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**ESTABLISHMENT OF INDUSTRIAL TECHNOLOGY AND MARKET INFORMATION
NETWORK (ITMIN)**

SRL/93/010/A/01/99

SRI LANKA

Draft Terminal Report

Prepared for the Government of the Democratic and Socialist
Republic of Sri Lanka
by ITMIN Ltd. and the United Nations Industrial Development
Organization
acting as Implementing Agencies for the United Nations
Development Programme

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EXPLANATORY NOTES

Currency

According to the actual UN operational rates 1 US dollar is equivalent to 54.00 Rupees of Sri Lanka, what means that the Rupee has the value of 0.0185 USD.

Acronyms and other short terms used

- APCTT - Asian and Pacific Centre for Transfer of Technology
- CD-ROM - Compact Disk - Read Only Memory; an opto-electronic medium for the storage of large amount of retrievable data on a special diskette
- CDS/ISIS - short name of a database management software developed by Unesco for the storage and retrieval of (mainly textual) data on microcomputers and their networks
- CISIR - Ceylon Institute for Scientific and Industrial Research
- DOS - Disk Operating System
- FP - Focal Point (of ITMIN)
- GBI - Gesellschaft für Betriebswirtschaftliche Information (a German institution acting inter alia as an international host of business databases)
- ILO - International Labour Organization
- Internet - name of a world-wide network of computer networks used for electronic mail, for access to databases, documents, for mutual use of computer resources etc.
- INSTEAD - Information Service on Technological Alternatives for Development (of the International Labour Organization)
- ITMIN - Industrial Technology and Market Information Network

- LAN - local area network
- METI - Mechanism for the Exchange of Technology Information (a project at APCTT)
- PC - personal computer
- SLIP - Serial Line Internet Protocol
- STN - short name for: STN International. The Scientific and Technical Information Network - a major online database host
- TIPS - Technological Information Promotion System (of UNDP)
- WAN - wide area network
- WWW - World Wide Web (an Internet tool)

ABSTRACT

Drafted by: Erik I. Vajda, UNIDO Chief Technical
Adviser

Corporate authors: UNIDO and ITMIN Ltd.

Title of project: Establishment of Industrial Technology and
Market Information Network (ITMIN)

Number of project: SRL/93/010/A/01/99

Title of report: Draft Terminal Report

The development objective and immediate objectives of the project proved to be defined rightly. Without changing these objectives and the planned outputs, the range of ITMIN services was been extended to make the provided information more useful, by offering brokerage services, and to contribute to ITMIN's self sustainability. The establishment and running of ITMIN and its services will essentially contribute to the achievement of the project objectives. After the preliminary project assistance, the project was formulated and ITMIN Ltd. was established. The premises of ITMIN were refurbished. The computer hardware and software of the Focal Point has been purchased and installed, the database shells for the FP databases were developed. Information sources were selected and ordered or subscribed to. Co-operation with international and foreign information systems has been established. Most parts of the planned ITMIN Methodological Toolkit are available. Information services are not operational yet and the currently available information sources and manpower are not sufficient to start them, except for new and additional services: full technology transfer, Internet and training services. Training was provided to the staff of the FP and of the nodes, but the training for users and information system managers can be started only at a later date.

INTRODUCTION

Introductory remark

This Terminal Report has been prepared at the end of the last longer mission of the Chief Technical Adviser to the project. At the time of its preparation essential project activities are still going on. Most of the project activities can be completed probably for July/August 1996, and at this time all services of ITMIN can be probably commenced.

Because of the reasons mentioned above this draft cannot give a full report on the project, To assist in the preparation of the final Terminal Report those parts of the present draft, which are subject to modification and extension, as well as hints for the preparation of the final Terminal Report are recorded and printed in italics.

The project is executed by the Government of Sri Lanka. The executing agency is the Ministry of Industrial Development. The project is implemented by ITMIN Ltd., a public private company (being the Focal Point of the Industrial Technology and Market Information Network - ITMIN, and by UNIDO. The task of UNIDO was to recruit and send to the project a team of experts and consultants (including the Chief Technical Adviser - hereinafter CTA). The tasks of this team are essentially of advisory character but the UNIDO team was involved in almost all project activities, including their execution. A list of project reports (documentary outputs) is given in Annex 8. (to be updated).

This draft was prepared following the rules of the UNDP PROGRAMME AND PROJECTS MANUAL under the title PROJECT MONITORING, REPORTING AND EVALUATION - Terminal reporting Rev. 0, (February 1988; No. 30605).

I. DEVELOPMENT PROBLEM AND IMMEDIATE PROBLEMS ATTACKED -
OBJECTIVES AND THEIR ACHIEVEMENT

The Project Document states the development problem to be attacked (in its PART B PROJECT JUSTIFICATION, Chapter B.1 PROBLEM TO BE ADDRESSED; THE PRESENT SITUATION) as follows:

"In order for its industrialization strategy to succeed Sri Lanka must have better access to market and technology information. To enhance the information flow within and to Sri Lanka (including the establishment of access to international information services) substantial and well organized efforts are required to develop appropriate methodological framework and informatics infrastructure, covering communications, hardware and software."

