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What Works Case Study

WHAT WORKS: AFRIQUE INITIATIVES-- ATTEMPTS AT COMBINING SOCIAL PURPOSE AND SUSTAINABLE BUSINESS

Offering IT-based business and
healthcare services in Senegal



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EXECUTIVE SUMMARY

Pésinet, a non-profit organization focused on preventative health care, and Saint Louis Net, S.A.R.L., a for-profit business that intends to offer a range of IT-based services to the community, are social development-focused enterprises operating in Saint Louis, Senegal. Both are entities of Afrique Initiatives, a Brussels-based company focused on investing in small business development in Africa. Both activities operate in Saint Louis, a city of about 150,000 in northern Senegal, and share an Intranet site and related IT infrastructure provided by Afrique Initiatives. Both also have a social purpose, but have evolved different operating models.

BUSINESS MODEL

Pésinet provides preventative healthcare services for children up to five years of age from low-income households in the city of Saint Louis. The service weighs children in their homes two times per week, using local trained members of the community, and then tracks and monitors changes in the children's weight over an Intranet with the help of private doctors. It also arranges for follow-up care by doctors when necessary for the children's continued good health. Pésinet charges a nominal monthly fee, averaging less than 150 CFA (US \$0.26)¹ per child, for each child enrolled in the service; the fee also includes the cost of any necessary doctor's visits. The fee provides some revenue, but the majority of the operating costs of the service, which currently reaches about 1,400 children² in eight districts of Saint Louis, are covered by Afrique Initiatives. The number of children Pésinet serves is growing the program hopes to expand its service area in the future.

Saint Louis Net is a for-profit business owned by Afrique Initiatives and Abdou Karim Dieng, a local entrepreneur. Through an Intranet site, Saint Louis Net plans to promote five products to the Saint Louis community: job search services, classified ads for local goods and services, safety-related weather forecasts and marine information for the extensive Saint Louis fishing community, and e-government services. The company plans to deliver these services via a franchise network of telecenters drawn from the roughly 300 such facilities already operating throughout the city. Saint Louis Net has basic computer and Internet services operating in its initial telecenter, franchise agreements in place with two additional telecenters, and a completed Intranet site. However, Saint Louis Net's prospective products have not been realized as yet, and appear to need more research and further development before becoming viable businesses. The company's goal of achieving self-sustainability by its target date of December, 2003, does not appear realistic.

Both activities rely on basic telephone service and Internet access and use an Intranet site created, designed, and currently maintained by Afrique Initiatives. Back-end database services are also provided by Afrique Initiatives.

DEVELOPMENT BENEFIT

Pésinet's goal is to provide preventative healthcare to low-income children in the target age group, reaching the greatest number possible during the critical period of childhood development. The service, although growing, now reaches about 8% of below-five year-old children in the Saint Louis region. While tracking weight changes is a very basic healthcare service, it seems to be effective at identifying a number of illnesses, from malnutrition to malaria, and enabling timely medical intervention. Each month,

¹ Based on exchange rate of 571 CFA:1 USD, September 26, 2003. Source: Yahoo Finance: <http://finance.yahoo.com/m3?u>

² Figure as of August, 2003.

approximately 20% of the children tracked in the first third of 2003 required consultations with doctors. Pésinet’s weighing agents provide a thorough service to the communities they cover, helping to educate families on the benefits of prevention and motivating mothers to seek medical care when a child looks ill. Moreover, the service’s focus on prevention may prove to be a very cost-effective approach for improving public health.

Many of Saint Louis Net’s proposed products might tangibly benefit the community, but it is not yet possible to evaluate their viability or impact.

KEY LESSONS

Pésinet’s model appears to be successful, but it is a non-profit enterprise that will require continued support, as it is not intended to be self-sustainable. Saint Louis Net and some of its proposed services or products could become sustainable, but it is not yet successfully delivering social benefits and faces a number of business challenges, including the difficulties of managing a joint venture when the operating partner has other, potentially distracting, business activities. For the two organizations to share IT infrastructure is a novel and possibly useful approach, but may only be viable when that infrastructure is provided by a third party, such as Afrique Initiatives in this case. The results in Senegal so far also reflect the difficulty of starting a successful enterprise when the initiative comes from an external source, rather than from local entrepreneurs.

WHAT WORKS: ATTEMPTS AT COMBINING SOCIAL PURPOSE AND SUSTAINABLE BUSINESS IN SENEGAL

ENTERPRISE ORIGINS³

In November of 2001, François Jay, Afrique Initiatives' CEO, and Pierre Carpentier, Project Supervisor at Afrique Initiatives,⁴ visited Saint Louis, Senegal, in search of local partners to begin the organization's project efforts in the area. On this trip, Jay and Carpentier met a group of students from the Ecole Supérieur de Multimédia in Saint Louis, whom they recruited as interns. Ten part-time internships were organized for ten students, who prepared a preliminary feasibility study of technology use for the development of the Saint Louis community.

For the first six months, Carpentier traveled back and forth between Afrique Initiatives' Paris office (the head office is in Brussels) and Saint Louis. In the end, four services were chosen for further development under the project name People@Net, which later became Saint Louis Net:

- Pésinet: a health-related project targeting children up to five years of age and focused on preventative measures to combat disease and other health problems in the low-income segment of the population
- Petites Annonces: a commercial advertising service
- Recherche d'Emploi: job search services
- Météo Marine: a service providing weather forecasts to the fishing community

All four projects had difficulty with changing leadership and turnover of students, several of which were international students who left Saint Louis when they completed their university programs. In the case of Pésinet, however, key difficulties were overcome in such a way as to enable the project to continue and improve its services. As a result, Pésinet began to supersede the other three projects.

First, Pésinet's service format is based on weighing children and tracking changes in their weights as indicators of possible health problems.⁵ In the beginning, the students carried laptop computers and weight scales to weigh and record the children's weights in their homes. This proved ineffective due to the difficulty of transporting equipment. In addition, the turnover of students impeded Pésinet's efforts to build relationships in the community, preventing the organization from increasing the number of children involved in the program.

Pésinet changed its service delivery not only by eliminating the use of laptops for record-keeping but also by replacing the students. The original Agents de Pesée (ADPs), or weighing agents, were replaced by women who lived and worked in Pésinet's target districts. The weight scales remained but the laptops were replaced by paper charts for the agents to manually record information.

Additionally, the doctors involved in the project were inconsistent in their reviews of the children's weight information. The first doctors, employed in a public hospital, were burdened by heavy patient loads that made it difficult for them to contribute outside time to Pésinet. An attempt to work with a military doctor also proved unsuccessful because the military hospital was located too far away from the

³ Information from this section is primarily based on interviews with Pésinet Director, Awa Gueye (June 11, June 13, and June 16, 2003) and Saint Louis Net Manager, Abdou Karim Dieng (June 10, June 18, June 19, and June 22, 2003).

⁴ Afrique Initiatives is a for-profit company dedicated to investing in, developing, and promoting self-sustaining business initiatives in Africa. For more details, see its Web site at www.afrique-initiatives.com.

⁵ A further explanation of Pésinet's service format will be further detailed in the Description of the Association/Company section.

communities served by Pésinet. If consultations were required, it was difficult for children and their mothers to make the trip to the hospital. In the end, private doctors proved the best alternative. Currently two of the five practicing doctors in Saint Louis are involved in the project.

While Pésinet was navigating the changes required to improve its services, the other projects continued to struggle. In the end, the remaining projects were combined into one, named Saint Louis Net. In 2002, Saint Louis Net evolved to include a local entrepreneur, Abdou Karim Dieng, also known as Papis, and moved away from the involvement of student interns. Mr. Dieng, a local telecenter owner also involved in food and real estate businesses, established contact with Afrique Initiatives. His grandfather was a community leader who had an active role in the consolidation of the Saint Louis Chamber of Commerce in the mid-1940s. Mr. Dieng is well-known in Saint Louis and has established many contacts throughout the community. Additionally, Mr. Dieng has a degree in computer programming.

By the end of 2002, Mr. Dieng and Afrique Initiatives had established Saint Louis Net and contracted with Mr. Dieng as the manager in charge of developing the projects further. Mr. Dieng holds 48% ownership while Afrique Initiatives holds 52%. In order to pay for his shares in the company, Mr. Dieng transferred part of the revenues rights from his telecenter to Afrique Initiatives. This telecenter is currently the model on which the proposed network of telecenters is based. In January 2003, Saint Louis Net was incorporated as an S.A.R.L. (Société à Responsabilité Limitée), or for-profit company, and Pésinet existed as an association, or non-profit organization, both under the ownership and management of Afrique Initiatives.

REGIONAL CONTEXT

Senegal is well-positioned to be among the leaders in the use of information and communications technologies (ICTs) in Africa. On the technical side, Senegal has not only a backbone connection to the Internet via the US, but also two connections to Canada and an underwater cable connection with France (the Atlantis 2 cable shared with the Gambia).⁶ It is also one of the 13 African countries with connection speeds of 10Mbps or more and is reportedly planning to act as a regional hub by linking its connections with neighboring Mauritania and Mali.⁷

Politically, the country has a stable, democratic government and an administration that acknowledges the importance of Senegal's participation in the information age. The government has taken steps to create a policy environment that promotes the dissemination and use of ICTs. For example, it has begun privatization of the publicly-held telecommunications company, Sonatel. This move led to a marked decrease in telephone costs (as much as a 30% drop in prices), an increase in teledensity (as high as 400%), and an increase in the number of phone centers and telecenters (currently as many as 10,000, including an estimated 100 to 200 cybercafés).⁸ This, in turn, has allowed for improved public access to the Internet and Internet-related services as well as an increase in telecommunications-related jobs.⁹

⁶ Farivar, Cyrus, "The Magic Formula" vs. "The Powerful Force": An Examination of the Internet in Senegal, April 2003, p. 7, from <http://www.ocf.berkeley.edu/~cfarivar/senegal/draft.html> and Jensen, Mike, *ICT in Africa: A Status Report*, Chapter 6 of *The Global Information Technology Report, 2002-2003*, Oxford University Press, 2003, p. 92.

⁷ Jensen, Mike, p. 90.

⁸ Farivar, Cyrus, p. 7, Jensen, Mike, p. 88. Though most sources indicate the existence of 100 cybercafés, the Digital Freedom Initiatives Web site indicates a figure of 200 cybercafés. See www.dfi.gov. Also, for a report on the policy environment in Senegal and the participation of the country's civil society, see Mottin-Sylla, Marie-Hélène, *Participation of Senegalese Civil Society in the Formulation of ICT Policies*, ENDA-SYNFEV, The Association for Progressive Communications (APC) Africa ICT Policy Monitor Project, Senegal, 2002.

⁹ Farivar, Cyrus, p. 7 and Jensen, Mike, p. 88.

Current ICT users and proponents have begun a social movement that is pressuring the government to continue its efforts to improve telecommunications and ICT access even more aggressively. Among the civil society organizations interested in ICT development in the country are ISOC (the Internet Society of Senegal), OSIRIS (the Observatory on Information Systems, Networks and Information Highways in Senegal) and AS3L (the Senegalese Association for Linux and Free Software).¹⁰

Finally, the country has secured a notable degree of international cooperation in improving its use of technology in business development. The Digital Freedom Initiative, a recent example, is a project sponsored by the US government that includes the participation of the US Department of Commerce, US Department of State, US Agency for International Development, the Peace Corps, and the USA Freedom Corps. Through the program, volunteers from US businesses will travel to Senegal to provide consultation in the use of ICTs in business development and innovation. Senegal was chosen as the pilot for this US\$6.5 million project partly because it is recognized that “there is a strong commitment in Senegal at the highest political level to fostering the development and utilization of information and communication technologies.”¹¹

Despite these advantages, challenges remain for the country. Use of ICTs is still primarily found in the capital, Dakar, while rural areas continue to suffer from poor access, service, and facilities. Teledensity rates, though improved, remain low. According to 2000 figures, there are 23 telephone mainlines, 5 mobile phones, and 5.1 personal computers per 1,000 people.¹² 2002 figures show the same rate for telephone mainlines (23 per 1,000 people), but significant increases in mobile phone subscribers and personal computers (56.5 and 24 per 1,000 people, respectively).¹³

One recent report identifies the following major obstacles that will affect the use of the Internet as a development aid in Senegal:¹⁴

- Government support that is more theoretical than real
- Delay in the full privatization of Sonatel until 2006¹⁵
- Illiteracy both in national languages and regional dialects (between 60 and 62% of the population of 9.8 million is illiterate)¹⁶
- High expense of computer hardware and software and of public Internet access in rural areas
- Little relevancy of the Internet to the population’s daily lives

Although Saint Louis Net will have to grapple with these challenges as it expands, their service-oriented managed telecenters, shared-access model, and locally relevant content were created precisely to address the latter three challenges listed.

Saint Louis

In the northern part of the country, approximately 270 kilometers from Dakar, is the city of Saint Louis—Senegal’s capital city during the period of French colonization (Dakar has been the capital of the Republic of Senegal since the Republic was established in 1960).¹⁷ The center of the city is located on L’Isle or the island of Saint Louis. The rest of the city is comprised of a mainland area on one side of the island and

¹⁰ Mottin-Sylla, Marie-Hélène, pp. 7-8.

¹¹ Farivar, Cyrus, p. 5 and see the Digital Freedom Initiative Web site at www.dfi.gov.

¹² *ICT at a Glance, Senegal*, data from the Development Data Group, World Bank, accessed on www.worldbank.org.

¹³ Teledensity statistics courtesy of the International Telecommunications Union. Source: <http://www.itu.int/ITU-D/ict/statistics/>

¹⁴ Farivar, Cyrus, p. 27.

¹⁵ Sonatel is currently only partially privatized, with France Telecom holding 33% of the shares. Jensen, Mike, p. 88.

¹⁶ *ICT at a Glance, Senegal*

¹⁷ See www.senegal-online.com.

La Langue de Barbarie, the primary location of tourist beach hotels, local beaches, and the fishing community.

The city is divided into four chief districts that are further divided into smaller districts:¹⁸

- Langue de Barbarie, five smaller districts – Haut Ndar Toute, Bas Ndar Toute, Guet Ndar Lodo, Guret Ndar Dak, Gokhou Bathie
- L’Isle, three smaller districts – Haut Nord, Bas Nord, Sud
- Bango, two smaller districts – Ngallele, Bango
- Sor, 10 smaller districts – Eaux-Clares/Diaminar, Leona/HLM, Sor-Diagne, Medina Courses/Guinawrail, Darou, Balacoss/Corniche, Ndiolofene, Diamaguene, Sor Nord, Khor, Pikine

Currently, the population of the Saint Louis region is 154,555.¹⁹ The city’s main industries are fishing, tourism, and commerce.²⁰ Depending on the season, these activities vary in importance. For example, during the fishing season from January to April, a migration of the fishing community from other parts of Senegal occurs, temporarily increasing the local population and local fishing activity.²¹

ICT development and use, though acknowledged as important by local officials, suffer from limited access and services in Saint Louis just as in most of the country outside of Dakar.²² There are a small number of cybercafés in the city. Currently there are three in the city—including two on the island of Saint Louis, one on the mainland—and two on the university campus, 11 kilometers away.²³

It is estimated that Saint Louis has close to 300 telecenters. According to a 2001 law, telecenters must be located no less than 300 meters apart. However, in many parts of Saint Louis, this law is ignored and telecenters are placed much closer together, effectively increasing competition. The telecenters are also not equally dispersed; Saint Louis has a large concentration of telecenters in the downtown area of L’Isle, while on La Langue de Barbarie, few telecenters exist.²⁴

Most of the telecenters’ business is generated through community phone service, but some they also provide selected types of Internet access. Generally, if a patron wishes to use an Internet-based service, the telecenter manager acts as an intermediary for the customer, accessing the Internet on behalf of the patrons. Services may include writing, sending, and receiving e-mail, or looking up information on the Internet. Telecenters are usually located in small storefront shops, family-run businesses, or small grocery shops where the telecenter is an add-on to the existing business. Because of their personalized service, telecenters generally appeal to less computer-literate clients than cybercafés.

¹⁸ City of Saint Louis Statistics Bureau (Bureau des Statistiques), June 17, 2003, and interviews with Awa Fall Gueye and Lamin Bousso, June 13 and June, 17, 2003.

¹⁹ Statistics collected in interviews with the city of Saint Louis Statistics Bureau (Bureau des Statistiques), June 13 and June 16, 2003.

²⁰ Ibid.

²¹ Ibid.

²² Information collected in interviews on June 17, 2003, with officials in the Agence Régionale de Développement, ARD, (Regional Development Agency) and Le Mairie (City Hall). Officials interviewed at the ARD include: Mr. Mamadou Sene, Chief of the Division of Communication Training (Chef de Division Communication Formation) and Mr. Amadou Sale. Interviews at City Hall include: Mr. Amadou Diagne, Contrôleur Gestion à la Municipalité (Managing Inspector of the Municipality), and Madame Dimé.

²³ Farivar, Cyrus, p. 8. During this research visit, the two cybercafés on the island were visited; one run by Sonatel, the other a privately-owned cybercafé that was more popular locally and closest to the US or European concept of a cybercafé in that patrons could purchase cold drinks while accessing the Internet. Other public telephone services were offered at both cybercafés.

²⁴ Interview with Abdou Karim Dieng, June 20, 2003.

Cybercafés also provide Internet public Internet access and the business model focuses more directly on this as their primary service. Customers have direct access to computers connected to the Internet that they can use for e-mail, chat, surfing, or research. Cybercafés usually house more computer equipment than telecenters, averaging 20 computers per location. They also usually are located in dedicated space, rather than within an existing business. True to their name, cybercafés also offer café service at a “drink bar” or coffee shop.

OWNERSHIP STRUCTURE

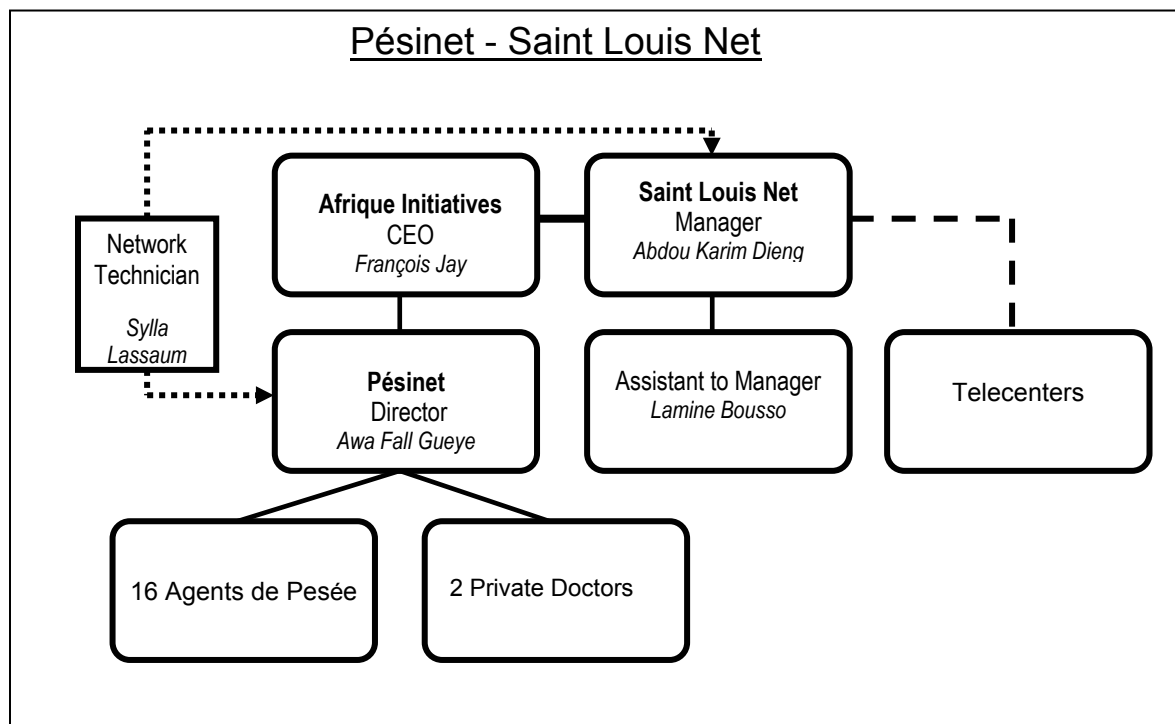
Afrique Initiatives

Afrique Initiatives is a for-profit company headquartered in Brussels, with a second office in Paris. The company’s focus is investment in small- and medium-sized African businesses in order to promote development and “provide a more comfortable life to all Africans.”²⁵ There are five main project areas: education and training, nutrition, health, water/rural energy, and ICTs. Pésinet belongs to both the health and ICT categories while Saint Louis Net falls in the ICT, education, and training categories.

The company is currently the main source of funding and the ultimate decision-maker for both Pésinet and Saint Louis Net, though this varies within the two bodies. A full organizational chart of Afrique Initiatives can be found on its Web site at www.afrique-initiatives.com. This report focuses on the structure only as it relates to Pésinet and Saint Louis Net.

Pierre Carpentier is Project Supervisor at Afrique Initiatives and was the primary contact for the managers of Pésinet and Saint Louis Net. As the project matured, François Jay, CEO of Afrique Initiatives, increasingly served as the primary contact. Figure 1 outlines the relationship between the entities.

Figure 1. Organizational Structure of Saint Louis Net



²⁵ See Afrique Initiatives Web site: www.afrique-initiatives.com.

BUSINESS MODEL—PÉSINET

As an association, or development organization, