Evaluation and Learning System for Acacia
ELSA

Panafrican Study on Telecentres
Mali

Multipurpose Community Telecentre of Timbuktoo

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ACRONYMS AND ABBREVIATIONS

ADEMA	- Alliance for Democracy in Mali
ACORD	- Cooperation and Development Research Association
AMAD	- Development Association of Mali
AMUPI	- Muslims' Association
APDF	-Malian Association for the Promotion of the Sahel region
BECIS	- Consultants on advice and active operations in the Sahel
BNDA	- National Bank for Agricultural Development
BRACO (WARO)	- West and Central African Regional Office (of IDRC)
BT	- Vocational Training Certificate (taken at age 16)
CAF	- Vocational Training Certificate
CAFO	- Coordination of Women's Associations and NGOs
CRDI (IDRC)	- International and Development Research Centre
DEF	- Diploma of Basic Education
FAO	- Food and Agricultural Organization
GOUNA-AVENIR	- Youth Association of Timbuktoo
TIC (ICT)	- Information and Communication Technologies
OMS (WHO)	- World Health Organization
ONG (NGO)	- Non Governmental Organization
PME (SME)	- Small and Medium Scale Enterprise
PUDM	- Union of Democrats Party of Mali
UFD	- Union of Democratic Forces
SAVAMA-DCI	- Association for the Protection of Ancient Manuscripts
SOTELMA	- Telecommunications Company of Mali
TCP (MCT)	- Multipurpose Community Telecentre
UIT (ITU)	- International Telecommunications Union
UNESCO	- United Nations Education, Science and Cultural Organization

FOREWORD

The story we are about to narrate is a true one : heard and experienced in Timbuktoo. It is the story of a young Moor blacksmith from the « mysterious city » who says to a passing visitor : « I'll send you a message by e-mail ». In fact, he can now do that from the **Multipurpose Community Telecentre (MCT)** of Timbuktoo. This city, situated « at desert's gate » and considered to be « at the end of the world », is simply becoming a part of the centre.

The Multipurpose Community Telecentre (MCT) of Timbuktoo belongs to the community who was fully involved in its creation and who, rightly so, claims the right of ownership and management. The centre is multipurpose in nature because of the vast number of services it has to offer : Internet, e-mail, software installation, scanner, word processing, colour printing, Web page hosting, telephone/fax, phocopying, maintenance and repair.

Internet is by far the main product. This precious tool used for sourcing information, for trading and for communicating and which gives the entire world the possibility to network, has become a trivial device in Timbuktoo where the young Moor blacksmith likes to compare it to a traditional smithy's tool. « It is only a working and communication tool that looks sophisticated but which is easy to use, » says he.

The Timbuktoo MCT now links Timbuktoo, this enclave situated between the Issa Ber river and the sand dunes, with the rest of the world. Its residents are able to access all the services available on the Net (electronic mail, transfer of files, data base access, etc.) which they had never dreamed of. After all, this is all about local development of tourism and craft, agriculture, livestock and fisheries, industry, education and culture, medicine (telemedicine) and other services which the communities want to have.

This study is an attempt to evaluate the Timbuktoo MCT so that the latter may consolidate any positive impact and changes, but also minimize any constraints.

The major areas of concern covered by the study relate to durability and also to the social and economic advantages that may accrue to the community if the Telecentre were to run in optimal conditions.

Durability is judged in terms of the Telecentre's financial and institutional strength or capacity to remain operational long after the Project support has ended so that the « young Moor blacksmith » may continue not only to send his e-mail but also to surf on the Internet from « the end of the world » and participate fully in the management of theTelecentre.

I. INTRODUCTION

This document is the final report of the study and has the features of an evaluation paper of the **Multipurpose Community Centre of Timbuktoo (MCT).** The main objectives as defined in the « methodology guidelines of the Panafrican study on telecentres » are as follows :

- Collect, analyze and provide evidence that will show to what extent the Multipurpose Community Telecentre (MCT) of Timbuktoo contributes, at the local level, to finding solutions to social, economic and cultural problems of the community;

- Find out the impact that the Telecentre has had on the population of Timbuktoo, especially on the youth and women residing in its locality;

- Study and document the results of the Telecentre's activities in the community including capacity building and creation of new skills, the level of knowledge and information of the community's residents;

- Document the nature (characteristics, achievements, successes and failures) of the Telecentre's activities.

In compliance with the methodology guidelines, the study addresses the following main themes :

- Access
- Relevance (usefulness) of the services and content (applications) in terms of the community's needs
- Durability, ownership and management
- Social, economic and political landscape (or context) and infrastructure.

The evaluation was conducted using a participatory approach often with the assistance of MARP tools and questionnaires that produced quantifiable results. It is not an in-depth evaluation. Emphasis is laid on the aspects that need to be consolidated and/or improved.

1. 1 Context and justification of the evaluation

The world is developing rapidly under our very eyes and is moving closer to the model of a more open and universal society. This development is accompanied by new possibilities , but also by new problems emanating from attitudes and concepts among the working classes in respect of issues like political participation and human rights, multiculturalism and environmental harmony.

In this context, the new demands and pressures of contemporary times force people, communities and institutions to adapt, to learn continuously, to benefit from acquired knowledge and new value systems, so as to come to grips with the new development challenges and be able to make a constructive contribution.

However, the development level of Telecommunications is much higher in the urban areas than in the rural context. The reasons for this difference are essentially of a financial nature. In fact, services are more expensive to provide in the rural setting. Hence, the connection unit cost of subscribers is between 5 to 10 times higher in the rural areas than in the urban areas.

Over and above the problems concerning insufficient infrastructures, local skills and financial resources, the rural areas do not have access to information and educational facilities that would increase their knowledge and give them the possibility to take part in the decision making process, not to mention the fact that they

have no access to systems that would allow them to communicate with the main actors of the development process. This state of affairs, risks creating a larger gap between the disadvantaged rural communities and the urban centres. Moreover, the knowledge and skills existing within the rural communities are not enhanced.

The current status of technology offers the rural communities an opportunity to put right some forms of imbalance and take a shortcut to access the information and communication era in order to participate, as equal partners, in the new global information society.

For this reason, the government authorities in partnership with international development organizations have decided to create a Multipurpose Community Telecentre in Timbuktoo in order to promote the rural and urban development of the city.

This pilot project was launched in 1997. Since then, it has gone through various stages, has accumulated experience and encountered difficulties. Today, it is necessary to pause a while and take stock of certain specific aspects already mentioned above. Therefore ,this study shall endeavour to evaluate said aspects with a view to consolidating positive impact and change but also minimize constraints.

1.2. Major problems of the evaluation

In Africa in general, and in Mali in particular, the Multipurpose Telecentre is a new community institution which will have to meet the expectations and fulfill the wishes of the urban and rural communities. The actors : the Project implementation team, the operators, the beneficiary individuals and legal entities, all strongly believe in it and in the short and long terms expect it to have a positive impact on their lives and means of existence. Therefore, the major areas of concern covered by this study relate to durability and also to the social and economic advantages that would benefit the communities if the Telecentre were to be located in optimal conditions.

1.3. Research questions

The major research questions are :

a) **What type of Information and Communication Technology (ICT) access is available in the Telecentre ?**

- Who are the telecentre users ? What is their age, sex, literacy level, location, etc. ?
- Which ICTs do the telecentres use and for which purposes (recreation, education, skill development, improvement of means of subsistence, marketing, etc.) ?
- Who are the non-users and why don't they use the telecentres ?
- What are the impediments to access/use and how can they be removed ?
-
- b) **What is the relevance of the services (useful and appropriate) as well as of the applications offered/made available to the community by the Telecentre ?**

- What are the existing or offered services ? Which ones are currently operational ?

- What type of applications are available ? What is their relevance? Are they appropriate or useful for the community's needs ?

- What is the level of satisfaction in terms of services and applications ?

- To what extent have the available applications been adapted, i.e., are they attractive at the local level ?

- What experience do the telecentre staff or project personnel have in creating applications ?

- What conditions are required for a successful creation of attractive applications at the local level ?

What approach do telecentres use in the provision of services ? Does it work ?

a) Which factors (economic, infrastructural, social, educational or political) contribute (or are more important) in ensuring durability of the telecentres ?

- How do ownership and management affect the durability of the telecentres ?

- What are the scope and the consequences of community participation in the management and durability of the telecentres ?

- What type of partnership can improve this durability and how ?

- Which ownership and management approaches/models are currently being used ? What are their strengths and weaknesses ?

- What type of capacity and capacity building are required to support the sustainable development of the telecentres ?

d) In what type of political, economic, social and technological context are the telecentres operating ?

- What is the political landscape of the country or region in which the telecentre is located ? Does an ICT policy exist and what does it focus on ? Does the government policy encourage the use and spread of ICTs ?

- What is the status/nature of the available technology infrastructures ?

- What is the degree of suitability of the available technology ? Is the available technology useful and effective ?

1.4. Review of secondary data

A review of other evaluations and available literature enabled us to collect secondary information on the Telecentre (see List of reference documents). Additional information was later collected from SOTELMA (Timbuktoo Regional Department, Internet node in Bamako).

- Report on « **identification and evaluation of information/communication needs of rural populations »** of Timbuktoo (BECIS, 1998) provided the evalution team with information on the population, their information needs and their satisfaction level before the project was set up ;

- **Project document » (1997)** recalled the project conditions (problems, aim/objectives, outcome, strategies, etc.) and helped to evalutate the Telecentre accordingly ;

- **«Technical report on progress and financial status «** (Project Coordinator , 2000) provided elements of comparison on some evaluation aspects such as achievement of results and objectives and project progress ;

- **« Study report : feasibility of application projects of the Timbuktoo Telecentre (** September 2000) helped to categorize the groups and application projects ;

- Other documents were also consulted, namely **«general training for the MCT »** (January 2000), a **doctoral dissertation in geography on Timbuktoo** (Albassadjè, 1970), some **learning Kits** ,etc.

II. EVALUATION METHODOLOGY

2.1. Process description

The evaluation process followed four major stages : Study design, data collection, data retrieval and analysis and drafting of report.

2.1.1. Study design

The study was prepared in a participatory and interactive manner and was initiated at the ELSA workshop/seminar held in May 2000 in Kampala where the basic elements were identified and led to the elaboration of a concept paper. Said document was made available to the regional offices and was the subject of a series of exchanges and consultations, among which the Nairobi Panafrican Workshop held in August 2000.

The above-mentioned workshop, which was attended by all the stakeholders (and African consultants and researchers) of the Acacia initiative, reached a consensus on the problems, research

questions, study objectives and study approach. Furthermore, it identified the necessary data and tools required for its realization as well as an implementation timeframe.

Subsequently, these various elements were refined and studied closely by the EARO Focal Point in collaboration with the WARO Focal Point, the other offices and the Evaluation Unit (Ottawa). They were incorporated into the methodology guidelines document that served as the basis for data collection and guide for writing this study report.

2.1.2. Data collection

The data collection process started with the translation of the methodology guidelines from English into French and the recruitment of a consultant by ELSA/WARO. Subsequently, the document was made available to the consultant for familiarization of the themes and research methodology.

As a result, data collection was carried out efficiently. The evaluation team stayed in Timbuktoo for 10 days. Every day it went to the Telecentre from 8 a.m. to 5 p.m. It organized itself in such a way as to share the daily tasks among its members who submitted a report back at the hotel every evening. In addition, every day, before going into the field, the team met to go over the tasks for that day.

The investigators (two women and two men) were recruited locally in Timbuktoo, for the « community survey, individual study », under the supervision of a team member.

A daily programme was drawn up and implemented in the field. It organized the team to be divided into two groups :

- One group remained in front of the Telecentre for five (5) days in a row to systematically tick off all the users and arrange appointments with every 3rd person for an in-depth study ;
- The other group met with the Associations/organizations/group, key community leaders , administrative and telecommunication authorities, Telecentre staff.

The evaluation team leader systematically went through all the documents made available to him. These are, among others (see Reference documents) :

- Basic project document
- Technical reports
- Official and administrative documents
- Teaching material (manuals and books)
- Timbuktoo MCT inventory

Using the « gender related analysis manual » instrument, he studied the language, illustrations and the conrtents of the manual, including the authors themselves. He also made use of the « Telecentre Observation tool to see with his own eyes, listen, take note of the interactions between users and staff, staff and staff, specific user groups, language of communication, MCT layout, users' comfort, etc.

Finally, four (4) investigators (2 women and 2 men) proceeded to handing out the questionnaire « Community study- individual tool «

It was left to the users to choose the time and place of the interviews.

2.1.3. Data analysis and interpretation

The evaluation team went through the questionnaire and analyzed the data in Bamako. The data was cross-checked so as to obtain varied information from different sources. It must be noted that in the statistical tables, the column « no answer » is not always quantified.

2.1.4. Drafting of report

- Discussion of drafting plan, prepared by the Nairobi workshop, with the consultant and adoption thereof by the latter ;
- Drafting of report by the consultant ;
- Evaluation of the report by ELSA,
- Validation of draft report by the stakeholders during the Timbuktoo workshop held from 17 to 21 February 2001 ;
- Completion of report by the consultant.

2.2. Sampling and selection of groups

The primary unit under observation, namely the sampling unit for observation and analysis, was the Telecentre.

In addition to the Telecentre, two private telephone booths and a community cybercafe were included in the study sample for purposes of comparison and to draw lessons from more than one experience. The sampling criteria were as follows: representativeness, type of ownership (collective and private), services offered and maturity.

The community survey was carried out on the basis of a sample taken from the population of users categorized as follows:

- « anonymous users »,
- community key leaders and administrative authorities;
- associations, groups and organizations .

A community study (household survey) consisting in interviewing a sample of community residents was also carried out (see Detailed methodology in Annex 3).

2.3. Participation of groups involved in the evaluation

The groups involved in the evaluation were the Panafrican research team, the ELSA staff, the programme leaders and the Acacia stakeholders, including the consultants

The ELSA staff, the programme leaders and the Acacia stakeholders, including the consultants, provided the information for the design of the study guidelines.

The research team prepared the methodology guidelines for the study. The WARO Focal Point was responsinble for recruiting the consultant and supervised the entire process up to the final report.

The management committee members and the Telecentre staff facilitated the surveys with their constant availability. They provided information and assisted the evaluation team to meet potential informants. Some user groups were contacted as well as the Town Mayor and the « Haut Commissaire » (Governor).

In addition, the departments of the ministries concerned (**Primature ?,** Tourism, National Education, Health, Culture), the town councillors, the MCT donor representatives(IDRC, UNESCO and WHO), the SOTELMA departments and the NGOs and active associations in the region participated in the draft report validation workshop held from 17 to 21 Febraury 2001 in Timbuktoo. The result is this final version.

2.4. Composition of the evaluation team

The evaluation team was composed as follows :

- Two university graduate and post graduate geographers, one of whom a resident of Timbuktoo ;
- One technician, activity leader
- Four investigators, two (2) women

2.5. Problems encountered

- The evaluation team found itself in the midst of the fasting period with all the ensuing constraints for the Muslim followers, as was the case in Timbuktoo : unavailability, fatigue, etc.

- There was a problem in managing some questionnaires because they were sometimes designed for individual interviews and sometimes for collective interviews ; often the two type of questions featured in the same questionnaire.

- Few women were available for the interviews ; and neither were they going frequently to the Telecentre

Nevertheless, all the above problems were solved locally since the team was flexible and adapted itself to each situation. Hence, the problems encountered did in no way affect the quality and the quantity of the information collected.

III. TELECENTRE CONTEXT

3.1. Geographical and physical environment

A continental town par excellence, Timbuktoo is situated on the « borders of useful Mali » (I.M. Albassadjè, 1970; 3° West, 16,45° North). Areas are enormous : the overall circle stretches over 170,170 Km², but the overall low number of human settlements is unevenly distributed among the different geographical zones.