The above statement of the development problem led to the following development objective (PART C. DEVELOPMENT OBJECTIVE of the Project Document):

"To strengthen and upgrade industrial and market activities, in particular export activities, through the establishment of standardized nation-wide information facilities and resources, provide the private and the public sectors as well as decision makers with domestic and foreign information relevant to their needs. This objective is in accordance with the Government of Sri Lanka programme "Private Sector Industry Development."

The immediate problems are not stated explicitly in the Project Document. However, in Part B, Chapter B.1 referred to above) within the listing of the findings of the preliminary project assistance the following parts can be considered as statements of the immediate problems:

- 8I] A strong unsatisfied demand was found for international information on new technologies, machinery and equipment,

upgrade of technologies and markets within Sri Lanka. It is estimated that over the next four-five years Sri Lankan firms will invest US\$ 8-13 million in new technologies alone. It is calculated that entrepreneurs will spend approximately US\$ 1.5 million on technology and market information."

- II] Existing facilities in terms of information resources available, access procedures, services offered, completeness, reliability and timeliness are inadequate to meet the information needs. Also the horizontal co-operation of information institutions is poor, therefore, the facilities available are isolated from each other."
- VI] ITMIN may be economically a self sustainable ... organization...

On the basis of these statements on the immediate problems, the following immediate objectives were conceived:

- "1] To enable the Ministry of Industries, Science and Technology of the Government of Sri Lanka to take a decision on whether and how to proceed with the development of ITMIN".
- NOTES: The Ministry involved changed to Ministry of Industrial Development. This objective was essentially achieved by the preliminary project assistance project.
- 2] To establish the legal, financial and technical framework for starting the implementation of ITMIN.
- 3] To establish and make operational the nucleus of ITMIN for effective provision of information"

The original objectives as defined in the Project Document were not modified. However, because of the development of the project policy, caused by international development of

information technology (Internet), by the growing importance of business information and by the introduction of the information brokerage concept (to help the users of information not only by providing the requested information but assist in the utilization of information provided), additional activities became necessary within the originally planned outputs. For the present, revised version of planned outputs and activities (except for outputs 1.1 and 2.1, completed before the above mentioned revision) see Annex 1.

The services of ITMIN will surely contribute to the solution of the development problem and the immediate problems; the conditions to meet the objectives of the project are given. However, the establishment and wide distribution of information and follow-up (brokerage) services, as well as the further development of information sources and of national and international networking is a long lasting, or even never ending process. The project activities led to the establishment of the ITMIN Focal Point (hereinafter: FP) and of the network of ITMIN. The FP and the nodes have and will have all facilities for providing services, which will essentially develop the information potential of the country and by this the prospective of industrial, economic and social development. Risks are however still present and for a realistic evaluation at least one more year will be necessary.

For national and international inputs to the project see Annex 2.

This part can be extended if the development until the final tripartite review meeting indicates possible or even desirable changes.

II. OUTPUTS PLANNED AND PRODUCED

The outputs are listed below as in the project document. Changes in the planned activities (asked for and agreed upon by the Project Management and UNDP) are reflected in the details concerning the production of outputs.

A. Feasibility Study and Project Document

This first planned output concerns activities already accomplished by UNIDO and by ITMIN Ltd. before the actual starting of the project. The findings of the pre-project Feasibility Study were reflected in the Project Document and were taken into account in project activities, although the practice has shown the necessity and the possibility of simpler organizational structures as planned initially. Many presumptions of the Feasibility Study proved correct, but some others must be changed because of changes in information technology and its application, changes of the information market and practical considerations concerning the self sustainability of ITMIN. Many of these changes were proposed just by the head of the team which had prepared formerly the Feasibility Study. The planned output was fully produced.

B. Establishment of ITMIN Ltd.; refurbishment of Focal Point premises

ITMIN Ltd. was established as a public limited liability company at 31 March 1994. It has eight shareholders, which are either governmental bodies, or state owned and/or controlled companies, or private companies. The shareholders of ITMIN are:

- * Board of Investment of Sri Lanka (BOI)
- * Ceylon Institute of Scientific & Industrial Research (CISIR)
- * Development Finance Corporation of Ceylon (DFCC)
- * The Golden Key Credit Card Company Ltd. (GKCC)
- * National Development Bank of Sri Lanka (NDB)
- * Lanka Ceramic Ltd.
- * Lanka Ventures Ltd.
- * Sri Lanka Export Development Board (EDB)

The nodes of ITMIN as a network are the above listed shareholders, as well as the

- * Ministry of Industrial Development and
- * The UNDP Office in Colombo.

The Golden Key Credit Card Company was appointed as the Managing Agent of ITMIN. It manages ITMIN by its division INFOMART, a consumer information bureaux.

The premises of the FP are within the complex of one of the ITMIN shareholders: CISIR, what is advantageous because this way the FP and one of the nodes having large information capabilities and wide experience in scientific and technological research can co-operate easily. The premises were refurbished and a modern office was set up, which was declared open by Mr. J. Robert England, UNDP Resident Representative at 9 December, 1994.

Share capital was called up to finance the refurbishment and operational costs and to cover the planned national contribution to the project. It was decided that ITMIN Ltd. will not only strive for self-sustainability but also for profitability, because this is the only way to develop services in the future.

