

**172. PROFILE ON DISTANCE EDUCATION AT ALL
LEVELS**

TABLE OF CONTENTS

| | <u>PAGE</u> |
|---|--------------------|
| I. SUMMARY | 172-3 |
| II. SERVICE DESCRIPTION & APPLICATION | 172-3 |
| III. MARKET STUDY AND SERVICE CAPACITY | 172-4 |
| A. MARKET STUDY | 172-4 |
| B. SERVICE CAPACITY & OPERATIONAL PROGRAMME | 172-8 |
| IV. MATERIALS AND INPUTS | 172-9 |
| A. RAW & AUXILIARY MATERIALS | 172-9 |
| B. UTILITIES | 172-9 |
| V. TECHNOLOGY & ENGINEERING | 172-9 |
| A. TECHNOLOGY | 172-9 |
| B. ENGINEERING | 172-10 |
| VI. MANPOWER & TRAINING REQUIREMENT | 172-12 |
| A. MANPOWER REQUIREMENT | 172-12 |
| B. TRAINING REQUIREMENT | 172-13 |
| VII. FINANCIAL ANALYSIS | 172-13 |
| A. TOTAL INITIAL INVESTMENT COST | 172-13 |
| B. PRODUCTION COST | 172-14 |
| C. FINANCIAL EVALUATION | 172-15 |
| D. ECONOMIC BENEFITS | 172-17 |

I. SUMMARY

This profile envisages the establishment of an institution that provides distance education service with a capacity of enrolling 20,000 students per annum.

The present number of potential students for the proposed service is estimated at 42,838 per annum. The potential number of students is expected to reach 1.06 million by the year 2017.

The total investment requirement is estimated at about Birr 1.26 million, out of which Birr 525 thousand is required for teaching equipments. The service will create employment opportunities for 42 persons.

The project is financially viable with an internal rate of return (IRR) of 28.86 % and a net present value (NPV) of Birr 1.33 million, discounted at 8.5%.

II. SERVICE DESCRIPTION AND APPLICATION

Distance education is method of learning at a distance rather than in a classroom. The service widens access for students unable to attain formal education for reasons such as course unavailability, geographical remoteness, family circumstances, and individual disability.

With economic development in general, and income growth of households in particular, the demand for distance education is expected to increase.

III. MARKET STUDY AND SERVICE CAPACITY

A. MARKET STUDY

1. Service Supply and Demand

Distance Education is a method of learning at a distance rather than in a classroom. Communications technologies such as multimedia and interactive have open up new possibilities for distance education.

Late 20th-century communications technologies, in their most recent phases multimedia and interactive, open up new possibilities, both individual and institutional, for an unprecedented expansion of home-based learning, much of it part-time. Whatever the reasoning, distance learning widens access for students unable for whatever reason (course availability, geographical remoteness, family circumstances, and individual disability) to study alongside others. At the same time, it appeals to students who prefer learning at home. In addition, it appeals to organizers of professional and business education, providing an incentive to rethink the most effective way of communicating vital information.

Receiving distance education provides numerous advantages to education seekers who are restricted by time, resources or transportation but can still advance their career through education.

- Increasing student access by making courses available at convenient locations.
- Increasing student access by reducing time constraints for course-taking.
- Making educational opportunities more affordable for students, another aspect of student access was a very important goal of their distance education programme.
- Increasing the institution's access to education and training for employees.
- Reducing costs of education and training.

Distance education in Ethiopia is a recent phenomenon. It is started with emergence of private colleges and universities in the country. So far it is provided at higher education level including diploma and degree. There is also the beginning at masters' level. In fact most of the masters' level programs are given in cooperation with foreign institutions. Some examples in this respect include the cooperation between St. Merry University College and Indra Gandhi Open University and Addis Ababa Commercial College and UK Open University. University of South Africa (UNISA) has also opened a distance education campus in Addis Ababa and started offering programs at second degree level.

Enrollment in distance education in the country is fast increasing¹. As can be seen from Table 3.1 it reached to about 22 thousand in 2005/06 from about 5 thousand in 2003/04.

The average total annual growth in the period 2003/04 to 2005/06 has been 152.9%. As can be seen under Table 3.1 below the average annual growth rate of enrollment for male students is 146.1% while it is 238.7 % for female students.

Table 3.1
ENROLLMENT IN DISTANCE EDUCATION FROM 2002/03 TO 2005/06 IN
ETHIOPIA

| Year | Enrollment in Number | | | Average Annual Growth Rate in % |
|---------|----------------------|--------|--------|---------------------------------|
| | Male | Female | Total | |
| 2003/04 | 4,426 | 599 | 5,025 | - |
| 2004/05 | 5,109 | 455 | 5,564 | 10.7 |
| 2005/06 | 19,246 | 2,736 | 21,982 | 295.1 |

Source: Annual Education Statistical Abstract, Ministry of Education 2007.

¹ It should be noted that the analysis is done at national level for the reason that higher education is not geographic area specific. The higher education located in Addis Ababa provides education to students coming from all over the country.

2. Projected Demand

It is expected that the demand for distance education in the country continues to increase for the coming ten years. The basic reasons for the demand to increase are the following, among others:

- The continued need in business, agriculture and industry for specialization and specialized skills.
- The competitiveness of the labor market.
- The introduction of distance education by government institutions.
- Expansion of private colleges and universities that offer distance education.
- The increasing need from working people to acquire education and training in a flexible learning environment.
- The cost effectiveness of the education system for students.
- Advances in ICT technology that simplifies the learning and teaching process on a distance basis.
- The envisaged high economic growth of the country.

Accordingly, a projection for the coming ten years is done using the past three year's trend. However to be more accurate it is assumed that demand for the coming ten years will grow by 25% of the past three years average annual growth rates. In other words the projected annual growth rate of male enrollment in distance education for the coming ten years is assumed to be 36.5% and 59.7% for female enrollment.

Distance education in the country is a very recent phenomenon. There has been high suppressed demand from working people who are looking to learn in a flexible environment accommodating their work and education need. It is believed that with the launch of distance education many working people line up to enroll into the program. Accordingly it is difficult to assume the past three year's growth as a natural growth rate.

Table 3.2

**PROJECTED DEMAND FOR DISTANCE EDUCATION FOR THE COMING 10
YEARS**

| Year | Projected Enrollment in Number | | |
|--------------------|--------------------------------|---------|-----------|
| | Male | Female | Total |
| 2005/06(actual) | 19,246 | 2,736 | 21,982 |
| 2006/07(estimated) | 26,271 | 4,369 | 30,640 |
| 2007/08 | 35,860 | 6,978 | 42,838 |
| 2008/09 | 48,948 | 11,144 | 60,092 |
| 2009/10 | 66,815 | 17,797 | 84,611 |
| 2010/11 | 91,202 | 28,421 | 119,623 |
| 2011/12 | 124,491 | 45,388 | 169,879 |
| 2012/13 | 169,930 | 72,485 | 242,415 |
| 2013/14 | 231,954 | 115,759 | 347,713 |
| 2014/15 | 316,617 | 184,867 | 501,484 |
| 2015/16 | 432,182 | 295,233 | 727,416 |
| 2016/17 | 589,929 | 471,487 | 1,061,416 |

Source: Projected based on the data of 2003/04-2005/06 obtained from Ministry of Education and the assumptions mentioned above.

As can be seen from Table 3.2 the demand for distance education will reach about one million by the year 2016/17. The projected enrollment by sex is 471,487 female and 589,929 male by the year 2016/17.

3. Service Fee Structure

Though it is difficult to come up with a comprehensive list of fee for distance education provided by the various institutions offering distance education in the country, an attempt is made to list the fee charged by the major institutions. The following are some of the institutions providing distance education and the fee they are charging.

- Addis Ababa University charges Birr 1,500 per semester for degree program.
- St. Marry University College charges lump sum Birr 13,700 to complete a standard two years masters program and Birr 40,000 for an MBA program.
- St. Marry University College charges Birr 40 per credit hour for a degree program and Birr 125 per course for diploma.
- Admass College charges Birr 40 per credit hour for degree program and Birr 105 per module for diploma except law. For law at diploma level it charges Birr 85 per module.
- Alpha University Collage charges Birr 45 per credit hour for degree program and Birr 1 per course time for diploma program.

B. SERVICE CAPACITY AND OPERATIONAL PROGRAMME

1. Service Capacity

The market study in Table 3.2 presents the projected demand of distance education. The projected enrollment indicates that in 2008/09, it is estimated that there were 60,092 students enrolled, and in 2009/10, this figure grew to 84,611. In 2015/16, the figure is expected to grow to 727,416. This shows that in the coming years more and more students will require the service. It is therefore proposed that the envisaged service giving institution will handle 20,000 students per annum. This includes courses for 10+2, 10+3 certificate and diploma, and for degree programme in the ratio of 30%, 30%, 20% and 20%, respectively.

When the demand allows, the distance education centre will provide services at all levels of learning.

2. Operational Programme

The proposed distance education institution will start operation at 75% capacity during the first year, and then raise its activity to 85% and then to 100% (full capacity) in the second year, and third year and then after, respectively.

Table 3.3
OPERATIONAL PROGRAMME

| Year | 1 | 2 | 3 and above |
|--------------------------|----------|----------|--------------------|
| Capacity utilization (%) | 75 | 85 | 100 |
| 10+2 certificate (no.) | 45,00 | 5,100 | 6,000 |
| 10+3 certificate (no.) | 4,500 | 5,100 | 6,000 |
| Diploma (no.) | 3,000 | 3,400 | 4,000 |
| Degree (no.) | 3,000 | 3,400 | 4,000 |

IV. MATERIALS AND INPUTS

A. RAW AND AUXILIARY MATERIALS

The distance education proposed in this study will be carried out by correspondence conducted through regular mail. This will be accomplished by preparing printed materials. Printed material preparation and binding will cost about Birr 140,000, while postage will cost about Birr 10,000. Thus, the total cost of printed materials and postage is estimated at Birr 150,000.

B. UTILITIES

Utilities required for distance education institution include electricity and water. The utilities requirement and their respective cost is indicated in Table 4.2.

Table 4.2
UTILITIES REQUIREMENT AND COST

| Description | Qty. | Cost (Birr) |
|-----------------------|-------------|--------------------|
| Electricity, kWh | 25,000 | 11840 |
| Water, m ³ | 500 | 1625 |
| Total | | 13,465 |

V. TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Operational Process

Distance Education has traversed four to five ‘generations’ of technology in its history. These are print, audio /video broadcasting, audio/video teleconferencing, computer-aided instruction, e-learning/ online-learning, computer broadcasting/ web casting, etc. In some countries radio (FM channel) has become very viable form of broadcasting educational programs.

MP3 players, PDAs and Smart Phone have provided additional medium for the distribution of distance education.

Despite all these and other available technologies, it is described above that the operational process adopted for this study is the print system. This refers to production of printed materials required to disseminate to students enrolled for different courses. Production of the various printed materials requires the preparation of notes for each subject, photo copying, binding, and dispatching to the respective locations via postal medium. Tests and mid-term exams shall be conducted periodically by an agent.

2. Source of Technology

The technology required for the envisaged distance education institution includes computers, fax machine, photocopies (canon), printers, etc. These equipment can be procured from local agents such as HP, DELL, ACER, etc.

B. ENGINEERING

1. Machinery and Equipment

Distance education institution will require hardware for teaching materials production. These include computers, photocopying machines, printers, binders, staplers, scanners, fax machine, and other office equipment. The details are given in Table 5.1 below.

Table 5.1
LIST OF EQUIPMENT REQUIREMENT & COST

| Sr. No. | Description | Qty. | Cost ('000 Birr) |
|----------------|---|-------------|-------------------------|
| 1 | Computer including monitor server, mouse & keyboard | 10 | 180 |
| 2 | Photo copier-heavy duty | 3 | 200 |
| 3 | Printers (HP LaserJet) | 4 | 30 |
| 4 | Binding machine | 4 | 10 |
| 5 | Scanner | 2 | 5 |
| 6 | Fax machine | 1 | 25 |
| 7 | Staplers & other office equipment | Reqd | 50 |
| 8 | Installation and system networking cost | | 25 |
| | Total | | 525 |

2. Land, Building and Civil Works

The project can be started by renting a building at an appropriate location. The institution can secure land for its long term plan. For the purpose of this study, office space of 150 m² can be rented. Annual expenditure on house rent is estimated to be Birr 135,000.

VI. MANPOWER AND TRAINING REQUIREMENT

A. MANPOWER REQUIREMENT

The details of manpower required for distance education institution is given in Table 6.1 below.

Table 6.1
MANPOWER REQUIREMENT & LABOUR COST (BIRR)

| Sr. No. | Description | Req. No. | Monthly Salary | Annual Salary |
|---------|---------------------------------------|-----------|----------------|----------------|
| 1 | Distance education director | 1 | 2,500 | 30,000 |
| 2 | Assistant director | 1 | 2,000 | 24,000 |
| 3 | Teaching staff | 10 | 1,200 | 144,000 |
| 4 | Administrator | 1 | 1,500 | 18,000 |
| 5 | Secretary | 10 | 800 | 96,000 |
| 6 | Driver | 2 | 1,000 | 12,000 |
| 7 | Messengers | 2 | 700 | 8,400 |
| 8 | Cleaners | 3 | 1,050 | 12,600 |
| 9 | Guards | 2 | 700 | 8,400 |
| 10 | Accountant | 1 | 1,200 | 14,400 |
| 11 | Cashier | 1 | 700 | 8,400 |
| 12 | Staff assistant | 3 | 1,800 | 21,600 |
| 13 | Production workers (printed material) | 5 | 700 | 42,000 |
| | Sub-Total | | | 439,800 |
| | Employees benefit(25% of BS) | | | 109,950 |
| | Total | 42 | - | 549,750 |

B. TRAINING REQUIREMENT

Since distance education focuses on delivering education to students who are not physically 'on site' special training is required for those who are directly involved on the work. The training will be given to the education directors, teaching staff, assistants and material production workers. Birr 15,000 is allotted to cover the expenses of the training programme.

VII. FINANCIAL ANALYSIS

The financial analysis of the distance education project is based on the data presented in the previous chapters and the following assumptions:-

| | |
|------------------------|-----------------|
| Source of finance | 30 % equity |
| | 70 % loan |
| Bank interest | 8.5 % |
| Discount cash flow | 8.5% |
| Accounts receivable | 30 days |
| Material local | 30 days |
| Cash in hand | 5 days |
| Accounts payable | 30 days |
| Repair and maintenance | 5% of equipment |

A. TOTAL INITIAL INVESTMENT COST

The total investment cost of the project including working capital is estimated at Birr 1.26 million. The major breakdown of the total initial investment cost is shown in Table 7.1.

Table 7.1
INITIAL INVESTMENT COST ('000 Birr)

| Sr. No. | Cost Items | Local Cost | Foreign Cost | Total Cost |
|----------------|--------------------------------|-------------------|---------------------|-------------------|
| 1 | Land lease value | - | - | - |
| 2 | Building and Civil Work | - | - | - |
| 3 | Plant Machinery and Equipment | 525.0 | - | 525.00 |
| 4 | Office Furniture and Equipment | 75.00 | - | 75.00 |
| 5 | Vehicle | 450.00 | - | 450.00 |
| 6 | Pre-production Expenditure* | 160.38 | - | 160.38 |
| 7 | Working Capital | 56.00 | - | 56.00 |
| | Total Investment cost | 1,266.38 | - | 1,266.38 |

* *N.B Pre-production expenditure includes interest during grace period (Birr 100.38 thousand), training (Birr 15 thousand) and Birr 40 thousand costs of registration, licensing and formation of the company including legal fees, commissioning expenses, etc.*

B. OPERATION COST

The annual production cost at full operation capacity is estimated at Birr 1.09 million (see Table 7.2). The major components of the operation cost are direct labour, administration cost and depreciation which account for 24.05%, 16.03% and 15.49% respectively. The remaining 44.42 % is the share of material and inputs, working premises rental, , labour overhead, utility, repair and maintenance and financial cost.

Table 7.2**ANNUAL OPERATING COST AT FULL CAPACITY ('000 BIRR)**

| Items | Cost | % |
|------------------------------|-----------------|--------------|
| Material and Inputs | 150.00 | 13.67 |
| Utilities | 13.47 | 1.23 |
| Maintenance and repair | 26.25 | 2.39 |
| Labour direct | 263.88 | 24.05 |
| Labour overheads | 109.95 | 10.02 |
| Administration Costs | 175.92 | 16.03 |
| Working premise rental | 135.00 | 12.30 |
| Total Operating Costs | 874.47 | 79.70 |
| Depreciation | 170.00 | 15.49 |
| Cost of Finance | 52.73 | 4.81 |
| Total Production Cost | 1,097.20 | 100 |

C. FINANCIAL EVALUATION**1. Profitability**

Based on the projected profit and loss statement, the project will generate a profit through out its operation life. Annual net profit after tax will grow from Birr 51.52 thousand to Birr 258.74 thousand during the life of the project. Moreover, at the end of the project life the accumulated cash flow amounts to Birr 2.49 million.

2. Ratios

In financial analysis financial ratios and efficiency ratios are used as an index or yardstick for evaluating the financial position of a firm. It is also an indicator for the strength and weakness of the firm or a project. Using the year-end balance sheet figures and other relevant data, the most important ratios such as return on sales which is computed by dividing net income by revenue, return on assets (operating income divided by assets),

return on equity (net profit divided by equity) and return on total investment (net profit plus interest divided by total investment) has been carried out over the period of the project life and all the results are found to be satisfactory.

3. Break-even Analysis

The break-even analysis establishes a relationship between operation costs and revenues. It indicates the level at which costs and revenue are in equilibrium. To this end, the break-even point of the project including cost of finance when it starts to operate at full capacity (year 3) is estimated by using income statement projection.

$$\text{BE} = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable Cost}} = 60 \%$$

4. Payback Period

The pay back period, also called pay – off period is defined as the period required to recover the original investment outlay through the accumulated net cash flows earned by the project. Accordingly, based on the projected cash flow it is estimated that the project's initial investment will be fully recovered within 4 years.

5. Internal Rate of Return

The internal rate of return (IRR) is the annualized effective compounded return rate that can be earned on the invested capital, i.e., the yield on the investment. Put another way, the internal rate of return for an investment is the discount rate that makes the net present value of the investment's income stream total to zero. It is an indicator of the efficiency or quality of an investment. A project is a good investment proposition if its IRR is greater than the rate of return that could be earned by alternate investments or putting the money in a bank account. Accordingly, the IRR of this project is computed to be 28.86 % indicating the viability of the project.

6. Net Present Value

Net present value (NPV) is defined as the total present (discounted) value of a time series of cash flows. NPV aggregates cash flows that occur during different periods of time during the life of a project in to a common measuring unit i.e. present value. It is a standard method for using the time value of money to appraise long-term projects. NPV is an indicator of how much value an investment or project adds to the capital invested. In principal a project is accepted if the NPV is non-negative.

Accordingly, the net present value of the project at 8.5% discount rate is found to be Birr 1.33 million which is acceptable.

D. ECONOMIC BENEFITS

The project can create employment for 42 persons. In addition to supply of the domestic needs, the project will generate Birr 0.742 million in terms of tax revenue. The project will contribute to the expansion of education which is vital for development of the country.