To the North of Timbuktoo, a dune system with desolate landscapes heralds the desert (« Sahel « or »Azaouad »), there are meagre resources and the harsh climate favours only a nomadic existence ; permanent human settlements are a rarity ; people gather around the rare water points or move around in search of them.

To the South of Timbuktoo, only 18 km away, there is a cheerful valley (« Issa Ber » or « Great River »), bustling with life, endowed with water throughout all the seasons and green vegetation for most of the year. It

is also the centre of cultural activities. Housing is permanent and there are more human settlements of people from the small villages and are scattered along the water sources.

The town itself is a small dot in the heart of a huge and smooth open country. The climate is tropical sub-arid. It is characterized by a very long dry season and a very short and irregular rainy season with maximum temperatures of 45 ° C and minimum temperatures of 7 ° C. The temperature differences are considerable. Rainfall hardly ever goes up as high as 200mm.

The juxtaposition of the natural environments of the « Sahel » and the « Issa-Ber » is coupled with the human contrast : two types of populations and two life styels that are in contrast with each other. The nomads (Arab and Berber (Moor) caravaneers and the Tuareg herdsmen and the sedentary farmers (Songhoi).In addition, there are the artisans, the tradesmen and the workers of the informal sector.

Tombuktoo or Timbuktoo (« the property of Buktoo) is a town full of history and « mystery ». It is known in history for what has now become its essential characteristic : a multiracial and multiethnic society whose members belong to the same religious faith (Islam) and have a strong inclination for trade, two major features that are at the root of development and intermixing. From its foundation in the 12th century to date, the town successively survived and grew under the domination of the Tuareg, Mandingos, Songhoi, Moroccans, Peulhs and the colonialists.

In April 1958, it was established as a district of **moyen exercice ? (** Decree No. 0455/DI-3 of 10 April 1958).

The current district of Timbuktoo borders on the districts of Bourem Iknaly and Ber in the west and Alafia and Lafia in the south and Salam in the north.

3.2. Population aspects

The population of Timbuktoo is estimated at 35,000 inhabitants. It is mainly made up of Songhoï, Kel Tamashèq (black and white) and Arabs (black and white). It is unevenly distributed in the urban area. In addition, the demographic development in the various neighbourhoods is not uniform. The largest and most populated neighbourhoods (in absolute terms) are the ones on the outskirts (Abaradjou and Bélléfarandi).The average family size in Timbuktoo is of 6 members.

3.3. Political and socio-cultural landscape

The general political and socio-economic landscape is suitable for the growth of Telecentres and Cybercafés in a landlocked country like Mali. The ICT policy in Mali aims at :

- taking new information and communication technologies closer to the people**.**
- reducing the cost of ICTs so that they may be accessible to everyone.

A series of technical and economic conditions have to be fulfilled in order to attain the above objectives. The experiment of the Multipurpose Community Telecentre of Timbuktoo is significant in this respect. The only condition needed for its creation was for the community to be responsible for the construction of the building. Since it fully fulfilled this condition, the community had every right to expect a multiservice centre where Internet connection would be an essential component.

However, the economic and, especially, the technological aspects were not immediately satisfied. As a resuslt, the community felt rather discouraged and, rightly or wrongly, put in a series of claims.

Undoubtedly, Telecentres do render an enormous service to the bodies and actors responsible for a country's development. This is why, according to the principal private secretary of the **Haut Commissaire** of Timbuktoo, the government is doing everything within its capacity to facilitate their establishment in the urban and rural areas by making land available free of charge, sensitizing the population on NICTs and providing qualified staff and suitable equipment. But yet the Telecentres need to become financially autonomous.

In Timbuktoo itself, the political and socio-cultural landscape is conducive to an endogenous development of Telecentres. Three political parties (ADEMA, UFD, PUDM) out of the seven present on the town's political scene, who make up the Local Council, adhere to this idea. The same holds true for both the local, regional, traditional and modern associations (with the backing from the Ministry of Territorial Administration) of which 90 are women organizations and as many institutions to which men belong.

The local (AMAD, ARDIL, GOUNA-AVENIR), national (APROMOS, PADL-TO, PACRT) and foreign (CARE-MALI, ACORD) NGOs contribute to the town's development and expect much from the Telecentre.

Finally, Islam, the dominating religion in Timbuktoo, does not impede the development of NICTs in the town. For example, the Imam of the Great Mosque of Djingaraiber, is a Telecentre user.

3.4. Education and literacy

Timbuktoo has the following educational establishments :

- six (6) preschool facilities
- sixteen (16) schools for basic education, i.e. twelve (12) middle schools and four(4) upper schools
- one highschool called Mahamane Alassane Haïdara
- one vocational training institute (for training teachers for middle and upper basic education schools)
- four (4) Medersas (Muslim religious colleges) one of which has a middle and upper school)
- thirty (30) Koranic schools

The Ahmed Baba Institute has planned to open the following three faculties in its Education and Research Department :

- History, Arab -African Literature and Anthropology
- Arab-African Medicine
- Islamology

The town boasts several neo-literate people among whom are women who have learned to read and write in the local languages (Sonraï, Tamachèq, Arabic).

3.5. Urban and economic context

3.5.1. Urban context

The town of Timbuktoo is made up of two types of neighbourhoods : the ancient neighbourhoods of medina (Djingareïber, Badjindé, Sankoré and Sareïkeïna) that form the urban centre and the relatively recent or peripheral neighbourhoods (Abaradjou, Bellafarandi, Administrative neighbourhood and Kabara-Fondo).

The house is the element that unites the urban landscape. Made of stone or earth, it is the usual home of a city dweller whereas the rural houses (« straw huts » and skin tents) are always barely adequate. The

traditional house often has several floors , it is large, spacious and is untransferable property. It is designed according to a style known as Al Hor.

The town centre is an aggregate of houses arranged in an « anarchical » structure, the streets and lanes are narrow, winding and pedestrianized with many deadends. As for the « recent belt », its unity is to be found in its geometry and wider spaces.

3.5.2. Economic context

The principal economic activities of Timbuktoo are : trade, agriculture (market gardening) and livestock, craft industry, tourist and hotel services. It is as an economic hub and the centre of administrative offices ; a crossroads for merchants and citizens residing in Azaouad and on the banks of the Issa-Ber. However, the movement of people and goods are paralyzed due to lack of infrastructures. The rural inhabitants often move around on foot, ride on animals (horse, camel, cattle) or travel in a canoe.

3.5.3. Trade

Historically, Timbuktoo is known as a trading town which redistributes goods coming from the Maghreb through Teghazza, Arawane, Walata or Al-Suq and from the south through Djénné. Its commercial calling stemmed from a series of factors that took over from one another in space and time : harmonious location between the Maghreb and Sudan, transfer of the Saharan trading routes from west to east subsequent to the destrucion of Ghana and the advent of Islamization, its location on the Issa Ber river. Hence, Timbuktoo was the ideal relay point between the Maghreb and Sudan.

Today , trade is driven by the Arabs returning from their exodus, by the residents of neighbourhoods such as Belléfarandi, Badjindé and Sankoré, and also by the people living in the south of the country. Trade develops on a daily basis with the marketing of products originating from Mopti, Bamako and especially from the neighbouring countries (Burkina Faso, Mauritania, Algeria).

3.5.4. Agriculture

Agriculture has experienced an unprecedented boom ever since the development of the plains of Koriomé, Amadia and Daye. With the products coming from these areas, Timbuktoo has become self-sufficient and has even began to export rice. The other food grains are imported from Mopti (millet), from Goudam and Dire' (wheat) and from the lake area (sorghum).
Ever since many wetlands around the town dried up, market gardening is only carried out during the cold season (October to March).

3.5.5. Livestock

In Timbuktoo, peri-urban stockbreeding of small ruminants is carried out all year round. During the rainy season, cattle and camel are raised. During this period, fresh or curdled milk is sold in packets.

3.5.6. Road and telecommunications infrastructures

Timbuktoo is at the junction of a road network. The main road follows the loop from Niger up to Douentza, after Mopti. From here, the road linking Douentza – BambaraMaoudé - Koriomé (on the river banks where there's a Ferry crossing) is not accessible throughout the year. However, from Koriomé to Timbuktoo, the 18 km long district road is tarmacked.

To reach Timbuktoo during any season, one takes the Timbuktoo-Goundam-Diré road. There are enough vehicles in circulation. When the river waters rise, canoes replace automobiles. People prefer to travel to

Timbuktoo by air but the cost of the trip does not make it a means of mass transport. The new airport further favours this mode of travel.

Paradoxically, Timbuktoo is a « landlocked crossroads ». The residents of Timbuktoo say that a visitor must never plan his return journey at the risk of failing.

In terms of communication, there are four (4) radios in the vicinity of Timbuktoo : El Farouk, Lafia, Bouctou, Jamana. The neighbouring districts of Ber and Bourem Inaly are equipped with rural telephony ; the districts of Salam, Lafia and Alafia are on the waiting list.

3.6. Technical/technological context

The status of Telecommunications in Timbuktoo is as follows :

« Timbuktoo is equipped with :

- A telephone centre equipped with a digital system OPUS 4300 type of 3 MIC (90 circuits) all connected of which only one MIC (30 circuits) is used with a capacity of 1 500 lines connected to the distribution point which is extendible. This system provides for telephone usage (standard and booth) and low rate data transmission. The exchange has a capacity of eight (8) booth equipment, but only 2 of them are equipped.

- A transmission centre equipped since February 1996 with a DOMSAT earth station, 100% digital, which links Timbuktoo with Bamako with a current capacity of 30 mixed transparent circuits (1 MIC) (not compressed) on a 2 Mbits extendible band , with a digital link of 2 Mbits (1 MIC) by IRT 2000 radio relay link with a central station carrying capacity of 472 subscribers, but equipped for only 344 subscribers extendible to 472, and which links 13 districts of the region with Timbuktoo. All these systems together provide not only for telephony but also for low rate data transmission on the switched telephone network (STN) up to a maximum of 32 Kbits.

NB. Data transmission = Fax, E-mail and Internet. As at 31 January 2001, the number of telephones in Timbuktoo amounted to 640 subscribers with over 400 pending applications for telephone lines.
Source : Transmission Centre, SOTELMA, Timbuktoo.

The cost of the leased line (LL) between Bamako and Timbuktoo was not immediately authorized by SOTELMA which perpetuated a permanent connection problem. At the same time, the Telecentre is attracting many people with its unusual Internet and e-mail services. Its success will depend on how well these services function. Therefore, it is indispensable to keep an eye on this so that the first Telecentre experiment in Mali does not die prematurely.

IV. EVALUATION RESULTS

4.1. Access

The issue of ICT access includes factors such as availability, resources, use and users, beneficiaries, etc.

4.1.1.Telecentre layout and furniture

Initially housed in the premises of the Timbuktoo regional hospital (April-October 1999) where the attendance was low, in October 1999 the Telecentre moved into 3 (3) rooms of the Town Hall made available free of charge by the municipality. Therefore, it left a government building and moved into municipal premises.

Since then, the Telecentre is opposite the « Place de l'Indépendance » and the regional **Haut Commissariat.** It is adjacent to the local police and is 400 metres away from the Mahamane Haïdara highschool.

The large looking premises made up of three (3) large rooms, the size and usage of which are indicated in the table herebelow, are in fact narrow given the number of people using the centre, the number of machines and the many services made available.

Table N° 1 : size and use of rooms

Rooms	Size m²	Use	Space	
			Adequate	Not adequate
1	25	Training, reception		x
2	24	Internet, Fax, Offices	x	
3	15	Server room	x	
4	9	Office of manageress, store		x

Source : « Telecentre surveys, December 2000 »

Thus the Telecentre does not have enough room to accomodate waiting users. There is neither a waiting room nor a reception area. Often the number of people waiting exceed the users who are already using a service. Moreover, there is no privacy when making a telephone call due to the narrow and multifunctional room where the telephone is installed.
However, the MCT has new and comfortable furniture but the staff often feels that it is not sufficient.

Table N° 2 : Telecentre furniture

Type of furniture	Number	Space	
		Adequate	Inadequate
Executive desks	6	x	
Metal tables	5		x
Wooden tables	10	x	
Executive chairs	30		x
Plastic chairs	12		x

Source : « telecentre surveys, December 2000 »

The Timbuktoo Telecentre has not yet found ideal premises. A large building under construction near the main town road at about 500 metres from the Town Hall, not far from public services, will soon be housing the TC. At the construction site, the evaluation team was able to take note of the progress of work, the size of the various rooms and annexes.

On an overall surface area of 1000m2, the building occupies 300m2. The rooms are spacious, similar to a Vietnamese TC and adapted to fit in with the local architecture and comply with the specificities of a multiservice institution like the MCT.

The MCT toilets are the same ones used by the Town Hall.

The thorny problem of the incompletion of the premises has created a lot of misunderstanding in Timbuktoo between the community, the Town Hall and the Project manegement committee. There are strong suspicions being aired. According to the town Mayor, SOTELMA is involved in the construction.

All things said and done, an atmosphere of trust has to be re-established by letting everyone know why the construction work has come to a standstill. It will be necessary to further involve the community, in their capacity as the owner, using a participatory approach and a new communication strategy.

4.1.2. ICT context

Besides the Telecentre, access to information/communication in Timbuktoo is provided by private and public institutions that offer services like : post office facilities, telephone/fax, library, bookshop, etc. not far from the telecentre. The institutions are :
-Papeterie Djiré (Stationer's shop)
- Multiservice
- Cabine privee (Private Booth)
- SOTELMA
- Service de la Conservation de la Nature (Nature Conservation Department)
- CAFE-Jeunesse (coffee shop)

They are either state-owned, private or the property of one owner, or belong to the community (CAFE Jeunesse)and are financially and administratively autonomous. Some of them feel that if they are regularly paying SOTELMA and electricity bills , including rent, it means that their enterprise is doing well.

The advantage that the MCT has over the other service providers, that are mostly private, is that it offers under one roof all ICT services (Telephone/Fax, Interntet and e-mail). The TC staff are of the opinion that the above service providers that offer fewer services all the same support the TC in its endeavours to make the town of Timbuktoo less isolated.

Persons interviewed within the community (total of 65) reside at least (1) km (62%) or 3 Km (31%) from the above-mentioned infrastructures and therefore take less than thirty (30) minutes to walk (74%) , as can be seen in the table herebelow :

Table N° 3: Access to communication/information

Category	Distance					Means		Time			
	At home	0 - 500 m	501m - 1 km	1 km - 3 km	Total	On foot	bike	0 - 10 min	11 -30 min	31-1h	Total
Post office		19	21	20	65	65		31	27	7	65
Private telephone	9	28	19	9	65	65		47	16	2	65
Public telephone	12	28	12	13	65	65		43	19	3	65
Newspaper vendor		34	18	8	65	65		42	20	3	65
Bookshop		26	25	9	65	65		37	21	5	65
Cinema hall	-	-	-	-	-	-		-	-	-	
Clinic/Hospital		19	29	15	65	65		33	27	5	65
Library		22	29	12	65	65		34	27	3	65
Telecentre		20	30	13	65	65		30	30	5	65

Source : Telecentre surveys, December 2000

N.B The first column contains some incorrect answers provided by some users.

As for the Telecentre, less isolated, 77% reside less than 1km and take 30 minutes to reach it, whereas 23% live more than 1 km away. Services in the vicinity exist.

4.1.3. Telecentre resources

The telecentre has material, technical, technological, financial and human resources.