The planned output was produced. However it should be mentioned that the FP staff must be strengthened because of the inclusion of some new activities.

C. Purchase and installation of computer hardware, software, telecommunication equipment and information materials

The original plans concerning computer hardware and software of the FP and the nodes (as included into the Feasibility Study and the Project Document) were significantly changed, because the character and the volume of the planned

ITMIN databases required these changes. The list of hardware and software purchased is given in Annex 3.

A local area network (LAN) was set up at the premises of the FP comprising two high capacity servers and 25 work stations (Pentium PC-s). The system is furnished with peripherals (CD-ROM tower, printers), hardware elements enabling communications (modems) or being auxiliary to the system (uninterruptable power supply unit, etc.). The purchased hardware was tested and installed. *Some peripherals are still missing.*

Microsoft Windows '95 is used as network software, whereas the operational systems of the servers are UNIX softwares (AIX and LINUX). The main application software for the establishment and use of databases is an advanced version of Micro CDS/ISIS, which was developed on the basis of the latest version of the Unesco licensed Micro CDS/ISIS by the Foundation for Advanced Computer Studies (Warsaw, Poland.) The Microsoft DOS based version of the application software is used for data entry and for retrieval from work stations in the LAN, whereas the LINUX based version will be applied for remote online access to the ITMIN databases, via Internet. INFORMIX relational database management software is applied for the internal management information and accounting system and as development tools.

A data model for the development of database shells was prepared by UNIDO experts in consultation with the ITMIN staff. The shells of the ITMIN databases were developed along with the application software by the Foundation mentioned above. The ITMIN database is an integrated database including the following logical sub-databases: COMPANY (Sri Lankan companies), PRODUCTS/SERVICES and MARKET FIGURES of the recorded companies, BUSINESS AND TECHNOLOGY INSTITUTIONS (Sri Lankan), requested and offered TECHNOLOGIES (worldwide), offered MACHINERY (worldwide), ongoing and completed PROJECTS

(Sri Lankan). PEOPLE in BUSINESS AND TECHNOLOGY (Sri Lankan) and the ITMIN LIBRARY catalogue, including analytical items, too.

Hardware and software was tested by experts and by the FP staff. The testing of the DOS version of the database shells is not finalized yet and the UNIX version will be installed at a later date.

A modern system of training equipment, including audio-visual tools was designed and ordered but delivered only partially.

Telecommunication equipment for a combined, automatic voice/data system was ordered and delivered, although most of the necessary telephone lines are still missing. The planned access to the ITMIN computers (databases) and ITMIN's access to national and international information sources was radically changed by the decision, to develop ITMIN as an Internet service provider and by using Internet as the main route for the access mentioned above. The establishment of the Internet connection and the configuration and installation of ITMIN's facilities for Internet service provision are still pending. X.25 packet switched network connection will be established, too, for accessing databases which are not accessible via Internet.

The nodes of ITMIN will be furnished with the same type of work stations as the FP, as well as, with the same operational system and application software used for the LAN and for the work stations at the FP.

The hardware and software of the FP and nodes will enable the smooth operation of ITMIN as a fully furnished and up-to-date information network.

As far as the printed and machine readable information sources of ITMIN are concerned, the situation is not satis-

factory. Proposals for CD-ROMS to be purchased, of hosts for online available databases to be subscribed (on the basis of the analysis of databases available at these hosts), a list of primary and secondary, monographic and periodical documents to be purchased/subscribed was prepared, discussed and agreed upon. Most purchase orders and subscriptions were sent to the suppliers but the ordered information sources did not arrive yet and therefore their processing and use could not be started. Subscription to online hosts (DIALOG/DATA STAR, STN and GBI) was placed and passwords are available, but the practical use of online accessible databases can be started only when the Internet and X.25 connection (see Chapter F.) will be operational.

Library furniture and the arrangement of the library was designed and the furniture ordered. Some of the items ordered are already installed but a significant part of them is still missing.

D. Establishment and making operational the basic components and services of the ITMIN focal point

The ITMIN Library is not established yet, because of the delays in ordering and in delivery of library materials and library furniture. Guidelines were prepared to assist the work of the library and librarians were trained on the library operations. The processing of Library material and the starting of their use is a major future task of the FP.

The LAN was put successfully into operation, although some peripherals (printers) are not connected yet. Also the inclusion of CISIR library and information services into the LAN of the FP and the inclusion of the FP into the LAN of CISIR is still pending.

Many international information systems were contacted to set up co-operation with them. A co-operation agreement

between the Asian and Pacific Centre for Technology Transfer (APCTT) was signed by the two parties and the co-operation in technology transfer was started successfully. The database of APCTT containing various data on technology transfer and business opportunities has been installed at the FP. ITMIN also joined the METI (Mechanism for the Exchange of Technology Information) Network, organized by APCTT. Initial co-operation started also with members of METI.

Further co-operation with foreign and international information systems (INSTEAD - Information Service on Technological Alternatives for Development of the International Labour Organization; IRS - International Referral System and EEIS - Energy and Environment Information System of UNIDO; TIPS - Technological Information Promotion System of UNDP) and other regional and national institutions was initiated and reached various phases of development. The two main aims for cooperation is

- * the mutual use of each others information resources by downloading/uploading or online accessing databases by making and answering inquiries, etc.,
- * facilitating technology transfer by supplying information on requested/offered technologies and by establishing contacts to interested parties.

The above part concerning co-operation with international information systems should be modified/extended depending on further development.

Only some of the CD-ROM databases were installed because of reasons mentioned in Chapter C. As far as the installation of international databases is concerned, reference is made to the APCTT database. ITMIN purchased also the Klenner database on available technologies and started its use.

The FP operations were started, but no information services could be delivered yet, because of the lack of information sources and because the building of the ITMIN

databases is still at an initial phase. Data collection was started, but data editing, indexing and entering, as well as, further data collection must be done in the next few months. Technology transfer services were started to a certain extent and some additional services, not planned initially, are already operational, as described in Chapter F.

E. Setting up of the ITMIN Methodological Toolkit

A significant part of the ITMIN Methodological Toolkit has been prepared. Computer hardware and telecommunication recommendations were prepared and changed sometimes because of the inclusion of Internet and Internet services into ITMIN activities and because of other reasons.

Linguistic tools for indexing and retrieval of information were designed, prepared and/or purchased and applied. The ITMIN Thesaurus has been prepared, using as source materials the METI Thesaurus of APCIT and the UNIDO Thesaurus of Industrial Development Terms. The ITMIN thesaurus was developed and is maintained, using the MTM4 software of the Foundation for Advanced Computer Studies. The same sources, as well as the OECD Macrothesaurus and the UNBIS Thesaurus will be used for maintenance and development of the thesaurus. The FP uses the following tools for indexing and retrieval by subject

- * the ITMIN Thesaurus,
- * free keywords assigned by the indexer and/or automatically by the system,
- * the International Standard Industrial Classification of all, Economic Activities (ISIC) for indexing industrial/economic activities and services,
- * * the Harmonized Commodity Description and Coding System, for indexing products, and
- * * the Universal Decimal Classification (UDC) for indexing publications not dealing with industrial/economic activities or with products.

The preparation of a set of guidelines was started and these manuals are already in use by the FP staff. A sample title page of one of these guidelines is attached as Annex 7. Some further Guidelines should be prepared in due course.

The payment schemes of ITMIN were developed for the regular, basic services, but they include also calculation guidelines for extended, individual and some additional services. The development of a price list for all services is not possible, taking into account of the wide variations depending on the sources used, experts involved, online hosts contacted, etc. However prices can easily be calculated using the methods as laid down in the pricing schemes. Special pricing schemes were developed for training, Internet and technology transfer (brokerage) services. For the development and testing of the application software and database shells reference is made to Chapter C.

F. Establishment of the nucleus of ITMIN and making ITMIN information services available to the end users

It has to be mentioned that the term "nucleus" is not used any more in the ITMIN environment, because the nucleus was meant as the FP and the nodes, cooperating with each other. This is identical with the Industrial Technology and Market Information Network, i.e. with ITMIN itself.

Similarly it is worth mentioning that services, which were not initially planned were included into the spectrum of ITMIN services because the study of the users needs and the aim to achieve self sustainability, as well as the brokerage principle (to help users to utilize the supplied information) required these changes. The most important new fields are:

- * a wide range of business information services ("business to business bridge"),
- * provision of Internet services
- * fully fledged technology transfer services.

Because of these changes the details of the planned outputs were been modified, what is reflected by the revised list of activities and by the revised Work Plan. Changes became also necessary because the nodes of ITMIN as independent organizations decide about their databases implemented or to be implemented in the future.

No radio telecommunication channel was set up between the FP and a service provider. This will be replaced by a leased line connection between the FP and Sri Lanka Telecom and from there by a leased 64 Kbaud band-width fibre optics line to an international Internet host. The packet switched international X.25 connection will be also established, using a leased line to Datapack of Sri Lanka Telecom, because some international database hosts cannot be accessed via Internet and also as a back up for accessing the database hosts if anything is wrong with Internet.

ITMIN Ltd. (the FP) itself will be a national Internet service provider offering full Internet access to its customers. Therefore the dial up facilities will link the nodes to the FP itself, rather than to any other service provider as planned originally.

The role of the FP as an Internet service provider will also facilitate the online access to ITMIN databases. The nodes and by other regular users of ITMIN will be at the meantime subscribers/users of the FP's ITMIN Internet services and of its information services, including the online access to databases. The physical access to the databases will be established via Internet by using the Serial Line Internet Protocol (SLIP).

The FP databases are established as database shells applying the advanced Micro CDS/ISIS software (see also Chapter C.) As far as the entering of data into the database

shells is concerned, data collection has been commenced and is going on, but the number of edited, indexed and entered records is not significant at the time of the preparation of this draft. A data collection plan and a plan for filling the databases is being prepared. This plan will include also the downloading and uploading of data from other databases to the ITMIN databases if the necessary degree of their compatibility is given. Other databases purchased or got by cooperation within ITMIN, by cooperation with other Sri Lankan database holders and from abroad, will be installed and used as stand alone databases, if necessary.

