Detailed Project Report

on

Electrical Maintenance Service Cooperative

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Summary

Fatehpur District is one of the 75 Districts in the state of Uttar Pradesh in Northern India. The district covers an area of 4,152 square Kms having total population of 26,32,733. The District is not too much technically developed and most of the parts of the District falls under rural and semi urban category. People are getting educated in the field of science and technology by various government schemes like Pradhan MantriKaushalVikasYojna etc. Today there is skilled Manpower available in abundance in the district but due to lack of infrastructure and employment opportunities, people of the district are searching employment in neighbouring districts.

The district receives sufficient power supply from Uttar Pradesh Power Corporation Ltd and people are using many electrical appliances in their homes for doing their day to day tasks.People of the district are almost addictive in keeping sufficient electrical appliances like Refrigerators, washing machines, Ovens etc. in their homes. But when these electrical appliances, which are latest and sophisticated in technology, get out of order due to overuse or improper use, people have to take them to the nearby districts for repair, as in their district less authorised electrical repair/ service centres are present and those which are present are charging high prices from customers for repair. Besides, they don't provide any warranty post repair. Thus large number of customer are unsatisfied from the service provided by them. There is urgent need for a technically sound and qualified Electric maintenance Service Cooperative in the District, which can cater to the needs of customers.

In view of above **ABC Cooperative Society of Fatehpur** wants to set up and establish an **Electrical Maintenance Service Cooperative** in the District having sole mission of providing Electrical Maintenance and Repair Service to Customers in the most prudent possible manner while ensuring and providing the best possible services.The Cooperative will operate in a fair, accountable and responsible manner demonstrating flexibility and futuristic Vision. The Cooperative will try its best possible ways to achieve its Goals/Objectives of providing professionally and technically sound repair/ maintenance service, with minimum disruptions to customers operations, during all the 24 hours x 7days a week of operation.

The ABC Cooperative Society of Fatehpur needs a loan of Rs.50 lakhs from NCDC for the above said purpose. The financial condition of ABC Cooperative Society of Fatehpur is very good and stable. The Cooperative is continuosly running in profit (making profit above Rs.50 crores on an average) during last seven years.

Over all the project is feasible both technically and financially. The Break even point of the project is 59% as the calculation done at page no. 16 of the DPR indicates. Even after meeting out all necessary expenditures, it will earn good sustainable and sufficient profit.

Introduction

Fatehpur District is one of the 75 Districts in the state of Uttar Pradesh in Northern India. The district covers an area of 4,152 square Kms having total population of 26,32,733. The District is not too much technically developed and most of the parts of the District falls under rural and semi urban category. People are getting educated in the field of science and technology by various government schemes like Pradhan Mantri Kaushal Vikas Yojna etc. Today there is skilled Manpower available in abundance in the district but due to lack of infrastructure and employment opportunities, people of the district are searching employment in neighbouring districts.

The district receives sufficient power supply from Uttar Pradesh Power Corporation Ltd and people are using many electrical appliances in their homes for doing their day to day tasks. People of the district are almost addictive in keeping sufficient electrical appliances like Refrigerators, washing machines, Ovens etc. in their homes. But when these electrical appliances, which are latest and sophisticated in technology, get out of order due to overuse or improper use, people have to take them to the nearby districts for repair, as in their district less authorised electrical repair/ service centres are present and those which are present are charging high prices from customers for repair. Besides, they don't provide any warranty post repair. Thus large number of customer are unsatisfied from the service provided by them. There is urgent need for a technically sound and qualified Electric maintenance Service Cooperative in the District, which can cater to the needs of customers.

In almost every home there are horde of appliances that practically remain in use throughout the day to provide us the comfort and easiness of life that we deserve. We are really grateful to these appliances which are necessity of every home. And if you are grateful to such appliances then you must care for them too. The breakdown of electrical domestic devices is inevitable as machines after long run tend to break down. At times they break down early due to misuse or over use. The electrical appliances like mixer/ grinder, Refrigerators, ACs, Geysers, water heater, fan, Iron, TV, water pumps, light fittings etc. are widely used in almost every house hold. The major manufacturers are Usha, Bajaj, Crompton, Onida, Videocon, LG etc. These electrical appliances do need periodic servicing, maintenance and repair actively. Though there are a number of authorized repair & servicing centers, provided by the authorized dealers network but still there is wide spread need of the Electrical Maintenance Service Cooperativeto cater the need of repair and servicing activity for these appliances specially in semi-urban and rural areas.