- **Material/technical/technological resources**

An inventory of the telecentre equipment produced the following results :

Table N° 4 : inventory of Telecentre equipment

Equipment	Types/brand names	Number available	used	Not used	Reason
Central units					
For PCWave	Pentium II	1	1		
Dell	Pentium II	4	4		
Authentic AMD	Pentium I	4	3	1	Broken down
LaptopToshiba	Pemtium II	1	1		
X86 Family AT	Pentium I	1	1		
PC Express 486	486SX	4	1	3	Broken down
Total central units		**15**	**11**	**4**	
Monitors					
	Shamrock	1	1		
	APT Provista	4	4		
	Dell	6	5	1	New but faulty
	Other	3	1	2	New kept in store
Total monitors		**14**	**11**	**3**	
Mice					
	Microsoft	3	3		
	Genius	1	1		
	Artec	4	3	1	Bad
Other					
Printer	HPLaserjet 51	1	1		
Colour printer	Color Laserjet 4500 DN Hewlet Packard	2	2		
Loud speaker	Microsoft	7	7		
Digital camera	Digital Still dsc-F1	1	1		
Fax	Panasonic	1	1		

Source : « Telecentre surveys, December 2000 »

The above inventory is not complete ; it does not mention the TC's second hand computers. The survey shows that the majority of the centre's equipment is either new or in « good » condition. Four (4) out of fifteen (15) machines are broken down.
The following table gives more detailed information about the equipment and its condition.

Table n°5: Condition of equipment

Item	**New**	**Good**	**Second hand**	**Broken down/ under repair**	Total
Central Unit	12*	4	14	5	35
Monitor		14**	15	-	29
Mouse	12	4	14	-	30
Modem	3				3
Fax-modem	1				1
Fax	1				1
Printer		3***			3
Voltage regulators		5			5
Loud speaker	7				7
Binding machine	1	1			2
Refrigerator	1				1
Digital Camera			1	1	2
Canon Copier	1				1
Overhead projector		2			2

Source : « Telecentre survey December 2000 »

Key : * three portable; ** 1 faulty new, *** 2 colour
Total number of visible equipment at the TC is given in the following table :

Table N° 6 : Visible equipment in each room

Room	**Type of equipment**	**Unit**	**Comments**
I	Photocopying machine	1	Small size
	Screen	1	Large size
	Refrigerator (Fridge)	1	For sale of beverages
	Panasonic Fax	1	
	computers	7	Half of them new
	Printer (Laser Jet)	1	
	Colour photocoying machine	1	Large size
	Voltage regulator	5	
II	Server	1	New
	computer	2	New
	Telephone	1	New
III	Computers	5	New
	Printer	1	New
	Photocopying machine	1	New
	Voltage regulator	-	

Source : « Telecentre surveys December 2000 »

Specifically, the TC has the following types of computers + operation systems :

Table N° 7 : Telecentre computers and their operation systems

Type	Availability	With CD-ROM reader	Operation system	with Internet connection	used	Not used
486	4		Windows 95		3	Broken down
Pentium I	5	5	Windows 98		1	Broken down
Pentium II	6	6	Windows 98			
Server				10 subscribers	1	
Portable	1	1	Windows 00		1	

Source : « telecentre surveys December 2000 »

The Telecentre also has about a dozen CD ROM and own software and documents :

- **List of software manuals :**
- Programmer,
- Internet training, management of an Internet server,
- Norton Manual
- CD-ROM User's Manual
- Digital overhead projector User's Manual,
- Complete Excel
- CDS/ISIS Manual version 2.3.

- **List of available CD ROMs :**
- UNESCO Sahel point Doc ,
- Library for sustainable development and basic needs,
- World environment library,
- Food and nutrition library,
- Medical and health library,
- Microsoft windows 98
- Access 2000-12-15 Programmes
- Easy Axess Video conference software,
- Windows 97 office pro 97
- Internet training CD ,
- word and Excel training CD

Connection is provided by the tele processing modem and by R.T.C. through SOTELMA, the only service provider used by the TC. Bamako is linked to Timbuktoo by one (1) Mbit/s satellite link for telephone traffic.

According to all the users, connection is irregular. In order to solve this technical and/or technological problem, SOTELMA Management has decided that it is going to use a leased line on the same space segment as the telephone traffic by installing some equipment and configurations at the earth station (Bamako and Timbuktoo). These changes are going to be carried out by ALCATEL which supplies telephony equipment. (See : Feasibility study of a 128 Kbits leased link for Internet access Bamako-Timbuktoo, May, 1999).
These changes should provide a link between the SOTELMA telephone centre and the Timbuktoo MCT via leased line. « The advantage of this system is that the implementation cost is not high ; but voice and data use the same space segment. It is not certain that the equipment will satisfy all the fluctuations of the pass band » (see same).

Pending the leased line, the transmission of documents by Internet is not easy due to the insufficient number of circuits compounded by the continuous increase in the number of rural telephone subscribers. The delay in the procurement and installation of a VSAT for the TC has caused a serious delay in the implementation of the project.

The evaluation team arrived when the connection had been interrupted and the users were starting to feel annoyed. The connection was restablished quickly but it was quite obvious that it was part of a series of hazardous events that were beyond the control of the Timbuktoo MCT. In order to improve the atmosphere prevailing at the Telecentre, the community must understand and know, and therereore will have to be told through the appropriate channels, who is responsible for connection interruptions.

In addition to connection problems, the Telecentre is faced with a series of technical difficulties.

Table N° 8: Technical problems

N°	**Type of technical problems**	Solution by :		**Frequency of problem**
		Staff	**Someone else**	
1	Computer failure	X		4/months
2	Printer break down	X		1/3months
3	Software not working	X		Frequent
4	Routine computer servicing	x		Frequent
5	Photocopying machine break down		x	Rare
6	Out of stock	X		Rare
7	Internet network	x		rare
	Electricity problems			
8	Power cut		x	Frequent
	telephone/connection			
9	Signal interruption		x	Frequent
10	Busy dialling tone		x	Frequent

Source : « Telecentre surveys December 2000 »

The above problems are normally solved in the TC. Out of ten(10) of the problems mentioned, the TC staff is capable of solving six (6) on their own. It is remarkable to note that all technical problems concerning computers and printers are solved by the staff. This is an illustration of the the TC's « technical self-sufficiency ». Moreover, the centre does offer break down and maintenance services.

The Telecentre does not have the capacity to deal with photocopying machine, electricity and telephone/connection problems. It has to call for external assistance to solve them.

The major difficulties inherent to solving technical problems are the following :

- Procurement of computer spare parts ;
- Internet network : quality of service provided by SOTELMA (faulty telephone links).

- **Financial resources**

As of 31/12/00 the expenditure account per donor was as follows :

Table n°9 : Expenditure account per donor on 31/12/00

Financial partners	Total Budget A	Budget spent	Budget spent (%) B/A	Remarks
IDRC	61 200 000	42 626 293	69,6	
ITU	59 130 000	9 594 026	16	
UNESCO	99.000.000	47 059 141	47,5	
FAO	11 700 000	0	0	Status to be provided by FAO Rome
WHO	24.000.000	0	0	Not yet spent
SOTELMA	166 806 600	99 989 954	59,9	
Timbuktoo	92 988 000	14 076 273	15	
Total	**514 824 600**	**213 345 687**	**41, 4**	

Source : « telecentre surveys december 2000 »

From the launching of the project to 31/12/2000, 213 345 687 CFA francs were spent, i.e. only 41.4% of the total budget..

- **Project bodies**

The pilot project is organized at the local, national and international levels as follows (Project Document , page 50) :

a) At the local level : local authority **;** a local management committee ; an MCT manager acting as deputy project coordinator ; a special group of users and creators ;

b) at the national level : a steering committee ; an executing agency ; a project coordinator ; six project implementation teams ;

c) at the international level : partners are l'UNESCO, ITU, IDRC, FAO and WHO.

Local community level

- The local management committee is made up of the leaders of the various local insititutions and partner organizations. The role of this committee is to convey to the local community and governmental authorities, including to the steering committee, information on the sound running of the project in terms of the latter's interests. After the project has run for three years, it would be advisable for the local management committee to take over the management and the organization of the MCT.

- The management committee is composed of representatives from technical (Health, Education), Education) administrative (Haut Commissariat),government, SOTELMA, municipal and community (Hotels, Independent local Radios , Youth, CAFO) departments. The performance level of this committee is limited by the fact that it is relatively young.
- The local management committee is responsinble for recruiting the MCT manager and staff.
- A special group of eight (8) to ten (10) innovators, selected from community institutions and sub-communities, has been set up. A core group and the local information assistants are supposed to participate in the centre's daily activities.

National level

- The steering committee is made up of national partners : ministries responsible for communication, culture, industry, education, training, health, scientific research and rural development. It is in charge of the general management of the project, the regulations and the recruitment of national staff. It is chaired by the communications ministerial department which will appoint the SOTELMA chief executive officer to fulfill this task.
- SOTELMA is the executing agency. In this capacity, it has to act as an intermediary between the project's national and international partners. It is accountable to the project for specific activities conducted in compliance with contractual arrangements made with the international partners.

- The coordinator has been recruited for thirty six (36) months by the executing agency. He is responsible for day to day management, coordination of activities and building of important partnerships at the local, national and international levels. Moreover, an assistant has been seconded by the executing agency to assist the project coordinator.

International level

The international partners, namely, the International Development and Research Centre (IDRC) the International Communication Union (ITU) and the United Nations Education Science and Cultural Organization (UNESCO) , have signed « executing agency » agreements with SOTELMA that lay down the modalities of their contributions to the project.

In addition, the international partners jointly contributed to the project in training three (3) MCT support groups (made up of staff from the organizations concerned and of international experts) in the areas of technical development (ITU, chairmanship), programmes and services (UNESCO, chairmanship) and evaluation (IDRC, chairmanship). The international partners may participate in meetings of the steering committee by virtue of their office.

- **Telecentre staff**

The Telecentre employs a total of nine (9) employees. Two (2) of them are women and two(2) are volunteers. In general, the staff is recruited on the basis of a tender and is subject to an in-house test. It was difficult for the centre to find the staff it was looking for in Timbuktoo, as it had hoped. The following table shows the qualifications, the arrrival date and the status of each of the TC's member of staff.

Table N° 10 : Telecentre Staff

N°	Qualifications	Arrival date	Gender		Status	
			male	Female	Wage earner	volunteer
1	Educational psychologist	August 1998		x	X	
2	Administrator	August 1998		x	X	
3	« A » levels + 2 years	August 1998	x		X	
4	Senior Technician	August 1998	x			x
5	Econometrician	October 1998	x		X	
6	Senior Chemistry Technician	August 1999	x		X	
7	Senior Telecommunications Technician	August 1999	x			x
8	Computer engineer	October 2000	x		X	
9	9th Year. Basic school	February 2000	x		X	

Source : « telecentre surveys December 2000 »

The above staff is the technical and administrative Project personnel, in other words, the « management committee ».
The staff organizational chart is given in annex 1 as well as the terms of reference of each staff member.
In respect of task description, actual skills and MCT training needs study, the following training programme was drawn up for the project staff :

Table n°10: MCT staff training programme

Post	**Training priorities**
Coordinator	Project management ; Marketing ; Virtual community leadership
Deputy coordinator	Equipment maintenance and repair Technical repairs : Project management; Marketing Virtual community leadership
Trainers	Teaching skills ; Office automation Information research and processing Computer assisted Publications Virtual community leadership
Manager	Office management; Officed automation ; Marketing Project management; Customer Relations
Supervisor	Network Administration; technical repairs Equipment maintenance and repair

Source : « telecentre surveys December 2000 »

The head of the Timbuktoo SOTELMA centre works as a volunteer at the MCT. When the TC was created, he was the facilitator between the community and his department and was involved in setting up the computer hardware.
The staff always assist the users and help them to use the equipment (switching on computers, dialling telephone numbers, etc). The staff/customer relationship is friendly.

They communicate in the following languages : invariably French, Bamanan, Songhoy. The users refer to staff by name and always mention the most friendly and pleasant ones.

Customers are very demanding and impatient. They constantly seek the staff's assistance. The staff therefore have to make an effort to meet the customers' expectations.

In general, the TC staff is considered to be « friendly » and « open », but also, « insufficient in number» by some of the community key leaders.

Table N° 11: Staff assessment by the community key leaders

	Imam	**CAFO Chairperson**	**GOUNA-Avenir Chairman**	**Chairman of the Chamber of trade**
Staff	« does its best »	« Friendly »	« friendly » « Insufficientt »	« friendly » « Open »

Source : « telecentre surveys December 2000 »

4.1.4. Use and users

The TC users are both individuals and legal entities. The latter are made up of Local Groups and Associations, organized implementation groups and special targeted groups by the TC (policeforce ; independent radio staff, etc). The community key leaders constitute a group apart and has been the subject of a separate study.

The community survey was conducted using a sample taken from the population of « users » classified as follows :

- « anonymous users »
- community key leaders
- associations, groups and organizations

4.1.4.1. Individuals

A total of fity two (52) people were recorded (ticked off) **at the TC entrance** for five consecutive days.

Observations at the TC entrance were made in conformity with the following instructions :

- space out observation times
- count number of persons entering the TC and record gender and estimated age
- Interview every 3rd man and woman
- Interview all handicapped persons (men and women)

Ticking off gave the following results :

Table N° 12 : typology of users at TC entrance

Sex		**Age**					**Time of arrival at telecentre**						**Total**
M	F	11-20	21-30	31-40	41-50	> 50	9-10	10-11	11-12	12-13	13-14	14-15	
47	5	3	13	24	11	1	8	14	16	6	5	3	**52**

Source : « telecentre surveys December 2000 »

The analysis of the above table shows that 46% of the « anonymous users » are between the age of thirty one (31) and forty (40) years ; 25% between twenty one (21) and thirty (30) years and 21% between forty one (41) and fifty (50) years. The majority of these users went to the TC in the morning (over 84%).

Every third person at the **Telecentre exit** was selected and interviewed over a period of five (5) days consecutively. Thus, fourteen persons (14) out of a total number of fifty two (52) users were chosen for the in-depth case studies , first of all at the TC exit, then in town, at home and in a public place.

Table N° 13 : «Anonymous users » at the TC exit (sex, age, profession)

Sex		**Age**			**Profession**			
Male	Female	20-30	30-40	40-50	artisans	secretaries	Radio employees	others
10	4	4	7	3	4	2	2	6

Source : «telecentre surveys December 2000 »

Among the artisans there was : a blacksmith, a cobbler, a tailor and a driver. The » others » were : manager, accountant, computer hardware maintenance man, technician, teacher, stockbreeder.

Among the fourteen (14) interviewed« anonymous users », four (4) are women, i.e. 29%. All the information collected from the various sources (community, opinion leaders, associations' coordination and women NGOs , TC management committee) corroborate the low TC attendance rate of women.

50% of interviewed« anonymous users » feel that the prices stop women from accessing NICTs. According to them, the main reason for this imbalance is fue to the expensive prices of services or even women's low purchasing power, which boils down to the same thing.

Consequently, 65% think that if prices were reduced there would be a significant increase in the number of women using the ICTs.

Upon analysis of the TC documents, we see that women are not left behind in terms of equal opportunity oriented strategies :

- the woman chairperson of CAFO is a member of the management committee together with another woman ;
- photos of women appear on the front pages of some documents showing them in the process of training men ;
- User's manuals are co-published with women ;
- A 25 to 50% discount of training fees is accorded to women.

Despite all these efforts, the number of women using the TC is still low and therefore it is obvious that there are other reasons other than the cost of access , e.g. illiteracy, sociological and religious considerations, etc.

The elderly (over 60 years of age) are also a marginalized group in terms of ICT access. During 5 continuous days of observations, not a single elderly person came to the TC. Furthermore, in the documented statistics, out of just under 4000 users, only 11 are over 60 years of age. The explanation may be that there is a lack of real motivation and information and perhaps the fact that most of this group's non-active members have no contacts outside Timbuktoo.

The youth have better access, both men and women : 50% of interviewed users were between the age of 30 and 40, 20% between 20 abd 30 and 21% between 40 and 50. However, 5 people out of 14 stated that the current costs stop the youth from having access to ICTs, especially the young graduates.

Needless to say, young people can more easily adapt to ICTs and are more interested in using computer science, especially the Internet, to access educational information. Moreover, young 15 year old school goers, including girls, are frequent TC users. In the evenings they go to tinker on the computer once most of the regular customers have left. One of them spent 5 consecutive days studying for a geography lesson on « Mali : a physical study ».

Finally, in respect of the various professions, the artisans are the most frequent TC users (cobblers, tailors, blacksmiths), followed by press agents, especially from the independent local radio stations and Town Hall employees. At the bottom of the list you have managers, accountants, teachers, pupils, tourist and development agents, without forgetting to mention tourists (see table herebelow : « anonymous users ».

Generally speaking, the user's records show a definite rise in « anonymous users » as can be seen in the following table :

Table N° 14: Monthly customer evaluation

Month	Number of customers	Women
April 1999	5	2
May1999	97	32
June 1999	125	65
July 1999	84	29
August-99	113	47
September 1999	69	29
October 1999	338	86
November 1999	454	91
December 1999	219	88
January 2000	331	73
February 2000	534	97
March 2000	499	179
April 2000	449	128
May2000	384	98
June 2000	270	89
July 2000	557	87
August 2000	672	234
September 2000	650	202
October 2000	741	174
November 2000	921	140
December 2000	721	99
January 2001	891	119
February 2001	832	116
Total	9956	2304

Source : « Telecentre surveys December 2000 »

According to the above table, women represent 23.2% of MTC visitors and men 76.8%. The same source shows that youth represent 48.5%, adults 51.8% and the elderly less than 2%. 40% of visitors go to the TC to acquire computer skills so that they can use the Internet . 10% of visitors access the Internet.

Finally, the « anonymous users » have been going to the TC for the periods mentioned herebelow :

Table N° 15 : Period of time that TC has been used

0 to 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	>12 months	Total
4	3	1	1	1	4	14

Source : « Telecentre surveys December 2000 »

They learned about the TC from the independent local radio stations (53%) and from friends (29%), but also from other people, through advertisements and publications.
Services requested by most users are computer related : word procedssing, training, computer games, etc. (see herebelow : services).

- **Community key leaders**

The survey interviewed four key community leaders, one of them a woman :
- Imam of the central mosque
- Chairman of the Chamber of Trade
- **C**hairperson (woman) of CAFO
- President of Youth Association (Gouna-Avenir)

Table No.16 shows the characteristics of the above leaders including the CAFO office organizer (woman)

Table N° 16 : typology of users (key community leaders)

Sex		Age			Organization	Position	Level	Status	Ethnic group	Religion
M	F	31-40	41-50	>50						
x				x	AMUPI	Imam	Secondary	Religious leader	Songhoy	Islam
x			X		Chamber of trade	Chairman	6th year	Leader	Songhoy	Islam
x		X			Chamber of trade	Administratorr	Secondary		-	Islam
	x			x	CAFO	Chairperson	DEF	Leader		Islam
	x	X			CAFO	Organizer	CAP	Leader	Soninké	Islam

Source : Source, telecentre, December 2000
NB : **DEF** : Diploma of basic education ; **CAP** : Vocational training certificate

All the interviewed community key leaders use the following TC services :

Table N° 17 : Services used by community leaders

Services	Users			
	CAFO chairperson	Imam	Chairman of Chamber of trade	President of Youth association
Training			X	
Regular Information			X	
Internet			X	
Telephone/fax	X	X		
E-mail		X		
Photocopying		X		X
Document printing				X
Computer Information				X

Source : Survey, telecentre, December 2000

The community key leaders acted as advisors in the TC setting up process (Imam) or took an active part in the negotiations with the local authorities for the allocation of the plot on which the headquarters was built (CAFO chairperson).

- **Associations/ groups/Organizations**

The following Associations and Groups were covered by the survey :

- SAVAMA-DCI (Association for the protection and promotion of Ancient Manuscripts)
- GOUNA-AVENIR (youth Association)

- BOUCTOU (Association of tourist guides)
- CAFO (Coordination of Women's Associations)
- Chamber of trade and an affiliated association

The following table shows the Associations' profile.

Table N° 18 : Profile of organizations/groups (objectives, activities and problems)

Name	Type	Mission/ Objectives	Major activities	Staff	Problems
SAVAMA	Cultural Scientific	Protection and promotion of ancient manuscripts	Inventory Identification	None	Lack of funds
GOUNA	Youth	Development	Training Information, Combat exodus	None	Mentality of people receiving handouts
BOUCTOU	Guides	Tourist promotion	Guide services	None	High cost of site access cards
CAFO	Women	Coordination	Training Development	1	-
Chamber of trade	Professional	Handicraft Promotion	Administration, structuring of informal sector	4	Lack of resources

Source : survey, telecentre, December 2000

The above Associations cover the areas of : culture, science, training, professions, tourism, development and enhancement of women. Their main activities focus on cultural and economic development, sanitation and training, as can be seen in the table herebelow :

Table N° 19: Profile of organizations (size, sex, age, membership and activities)

Name	Size	Members	Members' age	Membership requirements	Activities
SAVAMA	60	M	40	Compliance with statutes and rules of l procedure Payment of registration fees Dues	Library census. Fund inventory. Conference canvassing. Koran reading competitions. Reading of manuscripts. Cataloguing funds.
GOUNA	> 200	M/F	18-35	Registration card Membership card Annual dues	Training/literacy. Cultural activities. Orphans' day. Sanitation. Rehabilitation of cemeteries.
BOUCTOU	50	H	18-35	Dues (5000 f/month) Guide ethics	Guiding services Sale of trips/excursions
CAFO	>100	F	20-50	Payment of registration fees. Possess an application receipt; Members' list Activities	A.G.R Training Protection of rights
Chamber of trade	4000	H/F	-	Registrastion number	Administration Handicraft development

Source : survey, telecentre, December 2000

The organization members are young. The size of the Associations vary between 50 to over 1000 members.

The organizations and groups that represent a significant potential clientele generally look for the following information :

Table N° 20 : Type of information, sources, means and cost of information

Associations	Type of information	Why?	Sources	Means	Cost of information/year (Fcfa)
CAFO	Training Women's activities	Emancipation Emergence	Radio Management Newspapersl Interpersonal contacts	Telephone/Fax Letters, T.V Door to door	60 000
SAVAMA	Scientific Cultural Religious	It is the association's mission	Documents, Libraries Telecentre, CEDRAB, Radio, T.V	Letters, Telephone/Fax E-mail Direct Contacts	120 000
Chamber of trade	Artisanal		Correspondents Interpersonal contacts	Internet, Telephone/Fax E-mail	180 000
GOUNA (youth)	Political Economic Cultural	Acquisition of know-how Job creation	Coordination, French partneres, Radio, Newspapers Meetings	Phone/Fax Letters, Radio	600 000
BOUCTOU	Tourist	Respect appointment times	Travel agencies, tourist groups, hotel groups, tourist department	Internet E-mail Phone/Fax	120 000

Source : survey, telecentre, December 2000

The table shows that the Associations and groups use the computer for retrieval purposes (four out of five) and for E-mail and Internet (three out of five).

They all assisted the MCT with computer training activities and with setting up the project applications. They are now waiting for the acutal implementation of their own projects.

4.1.4.2. Beneficiaries

The first TC beneficiaries are the above-mentioned users. In addition to them, the entire Timbuktoo community benefits from the TC services :

- The members of the user's household, friends and colleagues with whom the user shares the information
- The non-user members of the associations and local agencies with whom the user shares the information ;
- Business/social/ religious contacts.

Users' contacts network

The contacts network is the context in which users convey the information they have received and communicate with third parties.

The in-depth case studies show that the 14 users interviewed at the TC exit, (every 3rd user) have different types of contacts with 68 other people, i.e. their next of kin (father, mother, brothers and sisters), their spouse(s) or their aunts and nephews as can be seen in the following table :

Table N° 21 : users' contacts network

Sex		Age					Last school year				Profession					
H	F	11-20	21-30	31-40	41-50	>50	Middle	Upper	Secon-dary	None	Arti-san	Trades man	Stock breeder	House wife	Student	Others
32	36	31	18	5	3	11	12	7	6	43	11	4	1	23	23	6

Source : Survey, telecentre, December 2001

Over 63% of the user's family members have never been to school ; more than 17% have not gone beyond the middle level of basic education and more than 10% the upper level. Only 6 people out of 68 have used the TC at least once.

Furthermore, among the beneficiaries there are those who do not use the TC. These are men and women who, in one way or the other, receive information from the TC users. The 14 chosen users convey the information they have obtained to anybody (57% of users). The people to whom they pass on the information are :

Table N° 22 : non-user beneficiaries

Number	Sex		Profession					
	H	F	Tradesmen	Artisans	Housewife	Guides	Administrator	Other
27	24	3	2	5	2	11	6	1

Source :survey, telecentres, December 2000

They convey the acquired information to 27 people (24 men and 3 women) with whom they are related as follows :

Table N° 23 : relation between beneficiaries and user

Total	Friend	Spouse	cousin	colleague	clients	neighbours
27	11	1	1	4	7	3

Source : Survey, telecentre, December 2000

It is mainly to friends (41%), clients (26%) and colleagues (15%) that the users pass on the acquired information.
The average age of the non-user beneficiaries is between 31 and 40 years and between 41 and 50 years as the following table shows :

Table N° 24 : Age of beneficiaries

Total	11-20 years	21 – 30 years	31 – 40 years	41 – 50 years	> 50 years
27	4	5	9	8	1

Source : Survey, telecentre, December 2000

Once again it is the youth who derive most benefit from the TC (67% are under 40 and above all men, even if they are not the direct users).

Associations' dialogue network

The associations' dialogue network is the framework that they have created to communicate and exchange information among each other. The main type of information that the interviewed associations communicate to

each other and with third parties, is general information on professions, culture, education, tourism etc. as illustrated in the following table :

Table N° 25 : Information sharing

Organization	Information	internal	external	Recipient
GOUNA	Creative	X		French Partners : Leo Lagrange, Solidarity Internationale, Rhone Alps Region, Atlas Logistics and representative in Bamako, APDF
	Job creation	X		
	Development		x	
	Educational	X		
SAVAMA	Cultural		x	ISISCO Madjid Doubaï centre WAMI Libraries of France African studies Institute (Morocco)
BOUCTOU	Tourist	X	x	Tourists from all over the world
CAFO	Minutes of meetings	X	x	National management Executive secretariat
	Initiatives	X		
	Projects		x	
	informative	X		
Chamber of trade	Professional	X		On the Web to potential clients
	Advertising		x	

Source : Survey, telecentre, December 2000

The associations share the information with national external partners (in Bamako) and international (in Europe and with Arab, African and Asian countries). The information communicated to the external partners relate to development issues (fund raising and search for trading partners), as well as to culture and tourism.

The major communication means used are : letters, phone/fax, e-mail, internet and radio.

Table N° 26 : communication means used by the associations

CAFO	BOUCTOU	SAVAMA	Chamber of trade	GOUNA-Avenir
phone/Fax Letters	Letters E-mail phone/Fax	Letters , direct contacts, phone/fax	Internet, phone/Fax Letters	phone/Fax Letters, Radio

Source : Survey, telecentre, December 2000

- **Potential individual users**

The community survey focused on 75 potential users, i.e. 40 men and 35 women picked at random in six target nieghbourhoods (Bellafarandi, Badjindé, Sankoré, Sarakeïna, Djingareïber, Hama Bangou) i.e. 12 people per neighbourhood. However, for reasons due to inconsistency (badly filled in questionnaires), 10 questionnaires were rejected. Therefore, 65 people make up the data base hereunder :

Table n°27 : Age of potential users

15-24 years	25-34 years	35-44 years	45-54 years	Total

5	16	26	18	**65**

Source : Survey, telecentre, December 2000

40% of potential users are between the age of 35 and 44 and 21% are under 34. Their mother tongue is Sonraï, Tamachek, Arabic, Bamanan, etc.

Table n°28: Mother tongue of potential users

Tamachek	Sonraï	Arabic	Bamanan	Other	Total
20	36	4	1	4	**65**

Sources : Survey, telecentre, December 2000

They all speak their mother tongue. However, only 17 persons (26%) can read and write in their mother tongue. They also use foreign languages as shown in the following table :

Table n°29: Foreign languages used by potential users

Foreign languages	Read	Speak	Write	Total
French	14	14	14	**14**
English	2	2	2	**2**

Sources : Survey, telecentre, December 2000

Thus, 16 persons (24%) know how to read and write in a foreign language, French (21%) and English.

The above potential users have the following level of education :

Table n°30 : Level of education of potential users

Not attended school	Koranic school	Primary school	CEP	Secondary school	«A » levels	CAP	BT	Degree	Masters	Other	Total
18	8	18	6	2	2	1	3	2	1	4	**65**

Sources : Survey, telecentre, December 2000

It is extraordinary to note that 28% of the sample has never been to school and that the same percentage has not gone beyond primary school. They are wage earners, self-employed workers, housewives who work either in the public or private sectors (and/or informal). In general, this percentage is made up of heads of families (67%) that do not have more than 6 members. They incur the following daily expenses :

Table n°31 : Daily expenses of potential users (in Cfa francs)

251 – 500	501 - 1000	1001 - 1500	1501 - 2000	2001 - 2500	2501 - 3000	over 3000	Total
1	10	26	14	11	3	1	**65**

Source : Survey, telecentre, December 2000

40% of potential users spend daily between 1000 and 1500 Cfa francs, 22% between 1500 and 2000 CFA Francs and 15% between 500 and 1000 Cfa francs. Finally, with the exception of one, nobody receives any money whatsoever from elsewhere and almost all of them have one source of income from their main job (civil servant, trade).

The potential users require mainly the following type of information listed in order of priority :

- Religion (69%)
- Current product prices (32%)
- Culture (29%)
- How to improve products and services (26%).
- Education/new skills (22%)
- Market possibilities for products/services (18%)

The following table shows the information needs and sources of potential users :

Table n°32 : Information needs and sources

Type of information	Importance (1) very important (2) quite important (3) of little importance (4) not interested				Information Sources (1) telecentre (2) elsewhere (3) Not just anywhere			Priorities (1) top (2) two (3) three		
	1	**2**	**3**	**4**	**1**	**2**	**3**	**1**	**2**	**3**
	14	2	1	10	4	18	6	19	3	5
Medical Services	3	-	-	-	-	3	-	3	-	-
How to improve products and services	17	1	-	8	1	19	5	20	2	4
Current product prices	21	2	-	8	1	29	3	25	4	2
Sources of inputs	1	-	-	-	-	1	-	1	-	-
Market possibilities for products and services	12	4	1	9	1	18	7	17	5	4
Available jobs	7	2	-	-	-	6	2	-	-	-
Social and cultural events	9	10	1	8	3	13	13	10	12	3
Weather	-	-	-	-	-	-	-	-	-	-
Information relating to government : e.g.taxes, legislation texts, regulations, procedures	9	8	1	9	2	13	11	11	8	6
Sports news	8	4	-	-	2	10	-	8	4	-
Culture	19	-	-	2	6	18	1	16	-	2
Religion	45	2	1	2	8	40	4	42	1	2
Tourism	2	4	1	-	1	4	2	2	1	1
Other	2	4	-	-	2	2	3	1	3	-

Source : Survey, telecentre December 2000

The previous table shows that economic information is top priority, e.g.. market data on product and services offered and prices. This is followed by socio-cultural and religious information.

The potential individual users would like to pass on the following type of information outside their community :

Table N° 33 : Type of information that potential users would like to pass on to persons outside their community

Type of information	Importance				From where would you convey this information		Priorities	
	very important	quite important	Of little importance	Not interested	Telecentre	Elsewhere	Top	Secon-dary
About yourselves and what you do	38	1	1			40	32	8
What you sell	33			1		33	26	7
Your culture	23		1	5	2	23	21	
Social and cultural events	26	1	1	7	2	33	23	9
What you can do (looking for work or funding)	36	2	1	2	2	45	38	7
Other	22	1	1			26	24	2

Source : Survey, telecentre, December 2001

The type of personal information (58%) regarding job opportunities and funding (55%), trade (50%), social and cultural events (40%) is the most popular. The interviewees would like to pass on this information from another place other than the TC.

