

Profitability estimates are furnished in Annexure - XIII According to this statement there is a profit of Rs. 36.12 lakhs in the first year of operation. The viability of the scheme is worked out taking into account, the operating results of the first eight years of operation. The projected cash flow statement is appended as Annexure - XV. As per cash flow statement there is cash surplus adequate to meet all the probable payments and debt servicing.

The internal rate of return of the project is 11% after tax which is computed in Annexure - XVIII.

Break even level of operation is computed in Annexure -XVIII. Operating BEP works out to 39.11% of the installed capacity and the cash BEP works out to 13.75% of installed capacity.

II. **Implimentation Period**

Phase I : Collection of all information, data, preparation of drawings and inviting quotations etc. A detailed schedule in terms of bar charts is prepared for implementing the project. This will be carried out within a period of three months.

Phase II : Actual implementation of the project. This will take at least 15 months as a supply period of the machines will take 10 to 11 months. Besides it will take around 6 to 7 months for land development and building construction. The tentative date of trial production will be August 2006 and commercial operation will be carried out within 30 days from the date of trial production.

SECTION - IX

CONCLUSION AND RECOMMENDATION

M/s. ALUVA PLASTIC CONSORTIUM PVT. LTD, Erumathala Post, Aluva, is planning to set up a common facility centre for mould making, mould repairing, machinery repairing, machinery spare parts manufacturing, injection moulding etc. under **Small Industries Cluster Development Programme** scheme. Presently about 11 industrial units in Ernakulam District have joined the consortium and remaining industries will join immediately. The proposed annual capacity of the unit is 6000 Engineering service hours for mould making and repair per year. The required technical knowhow for production is indigenously available.

The implementation agency for the proposed common facility centre is Government of Kerala (Industrial Department).

This common facility centre will be set up under the technical guidance of NTTF Technical Training Centre, Nettur, Tellicherry.

This common facility centre will not create any atmospheric pollution.

The estimated capital outlay of the project is Rs. 460 lakhs as is proposed to be financed as follows :

	(Rs. in Lakhs)
Contribution from consortium members	53.00
Grand from Govt of India	315.00
Grant from Govt of Kerala	92.00
	460.00

The projected profitability estimated of the unit for first 8 years are satisfactory. The unit is expected to make an average operating profit of 48.12 lakhs per annum for the first 8 years. The project is technically feasible and commercially viable.

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