The Project and The Proposal

Electric maintenance Service Cooperative will be a service-oriented Cooperative to cater to the needs of the repair & servicing of Electrical Appliances.

Electrical items/ appliances need periodic servicing and repair requirement, therefore, there is a tremendous scope for the growth of these repair & servicing centers, specially in semi-urban and Rural Areas, which can be undertaken by the educated-unemployed youths of the area with a little skill development without much capital requirement.

Initially Cooperative premises will be on rental basis.

The raw material and tools required for repair and maintenance will be purchased from wholesale market from the nearby district of Kanpur as the transport facility between Fatehpur and Kanpur is very fast and abundant.

The skilled manpower i.e. Electricians and helpers will be hired from within the districts and also from whole state of Uttar Pradesh. But the preference will be given to the native residents of the district, as this will generate employment and also there will be less expenditure of the cooperative in the salary because the manpower is available in cheap rates in the district. If any specialized technical help is required the experts and consultants will be hired at National level also on call and requirement basis.

The Cooperative will utilize common testing facilities available at Electronics test & Development centre (ETDCs) and Electronics Regional Test Laboratories (ERTLs) and Regional Testing Centres (RTCs), ITI and Polytechnic labs available in the Fatehpur district as well as in Kanpur.

The 60% of the entire project cost will be beared by the ABC Cooperative Society of Fatehpur and remaining 35% will be arranged in the form of loans from various Financial Institutions like NCDC, Banks and other agencies

Production capacity has been taken on single shift basis on 75% efficiency

Capacity utilization is assumed at 60% during first year, 80% during second year of operation. The Unit is expected to achieve full capacity utilization from the third years onward.

The salaries and wages, cost of raw material, utilities, rent of the premises etc. are based on the prevailing rates in and around. These cost factors are likely to vary with time and location.

Interest on term loan and capital loan has been taken at the rate of 10% on an average. The rate may vary depending upon the policy of the financial institutions and agencies from time to time.

The cost/ price of machinery and equipment is approximate.

The Break Even Point indicated is of full capacity utilization.

About the Organisation

ABC Cooperative Society was formed in 1998 with the aim to develop organized dairying in the State on Cooperative lines. ABC Cooperative Society is a cohesive body that successfully does away with the exploitative forces of years to years-the Middlemen. Therefore a direct link is established between the producer and the ultimate consumer. This Apex Milk Cooperative draws its inherent strength from the farmers committed participation, and injects corporate skills and dynamic professionalism into what is fundamentally a traditional institution.

Over the years ABC Cooperative Society has expanded, diversified, channelized into new areas, over new dimensions, onto new challenges. Today it features prominently in the National Milk Grid, supplying Milk to Mother Dairy for sale in Delhi.

However, ABC Cooperative Society's achievement cannot be quantified in mere statistics. Its real sense of pride lies in the fact that its farmer members are heading surely and steadily towards a prosperous future and the knowledge that its consumers reaffirm their faith in Cooperative year after year. It is in this context that ABC Cooperative Society success is to be measured.

Mission and Vision:-

- To bring 32% revenue villages of the state under cooperative fold.
- To procure 10% of the total marketable surplus milk produced in the state through village dairy cooperatives.
- To make dairy cooperatives self sustainable.
- To create adequate marketing infrastructure for providing quality milk and milk products to urban consumers.
- Social and economic upliftment of rural women.
- To provide employment to rural unemployed youth through dairy farming.

Objectives:-

- Collection of milk directly from producers through Village Dairy Cooperative Societies
- Increasing production of milk by providing technical support eg, facilities for breed improvement, providing good quality fodder seeds, training to farmers etc.
- Ensuring fair and remunerative prices to producers by the elimination of middleman.
- Ensuring good quality milk available to urban consumers at reasonable price.

Mission

To provide Electrical Maintenance and repair service to customers in the most prudent manner possible while providing the best possible service.

Vision

To Operate a fair, accountable and responsible Cooperative demonstrating flexibility and futuristic Vision.

Goal/ Objective

(i) To offer customers a professional and technically sound Electrical Maintenance/ Repair Service.

(ii) To provide 24 hours x 7 days a week operation and quick response to failure and breakdown of Electrical appliances and installations.

(iii) To minimize disruptions to customers operation and get the systems up and running within the shortest possible time.

SWOT ANALYSIS

Strength:-

- Since independence the Government of India as well as various state governments has tried to extend science and technology to reach every corner of the country both including urban and rural areas. The setting up of Electric maintenance Service Cooperative will be a mile stone in this field.

- The Electric maintenance Service Cooperative will train people in the field of technology, repair and maintenance of electrical equipments

- It will provide employment to new youths.

- It will provide best service at the least cost.

Weakness:-

- Availability of trained manpower.
- Timely availability of funds to manage expenses.
- Regional language barrier.
- Theft and availability of power supply.

- Greediness and corrupt practices of Employees.

Opportunity:-

- Better Services: People can avail best services at least price.
- Business Development: Opening of new opportunities for other people to develop related business.

- Faster Services:- Services to customer end are faster

- Satisfaction:- It will provide satisfaction to its customers

Threat:-

- It is a low margin business. The average repair and maintenance service providers work with low margin of 2 to 3 %. Hence profit earned is low.
- Keeping updated with new and fast changing technology.

- Requires new and modern machinery and tools after every five years and also their regular maintenance is important.

FEASIBILITY ASSESMENT

TECHNICAL ASPECTS

I. Process Maintenance/ Repair:

The periodic repair/ servicing of the appliances can be carried out at a time interval as and when the customer brings the Appliances for servicing. The Electrical Appliances which is completely de-assembled after overhauling and replacing worn out parts, the appliance is re-assembled and tested. Under repairing activity, after testing and fault diagnosing, the repair activity can be carried out by rectifications or replacement of worn out/ defective item, etc. Apart from these, the winding of armature of the motorized appliances can also be carried out.

II. Plant Capacity per Annum:

Quantity :4,860 nos. Repair & Servicing
Value :Rs. 13,90,500/-

III. Motive Power Required: 5 KW

IV. Energy conservation

The following steps may help in conservation of energy:

(i). Adoption of Energy conserving technologies, production aids and testing facilities.

(ii). Efficient managements of process/manufacturing machineries and systems QC and testing equipments.

(iii). Using efficient temperature controlled soldering and disordering stations can obtain optimum use of electrical energy for heating, during soldering process.

(iv). Periodical maintenance of motors, compressors etc.

(v). Use of power factor correction capacitors, proper selection and layout of lighting system, timely switching on off of the lights use of CFLs wherever Possible.

V. External Technical Support (ETS)

The Cooperative will utilize common testing facilities available at Electronics test & Development centre (ETDCs) and Electronics Regional; Test Laboratories (ERTLs) and Regional Testing Centres (RTCs), ITI and Polytechnic labs available in the Fatehpur district as well as in Kanpur.

If any specialized technical help is required the experts and consultants will be hired at National level also on call and requirement basis.

FINANCIAL ASPECTS

A. Fixed capital

I. Land and Building:

Built up area	1,000 sq. ft.
Office, Stores	200 sq. ft.
Assembly and testing	800 sq. ft.
Rent payable/ month	Rs. 5,000/- per month Rs. 60,000/Annum

II. Machinery and Equipment:

S.No.	Name of the machine and specification	Indian/ Imported	Qty (Nos.)	Price (Rs.)	Total (Rs.)
1	Motorized winding machine	Indian	1	45,000	45,000
2	Manual winding machine	Indian	2	20,000	40,000
3	Oven	Indian	1	30,000	30,000
4	½ Inch Bench Drilling machine	Indian	1	4,000	4,000
5	Portable drilling machine	Indian	1	3,000	3,000
6	Bench Grinder 200 mm	Indian	1	4,000	4,000
7	Soldering Machine	Indian	2	200	400
8	2.5 KV Testing Machine	Indian	1	7,500	7,500
9	Panel board for testing	Indian	1	6,000	6,000
10	3 ½ digit clamp meter	Indian	1	2,500	2,500
11	Megger 500 volts DC	Indian	1	4,000	4,000
12	Multimeter	Indian	2	750	1,500
13	Leakage current	Indian	1	5,000	5,000

	Earth Leakage Tester				
14	Auto Transformer 10 Amps	Indian	1	5,000	5,000
15	Other misc. instruments and meters	Indian	LS	5,000	5,000
	Total				1,62,900
	Total Cost of Machinery and Equipment				Rs.1,62,900
	Electrification Charges @ 10% of the cost of Machinery and equipment				Rs.16,290
	Office equipment, furniture and working Table etc				Rs.40,000
	Mould, die, tools, jigs and fixtures etc				Rs.5,000
	Pre-operative expenses				Rs.10,000
	Total				Rs.2,19,190
	Total Fixed Capital				**Rs.2,34,000**

B. Working Capital per Month:

(i) Staff & Labour

S.No.	Description	Number of Persons	Salary / Month (Rs)	Total Salary /Month(Rs)
1.	Service Supervisor	1	7,000	7,000
2.	Salesman/Accountant	1	4,000	4,000
3.	Skilled Worker & Electrician	2	4,250	8,500
4.	Unskilled worker	2	3,250	6,500
	Total			26,000
	Add 15 % perquisites Of above Total			3,900
	TOTAL			**29,900**

(ii) Raw Material requirement per month:

S.No.	Description	Indian / Imported	Qty	Total (Rs)
1.	Super Enameled Copper	Indian	30 kgs	13,700
2.	Ball Bearings	-do-	50 Nos.	5,750
3.	Coil of Iron	-do-	40 Nos.	2,600
4.	Geyser Coil	-do-	35 Nos.	4,000
5.	Shaft, Bush, Capacitor, Field Coil, Armature, Carbon etc	-do-	LS	6,000
6.	Consumables stores & Cables, Paper Insulations	-do-	LS	4,000
7.	Mechanical & Electrical Accessories, Hardware &misc	-do-	LS	5,000
TOTAL				**Rs. 41,100/-**

iii) Utilities per month:

S.No.	Description	Amount
1	Electricity Bill	Rs.3,000
2	Water Bill	Rs. 250
	Total	**Rs. 3,250/-**

(iv) Other contingent expenses per month:

S.No.	Description	Amount
1	Rent	Rs. 5,000
2	Postage & stationary	Rs. 1,000
3	Telephone/telex/fax charges	Rs. 1,000
4	Repair & Maintenance	Rs. 1,500
5	Transport & conveyance charges	Rs. 2,000
6	Publicity & Advertisement	Rs. 750
7	Insurance & Taxes	Rs. 750
8	Misc. Expenditure	Rs. 2,000
	TOTAL	**Rs. 14,000**

Total recurring expenditure per month i.e Working Capital per Month (i+ ii+ iii+ iv) = Rs 88,250/-

C. Total Capital Investment: (Rs.)

S.No.	Description	Amount
1	Fixed Capital	2,34,000/-
2	Working Capital on 2 months basis	1,76,500/-
	Total	**4,10,500/-**
	Or Say	**4,11,000/-**

Financial Analysis:

(i) Cost of Production Per annum:

S.No.	Description	Amount (Rs)
1.	Total recurring expenditure per year	10,59,000
2.	Depreciation on machinery and equipment @ 10%	16,290
3.	Depreciation on tools, jigs and fixtures @ 25%	1,250
4.	Depreciation on office equipment & furniture @ 20%	8,000
5.	Interest on total investment @ 16%	65,600
	Total	**11,50,140**
	Say	**11,50,000**

(ii) Turn Over (Per Annum):

S.No.	**Item**	**Qty**(Nos)	**Total Sales (Rs)**
1.	Repairing of fan, Grinder/Mixer, Iron, Geysers	1,860	7,90,500
2.	Servicing of fan, Grinder/Mixer, Iron, Geysers	3,000	6,00,000
	Total		**13,90,500**

(iii) PROFIT PER ANNUM BEFORE TAX:

(Turnover per annum – cost of production per annum) = Rs. 2,40,500/-

PROFIT RATIO (PR):
(Profit per Annum/ Sales per Annum) x 100 = (2,40,500/13,90,500) x 100 = 17%

RATE OF RETURN(ROR):

(Profit per Annum/ Total Capital Investment) x 100

= (2,40,500/4,11,000) x 100 = 58%

D. BREAK – EVEN- ANALYSIS (BEA):

Fixed Cost per Annum:

S.No.	Description	Amount
1	Rent	60,000
2	Depreciation on Machinery @ 10%	16,290
3	Depreciation on Tools & Equip.@ 25%	1,250
4	Depreciation on Office Equipment & furniture @ 20%	8,000
5	Interest on Total Capital Investment @ 16%	65,600
6	Insurance	9,000
7	40% of salary and wages	1,43,520
8	40% of contingent & utilities(Excluding rent & insurance)	39,600
	Total	**3,43,260**

BREAK EVEN POINT (BEP) = (Fixed Cost/(Fixed Cost+Profit)) x100
= (3,43,260/(3,43,260+2,40,500) x 100
= 59%

Result:-Thus the project is both technically and financially feasible.

Risk Management

1. **Time Pressure: -** Maintenance personnel face time pressures to complete the repair and get the equipment back on line. These external pressures can influence a person's willingness to accept known higher risks, or prevent identification or evaluation of less obvious hazards and risks. Consequently, time pressures are a practical limitation for maintenance risk assessment. Priority should be given to safety. To avoid this time pressure proper management of staff and distribution of work should be done.

2. **Fire Hazards:-** Fire is a cause of great worry in electrical workshops. To counter this and for the safety of persons sufficient number of fire extinguisher cylinders like carbondioxide, ABC powder based cylinders will be installed in the whole premises. Also water sprinkler system and smoke detectors will also be installed.

3. **Raw Material Shortage and availability of spare parts:-** In order to deal with this problem a proper store having inventory (wire, cable, motors etc and other electrical spare etc) for atleast six months will be maintained. Proper stock verifications of the material will be done from time to time. A list various reliable authorised dealers/ suppliers/ channel partners and wholesale dealers of the required electrical material will be made and they will be contacted in case of any urgent requirement.

4. **Trained Manpower availability:** Sometimes due to bad health conditions or some personal problems skilled manpower may not be available. For this some additional staff will be hired.

5. **Medical Centre: -** In case of any accident there is emergent requirement of medical aid to the person. For this a small Medical centre shall also be set up within the premises to provide first aid medical aid.

6. **Capital Loan:-** Every possible measure will be taken to ensure timely payment of the instalment of capital loan taken from external Financial agencies**.**

7. **External Technical Aid:-** Whenever technical aid our consultation from external agency will be required, it will be the top priority to arrange the same for the benefit of tha customers and also the Cooperative.

Assumptions

- The average time for implementation of the project is assumed to be 12 months.
- Many of the above activities shall be initiated concurrently.
- Procurement of raw materials will commence from the 8th Month onwards.
- Since imported plant and machinery are required, the implementation period of project may vary from 12 months to 15 months
- Energy Audit of the Cooperative premises will be done every year
- Financial audit will be done annually to access the performance of Cooperative .
- The cost of machinery, tools, equipments, land and building etc is assumed to be based on current market rates.

Plan Implementation; Monitoring and Evaluation

Implementation:-

The average time for implementation of the project is estimated at 12 Months:

	Period (In Months)
(i). Registration and other Formalities	1
(ii). Sanction of Loan by financial Institution	3
(iii). Plant and Machinery :	
(a). Placement of orders	1
(b). Procurement	2
(c). Power connection/Electrification	2
(d). Installation/erection of machinery/test equipment	2
(v). Procurement of Raw materials	2
(vi). Recruitment of Technical personnel etc.	2
(vii). Trial production	11
(viii). Commercial Production	12

Note:-

1. Many of the above activities shall be initiated concurrently.

2. Procurement of raw materials commences from the 8th Month onwards.
3. When imported plant and machinery are required, the implementation period of project may vary from 12 months to 15 months.

Monitoring and evaluation:-

Regular monitoring and evaluation of the services provided by the Cooperative will be done by the team of experts which will be hired from external agencies. The expenditure and profit made by the Cooperative shall be reviewed by the Committee specially formed for this purpose in every three months.

There will also be provision to obtain feedback from the customers so that the nature and quality of service provided by the Cooperative can be judged. Also suggestions for improvement from our business partners, lenders, vendors and customers shall be invited for continuous improvement in the service provided and overall functioning of Cooperative.

Energy Audit of the whole Cooperative premises will be done every year to lower the power consumption and electricity bill. Thus ensuring maximum efficiency of the maintenance Cooperative.

At the end of every Financial year, audit will be done to access the performance of Cooperative financially. Also it will be ensured that all government taxes and local body taxes are paid correctly, in time.

Abbreviations

1. ETDCs	Electronics test & Development centre
2. ERTLs	Electronics Regional Test Laboratories
3. RTCs	Regional Testing Centres
4. AMC	Annual Maintenance Contract
5. PR	Profit Ratio
6. ROR	Rate of Return
7. BEP	Break Even Point
8. CS	Cost Structure
9. RS	Revenue Stream
10. BEA	Break Even Analysis
11. SWOT	Strenght Weakness Opportunity Threat
12. ETS	External Technical Support