In fact, the communications and information profile indicated in Table 34 herebelow, shows that the TC is not used much by the potential users to make or receive telephone calls, send or receive faxes. This may be explained by the fact that the services currently requested, such as the phone and fax, are available in nearby booths. However, one may reasonably say that the more sophisticated services (e-mail, word processing, Internet), due to their publicity, will be the reasons behind an increased attendance or a reason for the private booths to equip themselves with the afore-mentioned services at competitive conditions.

Table 34 is an interpretation of the questionnaire. One can see, for the different types of communication/information (mail, phone, e-mail, Internet), which establishment is attended, in what context communication is available (work, home, etc.), the communication frequency, cost and frequency of services used.

The table confirms that telephone booths are very popular for communications (making and receiving phone calls, and sending faxes) (42%, 37% and 26% resepectively).Telephone booths were installed before the TC. They are more popular because they are nearer and offer privacy. As for the Cybercafe', it is an alternative to the TC. But when the evaluation team visited the area, it was not operational.

Among the potential users, only 2 persons have already used a computer for word processing, e-mail and Internet.

Table n°34 : Communications and information profile in terms of Telecentres / Infrastructures

Type of communication	Establishment : (1) Telecentre (2) Cybercafé (3) telephone booth (4) none of the above				For which areas did you recently use information? (1) Social-Family/friends (2) Education/training (3) Health (4) Business/trade (5) Government related information (6) News (7) Sports (8) Entertainment (9) emergency/security (10) other										How much did it cost you? (0) 0 Fcfa (1) 250 (2) 251-500 (3) 501-1250 (4) 1251-2000 (5) 2001-3000 (6) more than 3000							For which areas do you normally use information ? 1. Social-Famiy/friends 2. Education/training 3. health 4. Business/trade 5. government related information 6. News 7. Sports 8. Entertainment 9. Emergency/security 10. Others								Frequency (how many times do you go ?) (1) daily (2) weekly (3) monthly (4) quarterly (5) rarely
	1	2	3	4	1	2	3	4	5	6	7	8	9	10	O	1	2	3	4	5	6	1	2	3	4	5	6	7	8	9 10 1 2 3 4 5
Send letters out of Timbuktoo	4	-	10	51	41	1	-	10	3	-	-	-	2	8	20	23	7	4	3	1	6	38	-	2	9	2	3	-	-	- 21 - 9 22 10 25
Receive letters not coming from Timbuktoo	4	-	12	49	33	1	2	11	2	2	1	-	1	12	61	2	2	-	-	-	-	37	-	1	8	1	-	-	1	- 17 - 7 20 9 29
Make trunk phone calls	-	-	27	31	35	-	1	8	1	2	-	-	1	4	17	1	3	7	1 2	8	7	34	3	2	9	-	1	-	-	- 8 2 6 14 6 22

Receive trunk phone calls	1	-	24	36	32	-	1	8	3	3	-	-	1	11	51	1	-	-	-	2	1	34	-	1	7	3	1	-	-	- 14 5 11 11 4 26
Send faxes	5	-	17	21	5	-	-	3	-	1	-	-	-	11	13	4	-	-	-	4	5	7	-	-	3	3	-	-	-	- 9 4 3 3 1 7
Receive faxes	5	-	1	20	4	2	-	1	-	1	-	-	-	10	20	4	-	-	-	-	-	8	2	-	3	1	-	-	-	- 7 7 3 - 4 5
For E-mail	5	-	-	11	3	1	-	2	-	1	-	-	-	5	9	4	-	-	-	2	-	3	1	-	2	1	1	-	-	- 6 7 1 1 1 1
For Internet	6	-	-	4	1	1	-	2	-	1	-	-	-	-	4	-	-	-	-	-	1	1	1	-	2	-	1	-	-	- - - 1 - 2 -

Source : Survey, telecentre, December 2001

Potential users remembered that they recently used the TC for social reasons : to communicate with family and friends, namely, 67% send letters, 51% receive letters, 49% telephone other people. They mainly communicate with other people by letter (send and receive : 58% and 57%) but also by telephone (make and receive : 52% and 52%). Fax, e-mail and Internet are rarely used. **Communication frequency by letter and by phone is greater than by fax or electronic mail.**
Information on economic activities come second followed by social affairs.

It is extraordinary to note that 31% of potential users send letters free of charge, undoubtedly carried by hand by a third party. However, 18% recently paid between 500 and 1250 CFA francs for trunk calls

Very rarely do the potential users send information to Bamako (45%), elsewhere in Mali (25%) and in Africa (31%) as shown in the table hereunder :

Table n°35: despatch of information by potential users

Place	Frequency (1) daily (2) weekly (3) monthly (4) quarterly (5) rarely (6) never						Means (1) TC telephone (2) TC Fax (3) TC E-mail (4) other telephone (5) other Fax (6) E-mail (7) other							Average cost (0) 0 Fcfa (1) 250 (2) 251-500 (3) 501-1250 (4) 1251-2000 (5) 2001-3000 (6) more than 3000						
	1	2	3	4	5	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6
Bamako	2	8	12	7	29	3	3	-	1	30	1	1	31	12	15	2	9	10	7	5
Elsewhere in Mali	-	1	7	1	16	6	-	1	-	6	-	-	24	10	12	1	1	1	1	1
Elsewhere in Africa	-	1	4	3	20	12	-	-	1	12	2	1	22	17	2	5	-	2	5	4
Elsewhere in the world	1	-	2	3	3	24	-	1	1	4	1	2	19	21	-	1	2	-	1	5

Source : Survey, telecentre, December 2001

However, when they send information to Bamako (18%), they use the telephone outside the TC (48%) or other means (57%), but very often they do not pay (55%). Sometimes they pay between 2000 and 3000 francs to send information to Bamako (9%).

Table n°36 : Receipt of information by potential users

	Frequency (0) daily (1) weekly (2) monthly (3) quarterly (4) rarely (5) never						Means (1) TC phone (2) TC Fax (3) TC E-mail (4) Other phone (5) other Fax (6) E-mail (7) other							Average cost 0 Fcfa (0) 250 (1) 251-500 (2) 501-1250 (3) 1251-2000 (4) 2001-3000 (6) more than 3000						
	1	2	3	4	5	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6
Bamako	11	9	17	4	19	2	1	1	-	31	2	1	37	36	5	1	1	5	6	4
Mali	4	1	5	1	14	5	-	-	-	6	1	-	25	22	4	-	-	-	-	1
Elsewhere in Africa	4	-	7	7	13	11	-	-	-	12	3	1	23	26	2	1	1	-	3	4
Elsewhere in the world	5	-	2	1	2	25	3	-	-	1	2	2	22	25	1	-	-	-	2	-

Source : Survey, telecentre, December 2001

Frequency of receipt of information coming from elsewhere presents a totally different scenario : 17% receive information from Bamako everyday, 14% every week and 26% every month (see Table 36).

Once again, it is by telephone that many receive information from Bamako (48%), elsewhere in Mali (9%), elsewhere in Africa (18%). This does not represent an expenditure (55%, 34% and 40% respectively).

4.2. Services, contents and their relevance

4.2.1. Services

Basic ICT services are all available at the TC (telephone and fax, e-mail, Internet, etc.). About ten customers are connected to the MCT server ; they send messages from their own computer. Maintenance, training and advisory services are provided over the telephone or at domicile. The following table compares future planned services and services that currently are available :

Table N°37 : Telecentre services

Services	Future	Existing
Telephone	x	**92 13 86**
Fax	x	92 12 53
E-mail	x	centre@tombouctou.org.ml
Internet	x	www.tombouctou.org.ml
Training : • computer science • Internet	 x x	 x x
Literacy by computer		X
Photocopying	x	X
Scanner		X
Repair/maintenance	x	X
Rent/office	x	X
Production: • Business card • Invitation card • Greetings card • calendar		 x x x x
Redistribution of newspapers		X
Software installation		X

Services	Future	Existing
Sale: • postage stamps • telephone cards • beverages		 x x x
Translation of documents	x	X
Tele-education	x	
Tele medicine	x	
Typing , photocopying	x	
Word processing	x	X
Travel agents	x	
Conference organization	x	
Web page servers	x	X
Office rental		X
Translation of texts		X
Total	**17**	**21**

Source : Survey, telecentre, December 2000

A close look at the table shows us that the MCT very quickly adapted to the real and immediate needs of its users by introducing services like production of business cards, greetings cards, invitation cards and calendars ; sale of postage stamps, telephone cards, beverages ; software installation, redistribution of newspapers ; all these things had not been planned in the project basic document. These latent and imperative needs of the community were thus met thanks to the centre's flexibility that makes of it a real, information and communications multipurpose community centre.

On the other hand, it was not possible to introduce the planned services, e.g. tele-educatjion, tele medicine, typing/photocopying, travel agency and conference organization services. The latter are mainly linked to various planned applications. It is now important to speed up the fund-raising process that has already started as well as the implementation of project applications.

Almost all the interviewees in the focus groups declare to have used the MCT services, especially the tourist guides who make up the largest number, followed by the artisans of the Chamber of Trade and local artisans' associations (over twenty) and finally the SAVAMA members who have access to the same services at their head office with the exception of e-mail and Internet.

Services currently used are listed in descending order of importance :

- computer training
- Information/communication (Telephone/Fax)
- E-mail
- Internet
- word processing

In fact, computer training is the most sought after service (50% of users interviewed at the TC exit confirm this). On the one hand, there is the general feeling that it is necessary to first learn how to use a keyboard before trying to access the Internet, and yet on the other hand, knowing how to use a computer is very important when loking for a job.

However**, users prefer the** services available at the TC. The expressed choices (in order of importance) can be seen in the following table :

Table N° 38 : Preferred services

Services	Number of users
Computer training	3
Internet	3
Information	2
Keyboarding	2
Computer and internet training	1
Other	3
Total	**14**

Source : Survey, telecentre, December 2000

However, the accomodation capacity at the centre is insufficient : more than 70% of users go to the TC everyday for various services. The TC has the highest attendance rate in the morning between 9 and noon, from Monday to Friday (84% in five days of observations). Young school children (girls and boys) turn up in larger numbers on Saturdays and in the afternoon.

In terms of training, demand by far exceeds supply. The waiting queue is long ; the TC staff talk of the TC bursting at the seams. As for the users, the majority thinks that the services provided are not adequate. This can be seen in the following table :

Table N° 39 : evaluation of services made by the users

Evaluation of services	Number of users	Explanations
Adequate	6	Better informed than before Speed in sending messages Communication with abroad guaranteed
Inadequate	7	Insufficient equipment Narrow premises Training too short Lack of connection
Acceptable	1	
Total	**14**	

Source :Survey, telecentre, December 2000

Thus, the inadequacy of services is not measured in terms of services available to meet clients' needs, but rather in terms of levels of satisfation and comfort (too few computers, regular connection interruption, very short training courses, narrow premises, etc.)

However, 43% of users feel that under normal circumstances (connection), the services offered are adequate since they help to :

- be better informed
- Communicate with abroad (E-mail, Internet, Phone/Fax)
- guarantee speed of messages

The most popular services are computer training, keyboarding, telephone/Fax, e-mail and Internet and facilities that can be used on one's own. All are familiar with the main services available at the centre. Generally, the same services are mentioned. Below are the services highlighted by the users (focus groups) :

Table N° 40 : Services highlighted by users

Services mentioned	SAVAMA	Chamber of trade and local Associations	Tourist guides	total
Word processing	X	x	X	**3**
Training			X	**1**
Photocopying	x		X	**2**
Telephone/Fax	x	x	x	**3**
E-mail		X		**1**
Internet		x		**1**
Sale of beverages	x			**1**

Source : Survey, telecentre, December 2000

The majority are not familiar with the real and intrinsic services of the TC : out of the 20 services available at the cente, only 7 are mentioned by the interviewees from the focus groups (see table : centre services), i.e. 33%.

The guides did not mention e-mail and Internet for the simple reason that at the time of the survey these facilities were not actually available, whereas they are regular TC users. The following services are currently used :

Table No 41 : services used

Services highlighted	SAVAMA	Chamber of trade and local associations	Tourist Guides	Total
Word processing				
Training		X		**1**
Photocopying				
Telephone/Fax	X	X		**2**
E-mail	X		x	**2**
Internet		X		**1**
Sale of beverages				

Source : Survey, telecentre, December 2000

The TC is operating below its capacity and potential : out of the 20 available services, only 7 are used frequently (see table : centre services).

4.2.2. Cost of services

Cost of services are fixed on the basis of prices prevailing in Bamako and according to the cost of living in Timbuktoo, albeit in a very flexible manner. For example, guides have a 10% rebate, women and youth have a discount of 25% to 50% on training fees.

The cost of one hour of Internet connection is calculated according to the following method :

- 5 minutes = 1 basic tax
- 60 minutes/5 minutes = 12 basic taxes per hour
- 1 basic tax = 85 Fcfa + 85 Fcfa x 18%= 100,3 Fcfa
- invoice for one hour connection = 12 basic taxes x 100,3 Fcfa/tax = 1203,6 Fcfa

Source : MCT

The following Internet tariffs are applied by the Telecentre : :

Table N° 42 : Timbuktoo MCT tariffs : Internet service

Service	MCT tariff (Cfa franc) : lump sum
Connection 10 hours/month	9 600
Connection 14 hours/month	13 500
15 hours/month	15 000
30 hours/month	25 800
40 hours/month	32 500
Annual connection	125 000
Use of computer by the hour for Web and E-mail	1 500
Installation, configuration and Internet training	24 000
Publication of Web page	
Host page	30 000
Each additional page	10 000
Host page update	15 000
Additional page update	5 000
Training	
Training Windows 1 month	25 000
Training Word 1 month	25 000
Training Excel 1 month	25 000
Keyboarding	
Page capture	500
Rental of machine	500/heure
Printing of text already captured	150
Photocopying	100
Software Installation	15000
Scanning	500
Repairs	
Printer	20 000
Keyboard or Mouse	2 500
Hardware problems in general	15 000
Monthly regular maintenance per machine	15 000

Source : Survey, telecentre, December 2000

Telephone and Fax costs are :

Table 43: Fax tariffs 17h30 – 0h00 (as an example)

Destination called	Week days			Holidays			Time spent	Week days			Holidays		
	BT/mn. 0-7h30	BT/mn. 7h30-17h30	BT/mn. 17h30-0h	BT/mn. 0-7h30	BT/mn. 7h30-17h30	BT/mn. 17h30-0h		Amount	Tax 18%	Net to be paid	Amount	Tax 18%	Net to be paid
Burkina Faso	420	700	530	350	530	350	1	700	126	826	530	95,4	625,4
France	810	1345	1010	1215	1825	1215	1	1345	242,1	1587,1	1825	328,5	2153,5
Niger	1825	3000	2250	1500	2250	1500	1	3000	540	3540	2250	405	2655
Senegal	420	700	530	350	530	1500	1	700	126	826	530	95,4	625,4
USA	1825	3000	2250	1500	2250	1500	1	3000	540	3540	2250	405	2655

Source : Survey, telecentre, December 2000

The various tariffs are contained in an official document signed by the Chairperson of the « MCT local committee » which gives the impression that prices are fixed by this committee.

42% of users think prices are fair, 29% say they are expensive and 21% think they are far too high. Therefore, 50% of interviewees outside the centre feel that prices are high and/or too high compared with their income. They earn an average monthly income of 20000 to 75000 FCFA (71%). They spend a substantive amount of this income on information and communication.

However, users, almost unanimously, said that they have no intention of leaving the centre even if prices were to remain the same or were to increase, since the TC allows for speedy and safe communication. 78% of persons interviewed declare to be able to afford the services offered by the MCT at the current prices.