No FP information services are provided at the time of the preparation of this draft, except for initial technology transfer services and an "Information Skills Training" package, being a significant additional activity of the FP. Other services can be started only

- * after the arrival, processing and/or installation of information sources
- * after the establishment of the Internet and X.25 connection
- * after filling the ITMIN databases with a significant amount of data and
- * after having strengthened the staff for collecting information and providing information services.

The establishment of nodal databases is not considered any more as a centralized project task. All nodes will be furnished with the application software and database shells of the FP. Depending on available capacity the FP will also help in modifying the database shells. Otherwise it is up to the nodes to decide about their databases to be developed, maintained or even to be downloaded from the FP or from another node. To facilitate all these decisions the FP and the nodes mutually informed each other on the content of their databases and the co-operation possibilities are being studied by the nodes and the FP.

The user's manuals (guidelines) for database administrators and end users at the nodes will be supplied by the FP.

The demonstration of ITMIN facilities is going on. Various presentations were made to the Ministry of Industrial Development, to the Ministry of Science and Technology to the Ministry of Science, Technology and Human Resources to the senior executives and representatives of the nodes of ITMIN, to users participating in the Technology Transfer workshop organized by the ITMIN FP and APCTT. However further demonstrations will be needed whenever the databases and other information sources will be available and the information services of the FP and the nodes will be operational.

The Tripartite Review Meeting on the ITMIN project hold in December 1995 recommended the postponement of the evaluation meeting to a date not earlier than one year after the project ends.

G. Training of National information specialists and organization of study tours

For data on international training see also Annex 4. The planned international training for librarians and information officers (although for 6 persons instead of the 7) was organized according to the plans. Training institutions were selected right in advance and training requirements were harmonized with them. The training proved to be useful.

The training on the design and application of databases under advanced CDS/ISIS was combined with the training planned as a part of the development of the application software and as an on the job training on its use. The system's administrator and the programmers got in depth training on the system and on Pascal programming needed for further development, whereas the librarians and information officers got the users' training. One part of the training is due in May 1996.

The planned training for end users, information system managers, and the organization of promotional seminars can be organized only after the starting of fully operational ITMIN services.

No training will be provided for the ITMIN technical maintenance team, because there does not exist any technical maintenance team at the FP. The maintenance is undertaken by the vendors of the purchased hardware.

Three persons participated in study tours in leading foreign institution (see Annex 4.). Further study tours will be organized later.

III. CONCLUSIONS

It would be premature to give any conclusions in a draft, which contains many future tasks. Conclusions on a project for the provision of information services can be drawn only if the system is already operational. This part should be drafted for the final terminal report by the national implementing agency.

IV. RECOMMENDATIONS

Recommendations on the actual and further project tasks were given to the national implementing agency. The same recommendations are being forwarded to UNIDO consultants working in the field after the preparation of the present draft report. Other, final recommendations concerning "after project tasks" can be given only in the final Terminal Report, similarly to conclusions.

ANNEXES

Revised list of outputs and activities

OUTPUT 3.1

Computer hardware, software, telecommunication equipment and information materials purchased and installed.

Note: 1st Dec '94 assumed to be the date on which implementation of the project commenced.

	ACTIVITIES	TO BE COMPLETED BY	RESPONSIBLE PARTY
3.1.1	To submit specifications (Request for Proposals, Request for Quotations) necessary to call for quotations to provide		ITMIN/MA/ UNTEC
	a) a.computer hardware } b.software } c.telecommunication } equipment }	31 Dec '94	
	b) Software & database shell development for Micro CDS/ISIS and software development for telecommunication management and related purposes based on INFORMIX relational database management system.	15 Sep '95	
	c) CD-ROM server and Internet connectivity	15 Sep '95	
3.1.2	To select supplier/contractor/contractors for p.3.1.1	15 Feb '95	ITMIN/MA/*
3.1.3	To set up a team of application programmers	05 Sep '95	ITMIN/MA/*

* UNIDO team of consultants/experts will provide technical assistance for these activities.

3.1.4	To deliver and install items specified in p.3.1.1	a) a.	31 Aug '95	CNTRor
		b.	31 Aug '95	ITMIN/MA
		c.	15 Nov '95	
		b)	29 Feb '96	
		c)	15 Nov '95	
3.1.5	To check out hardware & Telecommunication Equipment	a) a.	15 Sep '95	ITMIN/MA/
		c.	30 Nov '95	UNTEC
3.1.6	To provide hardware & software requirements for full Internet services		30 Nov '95	ITMIN/MA/ UNTEC
3.1.7	To establish a list of:			
	a) CD-Rom databases to be purchased;		15 Jan '95	ITMIN/MA/ UNTEC
	b) on-line databases hosts to be subscribed to;			
	c) primary and secondary documents to be purchased;			
	d) library furniture (eg: book racks, stands for periodicals etc)			
3.1.8	To deliver the items specified in p. 3.1.7	a.	15 Oct '95	CNTRor/
		c.	31 Oct '95	ITMIN/MA
			& Continuous	
		d.	30 Nov '95	
	Establishing contract	b.	30 Sep '95	

OUTPUT 3.2

The basic components and services of the ITMIN Focal Point established and made operational.

3.2.1 To establish the Library 31 Dec '95 ITMIN/MA/*

* UNIDO team of consultants/experts will provide technical assistance for these activities.

3.2.2	To put into operation the Local Area Network (LAN)	15 Sep '95	CNTRor/ ITMIN/MA/*
3.2.3	a) To set up the co-operation with foreign information Systems	30 Nov '95 & Continuous	ITMIN/MA/ UNTEC
	b) To set up co-operation with Sri Lanka information systems	31 Oct '95 & Continuous	ITMIN/MA/ UNTEC
3.2.4	a) To install CD-Rom databases	15 Nov '95	ITMIN/MA/ UNTEC
	b) Other imported databases Eg: AGRIS, EEIS, etc	31 Dec '95 & Continuous	
3.2.5	To begin the initial phase of the Focal Point operation which includes		ITMIN/MA
	a) data acquisition, classification, indexing, data input	01 Oct '95 & Continuous	
	b) enquiry services and selected other information services	01 Dec '95 & Continuous	
	c) full Internet services	15 Dec '95 & Continuous	

OUTPUT 3.3

ITMIN Methodological Toolkit set up.

3.3.1	To formulate computer hardware and telecommunication recommendations	31 May '95	ITMIN/MA/ UNTEC
3.3.2	To determine and to set up linguistic tools	15 Oct '95 & Continuous	ITMIN/MA/ UNTEC

* UNIDO team of consultants/experts will provide technical assistance for these activities

3.3.3	To prepare a set of manuals, guidelines etc.	29 Feb '96	ITMIN/MA/ UNTEC
3.3.4	To develop the ITMIN payment schemes		
	phase 1	15 Oct '95	ITMIN/MA/
	phase 2	31 Dec '95	UNTEC
3.3.5	To develop the database shells of the Focal Point databases along with accompanying software (COMPANY, TECHNOLOGY, MACHINERY, PRODUCT, MARKET, PROJECTS etc).		
	a) Dos based version	30 Nov '95	CNTRor/
	b) UNIX based version	29 Feb '96	ITMIN/MA UNTEC
3.3.6	To test the developed software		
	phase 1 Dos based version	10 Jan '96	CNTRor/
	phase 2 UNIX based version	10 Mar '96	ITMIN/MA UNTEC

OUTPUT 3.4

The nucleus of ITMIN established and ITMIN information services made available to the end users.

3.4.1	To set up a telecommunication channel between the Focal Point and an appropriate service provider for ITMIN's telecommunications including Internet.	15 Nov '95	CNTRor/ ITMIN/MA/*
3.4.2	To set up telecommunication channels between the Focal Point and Nodes.	31 Jan '96	CNTRor/ ITMIN/MA

* UNIDO team of consultants/experts will provide technical assistance for these activities.

3.4.3	To establish the Focal Point databases (COMPANY, TECHNOLOGY, MACHINERY, PRODUCT, MARKET PROJECTS etc) and user's environment (HELP, e-mail, hypertext guides, ITMIN Newsletter etc)	31 Jan '96	CNTRor/ ITMIN/MA UNTEC
3.4.4.	To operate all the Focal Point information services such as: a) Enquiry & Selective Dissemination of Information Services. b) Information broker services which include Information Consultancy, Customized Market Research, and Technology Reports, Business opportunity services, Company matching services, Technology transfer services, Seminars and ITMIN Newsletter etc. c) Network services which include in-house and remote database access and full Internet services.	31 Mar '96 & Continuous	ITMIN/MA/*
3.4.5	To develop the database shells of the Nodes along with accompanying software	31 Jan '96	CNTRor/ ITMIN/MA NODES/*
3.4.6	To test on experimental data the software of nodal databases (p. 3.4.5) and refine it, if needed.	29 Feb '96	CNTRor/ ITMIN/MA NODES/*
3.4.7	To begin inputting to all nodal databases.	01 Mar '96 & Continuous	NODES/ ITMIN/MA

* UNIDO team of consultants/experts will provide technical assistance for these activities.

3.4.8 A demonstration of the ITMIN functioning for the concerned organizations (eg: MID UNDP and UNIDO representatives) with the Focal Point staff operating ITMIN. 15 Apr '96 ITMIN/MA NODES

3.4.9 Evaluation of ITMIN 30 May '96 UNDP/ UNIDO/ GOVT

OUTPUT 3.5

National information specialists trained and study tours organized.

3.5.1 To select foreign institutions and organizations for training and study tours. 15 Jan '95 ITMIN/MA/ UNTEC

3.5.2 To provide international training for ITMIN, MA Staff and nodal staff

i) 3 Librarians on organization and management of business.

ii) 4 Information Officers on research in multimedia information resource CD-Rom, online and organization of business industry and market information services.

30 May '95 CNTRor

iii) To provide international training in Colombo on the use of advanced CDS Micro ISIS and ISIS Pascal programming.

29 Feb '96 CNTRor/ ITMIN/MA

- | | | | |
|--------------------|--|------------|------------------------------|
| 3.5.3 | To provide on the place training for 20 end users of ITMIN | 15 Apr '96 | ITMIN/MA
UNTEC |
| 3.5.4 | To provide on-the-job training for Database Application Programmers and Database Administrator on the use of application software. | 15 Mar '96 | CNTRor/
ITMIN/MA
UNTEC |
| 3.5.5
ITMIN/MA/ | To provide on-the-place training of 20 Information System Managers | 15 Apr' 96 | UNTEC
-
- |
| 3.5.6 | To provide training for the ITMIN technical maintenance staff. | 30 Nov '95 | CNTRor/
ITMIN/MA |
| 3.5.7 | To organize study tours in leading foreign institutions on advanced techniques in industrial and market information for MA staff and nodal staff total of 5 Nos. | 30 Apr '96 | ITMIN/MA
UNTEC |
| 3.5.8 | To organize promotional seminars for 60 entrepreneurs, decision makers, managers etc, on the ITMIN functioning and usage. | 31 Mar 96 | ITMIN/MA
UNTEC
- |

Project budget and factual expenditures

Budget line	Description	Available US\$	Expended to date US\$	To be expended US\$	Total Expenses US\$	Balance Available US\$
47.01	Computer H/W	200,000	207,955	24,553	232,508	-32,508
47.02	Software	100,000	15,655	30,150	45,805	54,195
47.03	Telecom Equipments	60,000	70,670	15,000	85,670	-25,670
47.04	Special Furniture	50,000	27,505	5,000	32,505	17,495
47.05	Auxiliary Equipments	60,000	62,444	6,500	68,944	-8,944
47.06	Vehicle	15,000	7,407	2,000	9,407	5,593
46.00	Primary & Secondary Documents	125,000	75,659	49340	125,000	-
45.01	On-line searching	55,000	2,000	30,000	32,000	23,000
52.01	Reporting cost	5,000	-	5,000	5,000	-
53.01	Sundries	15,000	3,053	3,500	6,553	8,447
	Fellowship	80,000	50,538	10,000	60538	19,461
31.01	Librarians					
31.02	Information Officers					
31.03	Computer personnel					
32.01	Study tour Managers	20,000	15,704	30,000	45,704	25,704
21.01	Software	90,000	18,150	66,944	85,095	4,905
22.01	Development					
	Total	875,000	556,741	277,988	834,730	40,269

See notes on the next page!

Notes

1. The above figures may not be factual since certain payments not accounted yet.
2. Budget savings in particular budget lines will be utilized to offset budget short falls other lines, subject to approved budget revision whenever necessary. This need has arisen due to modification / expansion of project activities. Some savings should be used for the purchase of a generator, and lighting protection system.

Hardware and software purchased

Hardware			
Description	Brand name, type	Quantity	Value US\$
Unix Server	IBM RISC 6000 Model 390	01	30,437.00
Intel Pentium Server	IBM 8640 - OYT	01	11,640.00
Workstations	IBM Pentium PC Model 6586 - 35C	35	105,000.00
Workstations	IBM Model 6581 - L5L	02	6692.00
Notebook	IBM Model 9545-9ND IBM Model 2620-8ZF	01 02	15,098.00
UPS	American power generation MX 5000W	02	15,018.00
LAN	Ethernet 10 Base T	-	5454.00
Printers	HP various models	06	12,685.14
Scanner	HP model 4C	01	1,618.00
Router	CISCO 2501	01	3,430.00
Terminal Server	CISCO 2511	01	5,030.00
Modem Rack	AT & T Paradyne Comsphere Data/Access Equipment	01	25,500.00
CD-Rom tower	Infoware optical drive comprising 20 CD-Rom drives	01	22,775.00
PBX & Rectifier	AT & T Definity G3S PBX	01	37,410.00
Software			
Unix Operating System	AIX/6000 ver. 3.2.5 Netview ver. 3	-	6,125.00
Operating System	Windows '95 & SCO-UNIX	-	6,337.00
RDBMS & Development Tools	Informix ver. 7.1	-	12,552.00
Multimedia Kit	Creative	03	1,500.00
Application Software	Advanced CDS ISIS (development cost only)	-	75,095.00

International training provided

Training Course/ Study Tour	Duration	Name and gender Country and Institution	Date
Training Course - Librarians	01 mth	Ms P Selvaratnam - female Ms D Perera - female United Kingdom:- TFPL, The British Library Austria:- UNIDO Headquarters Hungary:- OMIKK	18th Apr '95 to 20th May '95
Training Course - Information Officers	01 mth	Mr A Gamage - male Mr S Senanayake - male Mr F Rodrigo - male Mr I Sadique - male Ms S Weerakoon - female Austria:- UNIDO Headquarters Hungary:- OMIKK United Kingdom:- TFPL, The British Library	18th Apr '95 to 20th May '95
Study Tour - Managers	0.5 mth	Mr Khavan Perera - male Dr A M Mubarak - male United Kingdom:- The British Library, British Business School, City Business, Library, University of Westminster Austria:- UNIDO Headquarters Hungary:- OMIKK Finland:- International Federation for Information & Documentation Belgium:- BC NET	9th Apr '95 to 28th Apr '95

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Continued ...

Training Course / Study Tour	Duration	Name and gender Country and Institution	Date
Study Tour - Managers		Mr. V T Ratnarajah - male Austria:- UNIDO Headquarters Hungary:- OMIKK Japan:- The Japan Information Centre of Science & Technology Bangkok:- Workshop conducted by APCTT India:- Advisory Expert Group Meeting of APCTT	7th May '95 to 17th May '95 11th Jul '95 to 13th Jul '95 Sep '95 Jan '96

Remark

Mr V T Ratnarajah's listed study tours were not scheduled beforehand. They were accommodated while undertaking other assignments eg: Austria/Hungary visit was undertaken after attending the INTIB Advisory Group Meeting in Vienna and the tour of Japan was on the return journey on attending the Internet Society Conference in Hawaii.

Senior staff of the ITMIN focal point*

Name	Position - function
Mr. Khavan M Perera	Chief Executive Officer
Mr. Vijit Ratnarajah	Chief Operating Officer
Mr. Lasantha Wickramasinghe	Marketing Manager
Mr. Anura Gamage	Asst. Product Manager - Information Skills Training & Information Services
Mr. Sanath Senanayake ¹ / ₂	Assistant Manager - Information Services
Mr. Fernando Rodrigo	Information Officer - Technology Transfer & Online Access
Ms. Pamela Selvaratnam	Librarian
Ms. Damayanthi Perera	Assistant Librarian
Mr. Ifthicar Sadique	Information Officer
Ms. Nilangani Sinniah	Senior Executive - Information Skills Training
Mr. Roshanjith Siriniwasa	Senior Lecturer - Information Skills Training
Ms. Avanthi Senaratne	Marketing Executive - Information Skills Training
Mr. Ruwan Wijeyeratne	Marketing Coordinator - Information Skills Training
Mr. Jayalath Liyanage	Systems Administrator - <i>Information Services</i>
Mr. Sanjeewa Gunasekera	Analyst Programmer
Mr. Palitha Jayasundara	Analyst Programmer
Ms. Nirmalene Navaratnam	Administrative Executive
Ms. Nimali Karunaratne	Company Secretary
Mr. Hasitha Abeywardena	Product Manager - Internet Services

* The persons listed above are the managers and staff members of Golden Key Credit Company, the managing agent of ITMIN Ltd.

ITMIN METHODOLOGICAL TOOLKIT

**GUIDELINES FOR THE EDITING OF
COLLECTED DATA FOR INPUT TO
ITMIN DATABASES**

**CHECKING THE COMPLETENESS, FORMAL LAYOUT AND
CONTENTS OF FILLED IN QUESTIONNAIRES;
CORRECTION, COMPLETION**

ITMIN Methodological Toolkit is a series of various guidelines, written procedures, instructions, help programs, user interfaces etc. to be used as a guidance for ITMIN activities. If there is no special reference to activities of the nodes of ITMIN, the given item (part) of the Methodological Toolkit concerns activities at the ITMIN Focal Point

COLOMBO, ITMIN, 1996

UNIDO experts/consultants and their assignments ¹

Name	Title	Dates of field service
Erik. I. Vajda	Chief Technical Adviser	26-11-94/22-04-95 15-07-95/13-10-95 03-12-95/19-04-96
Philip Geyer	Expert on Database Design and Implementation	15-01-95/31-09-95
Mieszczeslaw Muraszkieicz	Consultant on Information Systems Management	18-01-95/03-03-95 23-08-95/22-09-95
Martin Graeff	Consultant on Hardware Acceptance	10-09-95/12/09/95
Stefan Bosnjakovic	Consultant for the Establishment of Internet Services	19-11-95/15-12-95
Marcus Kabele	Consultant for the Establishment of WWW and Gopher servers and for Internet Training	19-11-95/15-12-95
Steve Dore	Consultant on Technology Transfer on behalf of ITS Ltd.	10-11-95/24-11-95

¹ Assignments before 19 April 1996 only

Documentary outputs prepared by UNIDO experts and consultants ²

1. Feasibility Study : Industrial Technology & Market Information Network / United Nations Industrial Development Organization. - Colombo, 1992. - pag. var. - DP/SRL/91/007
2. Technical Report: First mission of the Consultant : Industrial Technology and Market Information Network / United Nations Industrial Development Organization; based on the work of M. Muraszkiwicz. - Vienna: United Nations Development Organization, 1995. - pag. var. - DP/SRL/93/10
3. Technical report: starting the establishment of ITMIN; first mission of the CTA : Industrial Technology and Market Information Network / United Nations Industrial Development Organization; based on the work of Erik I. Vajda. - Vienna: United Nations Industrial Development Organization, April 1995. - 43 p. - DP/SRL/93/10
4. Technical Report: ITMIN Data Model (second mission) : Industrial Technology and Market Information Network / United Nations Industrial Development Organization; based on the work of M. Muraszkiwicz. - Vienna: United Nations Industrial Development Organization, September 1995. - pag. var. - DP/SRL/93/10
5. Technical report: implementing ITMIN tools; second mission of the CTA : Industrial Technology and Market Information Network / United Nations Industrial Development Organization; based on the work of Erik I. Vajda. - Vienna: United Nations Industrial Development Organization, October 1995. - 52 p. - SRL/93/010/A/01/99
6. Report on the Acceptance Tests at ITMIN / Martin Graeff. - Vienna: United Nations Development Organization, September 1995. - 14 p.
7. Report on the survey of commercial technology needs, consultancy and training services in Sri Lanka. - Prepared by IIS Ltd. - Sheffield Technology Park: ITS Ltd., December 1995

² Only the reports available at the field on 18 April 1996 are referred to