It is obvious that information and communication has now become part of their basic needs. In addition, the MCT has introduced new practices that are indeed part of the emerging new information society .

Associations spend the most for information and communication, as can be seen from the following table :

Table 44: Cost of information/communication

Association/groups	Annual cost (Fcfa)
SAVAMA	600 000
CAFO	120 000
BOUCTOU	120 000
Gouna-Avenir	120 000
Chamber of trade	720 000

Source : Survey, telecentre, December 2000

Associations spend between 120 000 and 720 000 CFA francs for external communications.

4.2.3. Nature of applications

With a view to expanding the MCT activities, it was decided to choose a core group of users from various bodies, namely, CAFO women's local organizations, youth, educators, men and women of culture, artisans, tourist agents, etc. Each one of these bodies prepared an application project on the basis of their actual needs. This had the advantage of teaching the communities how to use ICTs, how to locally produce information and thus contribute to local development.

A total of thirteen (13) organizations were identified, as follows :

- Education : Academy staff and teaching staff
- CAFO women's coordination
- Health : Doctors and social and health workers
- coordination of artisans
- Research team affiliated to « Mission Culturelle »
  Library society of Timbuktoo
- Tourism : Hoteliers and tourist guides
- « CAFE Jeunesse »
- Association of private radios
- staff of the Haut Commissariat
  - Timbuktoo Town Hall
- literacy teachers
- Local NGO group

In develolping application projects, the organizations contribute to extending the scope of the ICTs and increasing the number of people who can benefit from the MCT. As a result, in September 2000, the MCT financed a study which was carried out by the various organizations to identify, design and carry out a feasibility study for each application project. The study results are available (see : Reference Documents).

In the implementation of the Timbuktoo Telecentre Pilot Project, one of the phases consisted in extending activities to the community through the development of application projects.

Projects featuring in Table 45 were retained and a feasibility study was carried out for each one of them.

These projects should contribute to the development of education, health, economy, etc. through the use of ITCs offered by the TC. Each application group has to contribute in funding the projects and raise additional funds with the support of the TC. The Telecentre shall assist the application groups with its material resources, technical skills and experience.

Table 45 : Summary of application Projects

Organization	Project Titles	Contact	Launching Date	Total funds	Own funds	Funds to be raised
Education	• Young girls education strategies • Educational exchange and support network for Timbuktoo teaching corps • Proficiency course in school statistics for teachers	Tel.92 11 78	Oct. 00	12 998 950	2 540 000	10 458 750
CAFO Women	• Identification of strategies to promote young girls' full-time education	Mme Ben Fatoumata Djitteye Tel. 92 12 23 92 11 26	October 00	5 693 450	635 000	5 053 450
Health	• Computer and Internet use training for doctors	Tel. 92 11 88 B.P. 68	October 00	9 012 700	1 591 650	7 421 050
handicrafts	• Computer and internet training for craftsment • Web page creation	Oumar Dramane Tel. 92 13 60	October 00	3 395 200	720 000	2 675 250
Culture	• Documented study and Web page creation on the cultural heritage of Timbuktoo	Mission Culturelle Tel. 92 10 77	November 00	7 421 200	1 667 750	5 753 450
Society of Librarians	• Training of Librarians in computer and Internet use, Web page creation • Library networking	Darhamane Salaha CEDRAB Tel. 92 10 81 B.P. 14	November 00	11 415 250	2 000 000	8 631 000
Tourism	• Training of guides in computer and Internet use, creation of Web pages	Tel. 92 21 12	November 00	13 039 700	3 120 200	9 919 500
« CAFE Jeunesse »	• Training of 300 young people in computer and Internet use, Club connection	Tel. 92 13 22	After funding	7 349 650	1 674 200	5 675 450
Association Of local independent Radios	• Training of radio speakers and Internet connection of 4 radios	Abdel Kader Askofaré	After funding	9 213 200	1 460 200	7 753 000
Haut Commissariat	• Computer use training for staff, connection of Haut Commissariat	M. Mahamane Maïga Tel. 92 10 74 92 11 06	After funding	9 563 960	7 117 450	2 446 500
Timbuktoo district Town Hall	• Staff training : management data processing, registry office management, Internet connection	Cissé Mohamed Ibrahim Tel. 92 13 87	After funding	18 486 200	5 486 200	13 033 600
Group of literacy teachers	• Training of trainers, neo literates of following languages : Songhoy, Tamacheq, Arabic in computer and Internet use • Literacy by computer	Tel. 92 13 86 S/C TCP	After funding	6 651 550	300 200	6 351 350
Local NGOs	• Training of village leaders in computer and Internet use	ONG ARDIL Tel. 92 13 05	After funding	40 432 200	9 420 200	31 012 000
Total				154 673 460	37 699450	116 184350

Source : Survey, telecentre, December 2000

The application team members will be trained by the MCT staff who have already acquired the necessary skills. However, external assistance will be required for capacity building as per below :

Table 46 : Capacity building of application group members

Skill area	Title of training activity	Training modalities	Target Organizations
Internet	Introduction to Internet and information search	Basic training at Timbuktoo MCT	All organizations
Virtual communities	Mastery of communication tools and software, On-line data processing and distance joint work	Basic training at Timbuktoo MCT Train yourself Distance learning by a MCT trainer	Education, health, libraries
Educational strategies	New educational methods, constructivism and joint learning	Train yourself : Internet browsing, participation in computer fora. Distance learning by a MCT trainer or an international consultant.	All organizations

Source : Survey, telecentre, December 2000

4.3. Relevance and degree of satisfaction

All users declare that the services offered by the TC are relevant and useful especially, e-mail, Internet, computer use training, including Telephone/fax and word processing. The TC offers the following advantages :

- opening up
- speed and ease of external communications and mail transmission
- Cheap communication
- Internet, E-mail for access to the world and education
- Information
- computer science knowhow

When asked « what don't you like about the telecentre ? », the users gave the following answers :

- Lack of connection (43%). Indeed, connection interruption is perceived as a real problem.
- Narrow premises (36%) : the TC is in a temporary location ; it does not have enough room to receive many people at a time.
- Other : not enough machines ; visitors interrupt training sessions ; non compliance with training programme.

Information needs in respect of e-mail, Internet and indepth training have not been met for 72% of users. This is due to connection interruption and the fact that the MCT decided to first cater for initial basic training which is in high demand. There is a very long waiting list of people who have applied for training.

Associations/groups are not satisfied with the quality and quantity of information obtained as shown in the following table :

Table 47 : Degree of satisfaction of Associations' information needs

Satisfaction of information needs	Association	Explanations
Not satisfied	**4**	• Lack of information or misinformation • Slowness of information • Illegible faxes • Disconnected Telephone
More or less satisfied	**1**	
Total	5	

Source : Survey, telecentre, December 2000

The following factors interfere with the quality and quantity of information obtained by the Associations :

- lack of connection
- Timbuktoo is landlocked
- Insufficient means of transport and communication
- Illiteracy
- Lack of centralized information (head office for CAFO),
- lack of interaction among youth
- Bad telephone sound quality in external communications.

Associations/groups evaluate the Telecentre as follows :

Table 48 : Telecentre evaluation

Bodies	Telecentre evaluation	Explanation
SAVAMA	**« not good »**	- Narrow premises - Staff frequently overwhelmed - Disorganized services
Association of tourist guides	« has to be improved »	- Bad reception - Connection interruption - Staff skills have to be improved
Chamber of Trade and local artisans associations	« bad »	- Management not transparent enough

Source : Survey, telecentre, December 2000

Therefore, the MCT does not satisfy the majority of the focus groups members interviewed (i.e. 2/3) for reasons linked to connection difficulties that the centre has been experiencing, i.e. sudden disconnections when in contact with external partners. However, the artisans consider this just a temporary problem since they declare that the MCT has satisfied all their needs and that they have succeeded in promoting their products and their profession at the international level.

The TC is not highly thought of in respect of the following aspects :
- construction of premises that will host the TC
- Organization of services
- Financial management.

In fact, this category of users is not sufficiently informed in respect of the above. It accuses the centre's management of stopping the construction of the premises, the narrowness of the current premises and misinformation on financial management.

According to the focus groups interviewees, it will be necessary to change the way things work and have greater communication with the users.

The needs of the individual users are partially satisfied due to power failures and lack of connection.

Table 49 : satisfaction of information needs of individual users

Satisfaction of information needs	users	Explanations
Not satisfied	9	No e-mail, Internet, in-depth training
Satisfied	5	-
Total	**14**	

Source : Survey, telecentre, December 2000

However, the technical staff think that the centre is well managed and that expenses are incurred only when necessary . Management is transparent and everything is done through the Bank (BNDA) and SOTELMA.

Indeed, some of the mentioned problems do exist. But they basically consist in conneciton interruption, narrow premises, delay in headquarters construction and insufficient communication between the centre and the community.

The key community leaders as a whole hold a favourable impression of the Telecentre.

Table 50 : impression of the Telecentre

	Imam	CAFO chairperson	Chairman youth	Chairman of Chamber of trade
Staff	Does its best	Friendly	Friendly, open	Friendly, open
Services	-	Suitable	Affordable	Insufficient, waiting queue
headquarters	Narrow premises	Good	Narrow premises	-

Source :Survey, telecentre, December 2000

The users and staff of the TC and SOTELMA in Timbuktoo refer to the following « successful achievements » in no particular order:

- Telecommunication staff :

- clarification of computer tool
- training of youth
- opening up of Timbuktoo

- Community key leaders :

- support given to tourist guides (tourism)
- Acquisition of new knowledge and opening onto the world
- improvement of communication and true information in real time
- Proximity of NICTs, especially Internet

- community training

staff/manager/member of management committee :
- popularization, clarification of computer tool
- time saving in the business world (tradesmen, tourist guides)
- training/refresher courses for the communities
- Creation of new services
- Change of mentalities

There are also « failures » like in all human endeavours. The users and staff refer to the following difficulties :
- Irregular Internet connection
- Insufficient local skills
- Inferiority complex of some community groups vis a' vis NICTs
- Insufficient number of machines
- Narrow premises
- Insufficient mobilization of women
- lack of marketing of services

4.4. Durability, marketing and ownership

4.4.1. Ownership and management

The « Project Document » states : the MCT and all of its equipment, with the exception of the Telecommunications infrastructure, shall be the property of the district of Timbuktoo under the guardianship of the Governor (Haut Commissariat) of the region (Timbuktoo). It is envisaged that the MCT will be self-sufficient in three years and managed by said authority. The latter may then decide to transfer the property rights, upon completion of the project, to a consortium/cooperative of local partners or to a private entrepreneur who would pay a franchise for providing the MCT services.

The issue of property in the present case lays down a legal and regulatory precondition, namely the transfer and devolution of assets and skills. In any case, the method would have to be consensual and comply with the project document.

However, the users declare that the TC belongs to the community of Timbuktoo without distinction of sex, race or religion. According to the members of the Management committee, the property rights are exercised through the daily management of the centre : recruitment, supervision, provision of financial and material resources, price fixation.

The centre's management body is known under different names by the users : « management committee », « local management committee », « steering committee », « management and steering committee », which makes it extremely confusing for the community. The active members of this committee refer to it as the « local management committee » which is composed of representatives from Government technical departments, the Town Hall and the community.

This local management committee has undergone changes in its composition since 1999, subsequent to the change in its membership who were government civil servants. The committee has the following responsibilities :

- administrative and financial management (revenue control, control of daily expenses and procurements) of the telecentre ;
- Participation in recruitment.

Table 51 shows the level of community participation in the management of the Telecentre :

Table 51: Participation in management

Management	Member of administrative and technical staff	Community representative in the management committee
Administration/management	X	
Financial management	X	
Staff recruitment	X	
Revenue control	X	X
Control of daily expenses	X	

Source : Survey, telecentre, December 2001

The community representative only participates in revenue control related activities.
On the 22nd February 2001, partners' grants to the Telecentre amounted to two hundred and thirteen million three hundred and forty five thousand six hundred and eighty seven (213 345 687) CFA francs (see annex No.). Among other things, this money was used to fund :

- the MCT launching seminar
- tender for the recruitment of the coordinator
- the MCT equipement

On the 22nd February 2001, the TC revenue amounted to (Table 52) :

Table 52: MTC revenue (1999-2001)

Period	Telecentre revenue	Permanent Connection	Remarks
Year 1999			
May	19 500		
June	32 850		
July	31 250		
August	11 650		
September	71 500		
October	55 100		
November	36 800		
December	80 850		
Total 1999	**339 500**		
year 2000			
January	222 330	7	
February	142 845	10	
March	184 540	9	
April	107 510	10	
May	254 475	9	
June	372 875	4	
July	267 850	6	
August	426 680	3	
September	189 870	10	
October	418 250	3	
November	483 120	2	
December	300 740	3	
Total 2000	**3 371 085**	76	

	Telecentre revenue	Permanent connection	Remarks
Year 2001			
January	315 957	4	
February	595 675	5	Dated 22nd February
Total 2001	595 675	**9**	
Grand total	**911 632**	**85**	
	4 622 217		

Source : survey, telecentre, December 2000

There is a significant improvement in revenue from May 1988 to February 2001 for a total amount of four million six hundred and twenty two thousand two hundred and seventeen (4 622 217) CFA francs. Available information does not allow for comments on the financial viability of the TC because the team had neither the general income statement nor the balance sheet.

The following difficulties were encountered by the staff in charge of managing and running the project :

- the current premises are too small and unsuitable, far too little room for the large number of MCT customers which compromises privacy ;

- impossibility to have one week of permanent connection. This state of affairs discourages customers who think that the MCT is responsible for the Internet service interruption, whereas the technical constraints are beyond the control of the MCT.

4.4.2. Community participation

All persons interviewed state that the TC belongs to the community. But the involvement of the « owner » in the daily management is perceived in different ways :

Table 53: community involvement

involvement	Manager	Community representative
Staff recruitment	X	
Supervision	x	X
Provision of financial/material resources	X	
Price fixation	X	
Administration	X	
Financial management	x	
Revenue control	X	X
Control of daily expenses/procurements	x	

Source : survey, telecentre, December 2000

The community representative in the management committee confirms that he participates in the supervisioin and revenue control.

The community was involved in raising funds for the construction of the building that is supposed to host the Telecentre through the following fund raising events :

Table N° 54: Community contribution to construction of premises

Community	Type of fund raising event
Inhabitants of Timbuktoo living in Bamako	Timbuktoo night : organization of artistic and cultural events
Timbuktoo families and nieghbouring districts	Contribution :100 Francs Cfa/family
Age groups in Timbuktoo	Contribution
Timbuktoo civil servant	Controbution 10 000 Francs Cfa/person
Timbuktoo inhabitants living abroad	Grants

Source : « Survey telecentre December 2000 »

The community is represented in the management committee and in this capacity participates in the management of the centre. It provides the TC with real support. A proof of this is the mobilization of political and religious leaders including leaders of the various groups and associations. However, it needs to receive further instructions as to what it should do in its capacity as project manager.

It is true that the community is not involved in the planning, running and maintenance of the centre. This is normally carried out by the current management, hence a confusion as to who should do what.

V. CONCLUSION

5.1. Evaluation of Telecentre activities

The Telecentre has reached one stage out of its life cycle. Its major achievements feature in the following tables (Tables Nos. 55 and 56):

Table 55 : Evaluation sheet of phase I

Planned activities	Activities carried out
Create the management structure	
Steering committee	**Done**
Management committee	**Done**
Establish an Internet connection at the MCT Use the Internet upon payment of rental charge	**Internet link has been established**
Conclude « Execution Agency » agreement between the international partners and the Executing Agency	No basis on which to make remarks
Create a steering committee	**Done**
Confirm the management committee	**Done**
Recruit the coordinator	**Done**
Recruit the staff in Timbuktoo	**Done (skills were not always available locally**)
Train six application teams and one evaluation support group	**Thirteen application teams were set**

	up but the evaluation team is not yet in place
Final configuration stage of the infrastructure:	
Develop Telecom configuration ; establish links between the MCT and the network.	**Links have been established.**
Draw up and float a tender for Telecom equipment.	**The equipment is in place.**
Define the MCT structure	**Done**
Draw up and float a tender for hardware, software and other equipment	**Equipment. Hardware and software are in place**
Procure basic equipment, hardware and other resources	**Done**
Install basic equipment, software and other resources	**Done**
Update the library catalogue and subscribers' list	In progress
Complete funding, management and operations programme	In progress
Capacity building for project's major user and management groups	Partially done
Organize a study trip for major users' group (Timbuktoo), management committee and coordinator to go and visit other telecentres	**Trips were organized to South Africa and France**
Organize intensive training course for major users	**Done**
Prepare and organize training programmes for the management committees	**Done**
Participate in activities related to network interconnection	In progress
Develop a learn-yourself « Kit » for modern information and communication technologies	**Done but has to be disseminated**
Improve library services	**Not done**
Develop a strategy programme for phase II	**Not done**
Prepare an evaluation programme	**Not done**

Source : « survey telecentre December 2000 »

Table 56 : evaluation sheet for phase II

Planned activities	**Activities carried out**
Implement an operation plan	**Not done**

Source : « Survey telecentre December 2000 »

5.2. Results achieved

There are a total of eight (8) expected results as mentioned in the project document , namely :

- Establishment of Multipurpose Community Telecentre (MCT) in Timbuktoo
- Preparation and implementation of strategies relating to information, education (tele-education) and community training for ICT use
- Preparation and implementation of ICT development policies in Timbuktoo
- Project impact study.

Table 57 : comparison of expected and achieved results

Expected results	Results achieved
1. establishment of a multipurpose community telecentre (MCT)	
• property of the Timbuktoo community	• There is still work to be done for the community to become the owner of the TC. The community is aware of this and bases its property rights on the fact that is is funding the construction of the building and is hosting the centre at the Town Hall. But there is no effective mechanism or structure that helps the community to participate and be duly informed. By default, the community makes its opinion on rumours and suspicions surrounding the management and the construction of the new building, etc. Today, the community is legitimately claiming its property rights ; it is also necessary for the Project management to prepare and implement an ownership strategy so as to produce a better post project phase.
• economically viable	• it is still too early to talk of the MCT's economic vialbility. Studies confirm the centre's viability in terms of duration but the income statements do not yet corroborate it.
• Accessible to entire community (circle) and to all visitors	• Accessibility is guaranteed because it is located in a public place, it makes available ICT services at community tariff conditions and is flexible. However, the project still has to implement a communications strategy in cooperation with the other districts in the area and accelerate the effective implementation of applications that have already been identified.
• capable to act as a basis for a better education and training context in Timbuktoo	• to date there are over six thousand (6000) MCT users and about thirty organization leaders who have been introduced to ICT usage. The MCT is the process of popularizing ICTs, training the community in computer use(about 60 computer training certificates have been already awarded) ; it has laready trained librarians to use UNESCO's CDS ISIS software.

2. Implementation of a strategy aimed at the : • Identification of local information and education needs ; • Encouragement of general understanding of information and education in the development process.	• this result has been partially achieved by the studies carried out in the communities to determine the latters' information needs • the MCT is trying through the independent radios but the outcome is not measurable
3. Preparation of a learn-yourself Kit for community training on ICT use	• the Kit has indeed been prepared for some of the software, e.g. Windows, Excel) ; but popularization for community learn-yourself strategy is still not effective
4. set up tele-education courses adapted to the community's needs (improvement of quality of work for training)	• Not done
5. **Information system models for :** • Public authorities and communities ; • Local production of commercial, cultural and tourist information	• Not done • This is in progress since thirteen (13) application projects have already been identified ; a feasibility study has been done for each one of them. Their implementation will take full consideration of this result.
6**. Implementation of existing communication and information infrastructure development policies in Timbuktoo and the other districts of the region**	• Not done. However, the installation of rural telephony in service with VSAT, even in the most remote areas, could take into account this result.
7. **Social, cultural and economic impact study** on the different users or groups of users of the MCT and of the community in its entirety	• not done. According to the coordinator, the impact study is planned at the end of the project. This evaluation shall contribute to its implementation.
8. **Participation in an international comparative study of five MCTs** planned for Africa, with recommendations on the future use of the MCT model as a tool for development	• Not done. It is planned at the end of the third year of the project.

Source : « Survey, telecentre December 2000 »

5.3. Achievement of objectives

The prinicipal objective of the MCT is to involve the rural community of Timbuktoo and the national stakeholders in the development process of an affordable and viable MCT model that will give access to ICT tools for the betterment of rural development.

The specific objectives consist in (see Table on next page) :

Table 58: Achievement of objectives

Specific objectives	Achievement of objectives
Develop and test : - methods that will allow to cede back the centre and its responsibilities to a genuine community MCT	- **This objective remains to be fully achieved**. As of now, it will be necessary to create within the municipality, a body open to the community key leaders that will decide on how to cede back the TC to the Timbuktoo community. Given the current situation prevailing around the TC, an external facilitator would be in a better position to create the necessary synergy and establish partnership dynamics in an impartial manner.
- Strategies relating to determination of local needs and corresponding data collection	- This process is in progress.
- Learning strategies for the use of the various MCT facilities so as to meet the community needs.	- In progress.
- training programmes on ICT usage	The project has made a lot of progress in achieving this result. The various projects are under implementation under programmes designed to this effect.
- Innovative policies, partnership agreements and tariff structures relating to information and communication	Done and/or in progress
- new technologies and their impact on education, training, support to SMEs, health and medical services.	Under implementation
- tele-education and training programmes assisted by technology in response to the rural polulations' needs.	Not done
- evaluate the social, economic and cultural impact of MTC on district, regional and national development	Not done

5.4. Answers to research questions

5.4.1. Nature of ICT access in the Telecentre

- The TC users are : individuals and legal entities.
  Among the individuals, men account for 76.8% of the users, women 23.2%. Youth represent 48% of the users. They are generally educated. The illiterate feel that computers are the privelege of intellectuals.
  The legal entities are the cultural, scientific, educational, professional, tourist, development and women's associations. They have between 50 and 1000 members whose age ranges betwenn 18 and 40 years.

In addition to the direct users, there are other beneficiaries :they are made up of all the men and women who enter into the « contacts and dialogue networks » with the direct users. Said networks are described as being the context in which the user conveys the information received at the Telecentre. The circle of users is thus extended to friends, colleagues and relatives, etc.

- The ICTs used by the Telecentre are, among others : Internet, E-mail, scanners, telephone /Fax, text printing, photocopying, etc. They are used for purposes of information, education, business/trade and tourism.
- It is difficult to speak of non-users of the Timbuktoo Telecentre in terms of social or socio-professional categories. **However, it was noted that the non intellectual Arabic speakers rarely go to the Telecentre because there is no software in the Arabic language.**

5.4.2. Relevance of available applications and services

- The services offered by the Telecentre respond to the real needs of the Timbuktoo community. **The users are of the general opinion that the ICT services are relevant and useful for the following reasons :**

- Opening up of Timbuktoo
- Speed and ease of external communications. The services are near and available
- Rapid, sure and affordable communication
- knowledge of computer tool

The services that are performing well are : computer training, telephone/fax, e-mail and Internet.

- However, we are forced to acknowledge that the applications are not yet available. They have reached the project stage in areas as varied as education, health, handicrafts, culture, tourism, etc. These relevant projects have been negotiated and prepared with the participation of the beneficiaries themselves. They should contribute to the local development of Timbuktoo. The TC staff has no practical experience when it comes to creating applications. The application projects have not been funded.

- Information needs in terms of Internet, e-mail and in-depth training have not been satisfied for 72% of the users. This is a result of the connection interruption which is beyond the control of the Telecentre.

5.4.3. Durability of the Telecentre

- The issues of property and management have a direct impact on the durability of the Telecentre.
  In respect of ownership, the current management of the TC does not help to clarify this issue. The Project document stipulates, inter alia, the following : « the MCT…shall be the property of the district of Timbuktoo..the latter may later decide to transfer the property rights…to a consortium/cooperative of local partners or to a private entrepreneur »….For the time being, no measures have been taken to solve this important issue which is having an impact on the durability of the Telecentre.

  In respect of management, a management committee composed of leaders of Government technical departments, community and TC representatives and a management committee composed of TC staff are put in place at the local level. A national coordinator and a manager are responsible for the supervision and financial management of the TC respectively. This management approach has the merit of having a separate body in charge of management and one in charge of control. But in practice, the roles are mixed up ; since the members of the control body are often civil servants, there is a continuous turnover of members and the smooth running of the MCT is often jeopardized.

- Community participation in management is very important for the durability of the TC. It is based on a participatory approach through the representation of social and socio-professional categories in the management committee. But it has been noted that the community does not receive regular reports and feedback and that there is a lack of efficiency.

- in order to support the sustainable development of the TC, local capacity building is required in the following areas of skills : Internet, virtual communities, educational strategies. The TC staff, in its turn, will have to be trained in project management, marketing, organization of virtual communites, equipment repair and maintenance, technical repairs, education, office automation, elaboration and application of accounting management tools, especially budget planning, income accounts, balance sheets, etc.

5.4.4. Political, economic and technological context of the Telecentre

- Mali's ICT policy is based on the principle of taking NICT services closer to the people and reduce their costs in order to guarantee access to all. In Timbuktoo, the political and socio-cultural context is conducive for a Telecentre. The political parties and civil society have subscribed to its success.

- In terms of economy, the town's major activities are trade, agriculture (market gardening), handicrafts and tourist and hotel services. Timbuktoo is an important economic centre, a crossroads where several tradesmen meet. It is also a tourist centre of world renown.

- « Timbuktoo is equipped with an OPUS 4300 of 3 MIC (90circuits, all connected) digital system telephone centre.», with a transmission centre that was equipped in 1996 with an earth station, DOMSAT type, 100% digital that links Timbuktoo to Bamako with a 30 circuit capacity (1MIC).. » (see page 13).

The above context is generally favourable for the development of the Timbuktoo Telecentre.

5.4. Positive impact and changes

It would be premature to try and assess the MCT impact. But as of now, there are signs of a positive impact given the way the community has taken to the Telecentre. In addition, the following impact and changes are worth taking note of :

- **The** MCT has created ICT services in the vicinity of Timbuktoo. The opening of Timbuktoo through communication has been very effective for business and tourism. Communication is made easy, it is fast and affordable and it takes place in real time ;

- The MCT has provided the town with modern equipment and services ;

- the MCT has demystified the computer tool in Timbuktoo : women and children are now using computers.

- application groups have been created in areas as varied as handicrafts, tourism, education, health, culture, etc. ; projects are studied and available for every application group ;

- the MCT has promoted tourist guides and artisans in Timbuktoo ;

- the MCT guarantees computer training for the community members bringing about a change in mentalities.

- Librarians have been trained to use UNESCO's ISIS CD ROM.

5.6. Recommendations

- Women are still part of the specific marginalized groups in terms of NICTs. Additional efforts will have to be made to reverse this trend and a study will have to be carried out to identify this problem so that better planned strategies are put in place.

- As for the youth, they are the most frequent users of the ICTs and at the same time they are the most demanding. To prove this, the Timbuktoo youth would have wished to be more present in management, in the application groups and training activities of the TC. It would be necessary to see, together with them, if there is a possibility of having their projects applied first.

- A suitable policy should be elaborated to target the young school goers and their teachers.

- It is not an exaggeration to say that the Timbuktoo community is living at the pace of the TC. It is right to believe that it owns the institution and it is equally right to want to claim ownership rights since it is involved in the management. A community body, independent from the management committee, will have to be set up to prepare the retrocession of the centre to the community. To do this, it would be preferrable for an external facilitator to conduct the negotiations and at the same time suggest strategies for the retrocession of the TC.

- The management committee should be made up of technical support and advisory staff, of facilitators and technical managers under the effective control and supervision of the community . In no case, should the coomunity continue to be a « management committee » and « a management control body » at the same time.

- Autonomy in management, decision making and implementation should behove the local management structures for reasons of greater efficiency.

- The immediate completion of the TC building is indispensable for re-establishing trust and peace of mind around those involved in the project.

- Connection by Leased Line must be immediately carried out if the MCT expects to attract the community.

The Multipurpose Community Telecentre of Timbuktoo (MCT) is an experiment worth supporting. It is on the verge of changing people's mentalities and community life in Timbuktoo. The example of the "young blacksmith" who regularly sends E-mails to his contacts abroad is not fiction.
The demystification of the computer tool, the communicational opening of Timbuktoo, the ICT services in the vicinity are all realities that make this project a necessity for the people of this enclave situated between the river and the sand dunes.

VI- REFERENCE DOCUMENTS

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3. Technical report on current and financial status.August 2000

4. Technical report: General training plan for the MCT project of Timbuktoo. France Henri, January 2000

5. Report :Identification and evaluation of information/communication needs of rural populations in the MCT Pilot Project context. BECIS, December, 1998

6. Project Document, December,1997

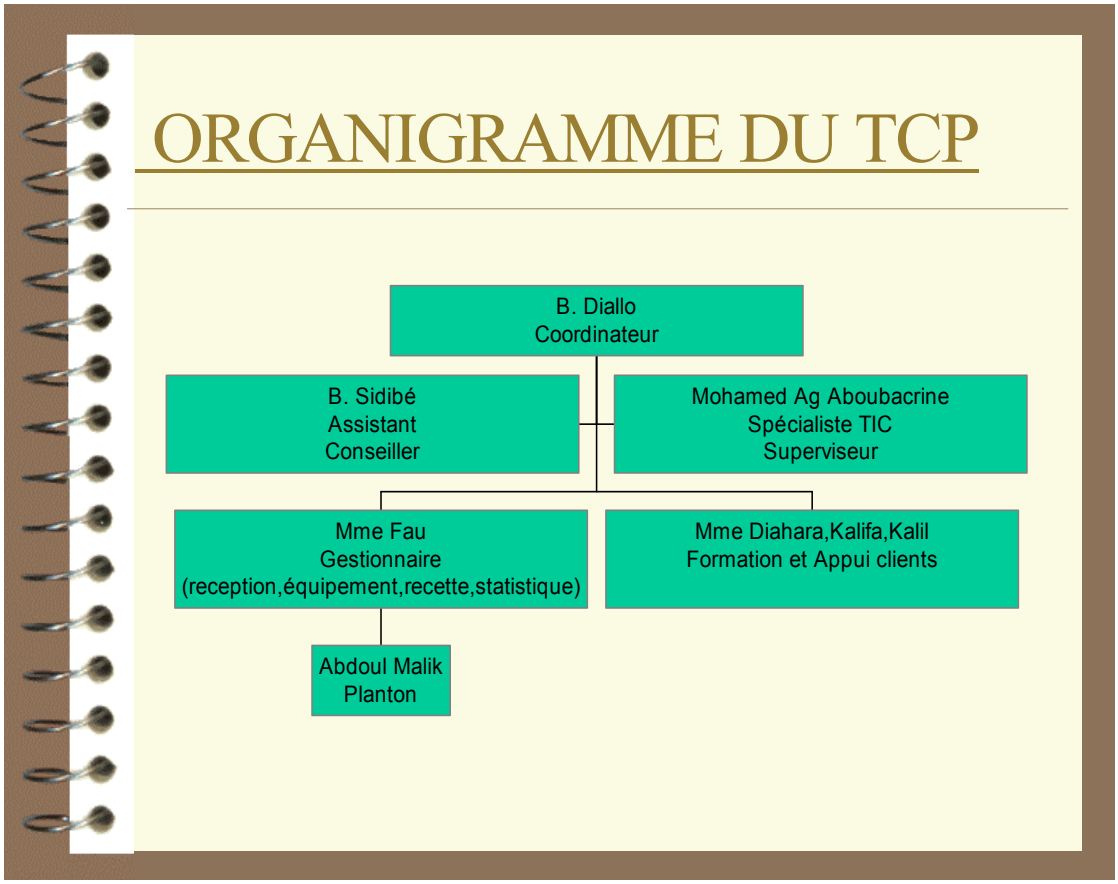
7. Report of project stages to be presented to local management committee of MCT pilot project.. (No date)

8. Doctoral thesis in geography: Albassadjè, 1970

ANNEXES

ANNEX 1 : Staff mandate and activities

The staff organization chart is as follows :



MCT ORGANIZATION CHART

Diallo : coordinator
Sidibe : Deputy Adviser
Aboubacrine : ICT specialist – Supervisor
Fau : Manageress (reception, equipment, revenue,statistics)
Diahara : training and customer service
Malik : Messenger

See next page : tasks of each employee.

TASKS OF TELECENTRE STAFF	
STAFF	**TASKS**
National Coordinator	*Is accountable to international and national partners for the project implementation*
Assistant Coordinator	*Controls financial and material management and gives advice to the coordinator and the expert.*
Supervisor	Has to : Supervise work of assistants Make sure that computer and Internet are working in good operational order Make sure computer system is working Control the production of training programme contents Make proposals for improving the entire system Write a monthly progress report
Manager	Has to: Manage the MCT's assets, Keep the revenue books, Keep an inventory of the equipment, Manage the telephone, fax and photocopying machine Write a monthly progress report
Trainers and client support	Has to: Manage training and customer support Plan & organize the composition of the application teams, Prepare the hand outs for each type of training, Evaluate training, Comply with the general training plan, keep training statistics.
Messenger	Has to : Put in envelopes information for customers Deliver faxes Deliver e-mails to customers. Clean MCT premises

Source : « Survey telecentre December 2000 »

- **Project coordinator :**

Under the authority of the Chairman of the Timbuktoo MCT Executing Agency (SOTELMA) and in close collaboration with the Local Management Committee, the National Coordinator is accountable to the national and international partners for the implementation of the project. In particular, he has to :

- Establish a dynamic relationship between the international and national partners for the planning, implementation and evaluation of the project with the additional responsibility of mobilizing the local community to play an active role;

- In close collaboration with the project team leaders and with the local management committee, prepare detailed plans for the activities mentioned in the project document, supervise and control the implementation of said plans ;
- Guarantee a link with the actitivities of the rural radio and other media, with a view to spreading the information received by the Telecentre ;
- Supervise the construction of the MCT ;
  Take the necessary measures for the procurement and installation of computer and communication equipment (floating of tenders, shortlisting),
- Coordinate and supervise the activities of the teams in charge of infrastructures and those in charge of applications development ;
- Plan and coordinate the activities of the experts (national and international) who could be called upon on an ad hoc basis to carry out specific tasks ;
- Contibute to and participate in the training activities of the various actors involved in the Telecentre ;
- Organizse meetings of the national steering committee and participate in its business if necessary ;
- Participate in the meetings of the local management committee;
- Carry out administrative tasks related to the project (payment of invoices, supply equipment and other related services to the project) ;
- Prepare in collaboration with the Local Management Committee, the National Steering Committee (NSC) and the Executing Agency, the annual activities plan and the draft budget ;
- Prepare and submit to the Executing agency, the NSC and the intenational partners, quarterly project progress reports ;
- Propose a self-financing strategy for the MCT ;
- Put in place a mechanism (methodology) for the follow-up and evaluation of the project activities ;

- At the end of the 2 year period, prepare and present an evaluation report that contains the financial performance of the project.

ANNEX 2 : Summary presentation of the Telecentre

1. General background

The MCT is part of a Programme of Projects that have been jointly implemented by UNESCO, ITU and IDRC in the framework of the Buenos Aires initiative. The exact title of the project is : « Planning and implementation of an MCT in Timbuktoo :introduction of public services into a rural area covering the following areas : education, libraries, culture, health, agriculture, fisheries, SMEs, handicrafts, place of women in society ».

The aim of the MCT is to stimulate rural development by facilitating acces to NICTs. The duration of the Project is three (3) years (December 1997 to August 2000). However, the project was actually launched in August 1988, therefore with a 6 month delay.

The MCT is lead by a local management committee made up on nine (9) members and chaired by the regional Manager of SOTELMA.

2. Aim/objectives of the MCT :

The main objective of the project is to involve the community of Timbuktoo and the national partners in the development process of an affordabloe, replicable and viable MCT that will give access to NICTs tools thereby enhancing rural development.

The model should offer affordable prices, should be replicable, i.e. the Timbuktoo experiment can be copied by other communities and should be economically viable, i.e. it would have to be financially autonomous and in a position to manage itself.

The specific objectives are to:

- Test methods that will provide for retrocession of the MCT to the community
- Test strategies for the identification of needs and collection of information
- Test rural communities' learning strategies of ICTs.
- Test the training programmes on NICT use.

3. Strategies :

The MCT has focused on the following three major strategies :

- At the local level, creation of a core group of users (30 persons appointed by the organizations themselves) through incentives, sensitization and making available free of charge entrance to the TC so that this group becomes the liaison between the centre and the community ;
- Creation of thirteen application teams whose members are appointed by the organizations themselves through the targeting of areas and application projects and contacts with the liaison agents ;
- Development of application projects through identification, feasibility studies, fund raising and project implementation.

4. Telecentre services :

The MCT jointly offers information, communication and library services including training and customer service. More specifically, the MCT is expected to offer the following services :

- Public telecommunication service (public telephone, fax, e-mail and Internet);
- Technical support to evaluate training needs and make sure that official/non-official decisions correspond to the information needs ;
- Access to infrastructures, specialized knowledge and training related information including all required information relating to the public domain, NGOs, commercial data banks, etc.
- equipment and expertise in information production, data bases and publications containing local knowhow and skills ;
- training in the use of modern information and communication technology especially for the improvement of commercial activities ;
- education and training to satisfy the community needs (tele-education, technology assisted training) ;
- tele medicine ;
- rental of premises and conference installations ; translations ; commercial support ;
- Web page server.

5. Project beneficiaries :

The number one beneficiary of the MCT is the entire community of Timbuktoo, mainly the « circle » of Timbuktoo but also other « circcles » of the region , despite the problem of distances.

Some of the major potential beneficiaries are :

- libraries (Public Reading Operation ; The famous Ahmed Baba Centre, CEDRAB, school libraries) ;
- education establishments (Mahamane Alassane Haïdara highschool; primary and secondary schools, both government and private, Medersa, kindergardens) ;
- museum and culture (the Timbuktoo museum);
- the health sector (regional hospitals)
- handicrafts;
- tourism;
- rural development (agriculture, livestock and fisheries) ;
- advancement of women and youth.

6. Activities

The MCT covers a period of three (3) years divided into several phases made up of different activities.

Phase I: 6 months

- planning, procurement and installation of telecommunication infrastructure, building and MCT lay out, elaboration of strategies and initial capacity building.
- Creation of an innovative community of major users as well as of a clear vision of what it means to the community of Timbuktoo to be able to produce information and be part of the communications process.
- Development of strategies aimed at satisfying the local information and education needs.

Phase II: 24 months

Development and setting up of local applications based on strategies elaborated during phase I, taking into account the demands and needs of the community.

Phase III: 6 months

Preparation for MCT expansion and cost-effectiveness through the creation of new partnerships at the local, national and international levels.

Phase IV (PM)

- Building of national and international partnerships
- Project evaluation

7. Budget of telecentre project

donors :		
• IDRC	=	102 000 $ EU
• ITU	=	98 550
• UNESCO	=	165 000
• FAO	=	18 000
• WHO	=	40 000
Contribution of national authorities	=	**309 430**
Community contribution		146 541
Executing body	=	SOTELMA
Source : Project document (1997)		

From the date it was launched to date, i.e. 24 months/36 of its life cycle, 153 350 069 francs cfa have been spent, i.e. only 30% of the total Budget.

8. Partners' donations to the MCT
Table 52: Financial document of the MCT(cost, expenses, revenue)

Month	Expenses	**Remarks**
May 1998	6 072 900	MCT launching workshop
June 1998	0	
July	517 500	
August	400 000	Tender for recruitment of coordinator
September	0	
October	16 830 463	Payment of first equipment
November	299 128	
December1998	439 000	
Total year 98	**24 558 991**	**PERIOD OF FORMATION OF INNOVATORS' GROUP**
January1999	323 500	
February 1999	452 000	
March	2 068 398	
April	6 076 870	
May	4 318 480	Commencement of sale of services

June	5 495 234	
July	3 097 673	
August	7 308 790	
September	5 812 280	
October	2 239 916	
November	8 239 689	
December 1999	5 505 848	
Total year 1999	**50 938 678**	
January 2000	6 587 564	
February	3 699 489	
March	3 275 128	
April	2 945 664	
May	6 230 314	
June	5 725 300	
July	10 345 914	
August	5 115 128	
September	8 895 164	
October	49 990 278	Transfer Sotelma to ITU
November	32 111 378	Transfer Sotelma/building
December 2000	2 926 697	
Total year 00	**137 848 018**	
January 2001		
Febraury2001		Dated 22nd February
Grand Total	**213 345 687**	

Source : Survey, telecentre, December 2000

ANNEX 3 : Methodology

1. Purpose of the study

The purpose of this study on the Multipurpose Community Telecentre (MCT) of Timbuktoo is to carry out an evaluation. The study examines how the MCT functions, draws lessons dating back to its inception, evaluates systematically its impact/achievements and identifies the improvements or changes that are likely to take place at this stage of its existence. In brief, this study, without pre-empting the possible uses of its results,should enable the project to conduct a self-evaluation, a self-review and undergo self-improvement. It is true that this study has been carried out by external experts but it is self-focused and self-managed.

2. Objectives:

the objectives are to :

- Collect, analyse and provide evidence that shows to what extent the Multipurpose Community Telecentre (MCT) of Timbuktoo contributes, at the local level, in finding solutions to social, economic and cultural problems of the community.

- Evaluate the impact the TC has had on the community of Timbuktoo, especially the youth and women living in its locality.

- Examine and document the results of the TC's activities in the community, including the creation of skills and changed capacities, the level of knowledge and information of the community members.

- Document the nature (characteristics, achievements, successes and failures) of the TC's activities.

3. Evaluation indicators

This evaluation study focused on the following major problems::

- Access to NICTs;
- Relevance of services and of content (applications) in terms of community needs;
- Durability;
- Technological, political, economic and social landscape (_context).

The indicators were chosen according to the aspects that had to be evaluated: some are measurable (quantitative) and some are not measurable (qualitative).

Table : evaluation indicators

Aspects to be evaluated	Indicators	Sources
1. access to NICTs • Availability • Resources • Use and users • Beneficiaries • Non-users • Obstacles to access	1.1. number of users, age, sex, literacy and education levels available NICTs, use and usefulness List of organized beneficiaries and needs 1.4. list of non-users	Record of usersisateurs List of resources, software and hardware Group, association and application team
2 . relevance of services and of content • Services • Nature of applications • Relevance • Level of satisfaction	2.1. List of services 2.2. feasibility of application projects 2.3. opinions of beneficiaries	Project document Phase report Report on feasibility study on application projects
3. durability • Economic factors • infra structural • social • educational • political	• ownership (approach, models) • cost and type of management (approach) • existing infrastructure • Participation of the community in management • Type of partnership • Type of capacities for sustainable development (training modules)	• Budget and accounting documents • Community management structure • Telecentre
4. Context • Political • infrastructural • technological • economic • social.	• National NICT policy • Status/nature of infrastructures of available technologies • Usefulness and effectiveness of technology •	• SOTELMA • Telecentre • Study on socio-economic context

Source : BECIS

4. Sample characteristics

- **The telecentre**

The primary observation unit, namely the sampling unit for observation and analysis, was the Telecentre.

In addition to the Telecentre, two private telephone booths and a community cybercafe were included in the study sample for purposes of comparison and to draw lessons from several experiences. The sampling criteria were as follows: representativeness, type of ownership (collective and private), the services offered and maturity.

The community survey was carried out using a sample taken from the population of users categorized as follows:

- « anonymous users »,
- community key leaders and administrative authorities;
- associations, groups and organizations .

- **« Anonymous users »**

Table : Summary

Type	**Number of copies**	Number of persons interviewed
Questionnaires	3	23
Interview guides	7	19
Total	**10**	**52**

Source : BECIS

A total of fifty two (52) persons were interviewed using three (3) questionnaires and ten (10) interview guides. With the exception of the opinion leaders who were deliberately targeted, the sample was taken at random: every third person coming out of the TC was chosen and interviewed. This was done for five (5) consecutive days.

Fourteen users (14) were interviewed, first of all as they were coming out of the TC, then in town, at their home and in a public place according to the questionnaire on "opinion poll of users at the TC exit".

The above sample was taken from a total number of fifty two (52) users who were systematically ticked at the centre's entrance during 5 days of consecutive observations. The observations were made according to the following instructions:

- spacing out of observation times
- taking into account the number of persons entering the TC per gender and estimated age.
- Interviewing every 3rd man and woman, including the handicapped.

Ticking produced the following results:

Table : typology of users

Number	**Sex**		**Age of users**					**Time of arrival**					
52	M	F	>20	20-30	30-40	40-50	> 50	9-10	10-11	11-12	12-13	13-14	14-15
	47	5	3	13	26	11	1	8	14	16	6	5	3
%													

Source : BECIS

- **Associations and groups**

The following associations, organizations and groups were chosen:

- SAVAMA-DCI (Protection and promotion of ancient manuscripts)
- GOUNA-AVENIR (Youth association)
- BOUCTOU (Association of tourist guides)
- CAFO (Coordination of women's associations)
- chamber of trade and an affiliated association

The choice was made after having analysed their relationship with the TC, the type of organization it was, its activities and objectives, and gender component. Discussions were often held in focus groups.

Three focus groups were organized according to their level of use frequency and extent of application of knowledge acquired at the TC in their daily work in compliance with the indicative interview guide.

The participatory approach encouraged a frank discussion in the focus groups which explains why we went beyond the indicative interview guide.

In addition, the instrument that IDRC made available to the evaluation team used to interview the local organizations was sometimes used as a questionnaire and sometimes as a guide, depending on the circumstances and the nature of the discussions. The organizations concerned are the ones already mentioned above.

- **Staff/ manager/ member of the management committee**

Discussions were conducted in a Focus group made up of TC staff (3 persons) according to the interview guide provided for this exercise. However, in order to minimize the bias regarding the status of the various members, the same guide was used to discuss in private with the organizer of the Management Committee who at the same time is one of the community representatives in this committee.

Telecentre staff

In order to draw up a profile of the TC in terms of its staff, technological audit and services offered, the evaluation team organized a special focus group composed of the national coordinator, his deputy and the TC supervisor.

Members of the Management Committee

A similar questionnaire was handed out to three (3) different management bodies:

- The TC Management committee
- The manager of a cybercafe called "Jeunesse"
- Managers of private telephone booths

- **Administrative authorities and technical services**

The Mayor of the district of Timbuktoo, the principal secretary of the "Haut Commissaire "and the SOTELMA representative were very willing to participate in the survey.

- **Community survey**

A detailed individual questionnaire was handed out to sixty five (65) persons (35 men and 30 women)chosen at random in six (6) different neighbourhoods of the town so as to collect information on problems regarding communication access, type of information and individual needs in information sharing:

Table : Age of interviewed persons from the community

15-24 years	25-34 years	35-44 years	45-54 years	Total
5	16	26	19	**65**
7,69%	24,61%	40%	29,23%	**100%**

Source : Surveys BECIS (2001)

Subsequently, four (4) community key leaders **were targeted, namely:**

- Imam of the great Mosque
- Chairman of the Chamber of Trade
- President of the youths' associations

- Chairperson (woman) of CAFO

- **Review of secondary data**

The evaluation team proceeded to analysing the documents it received.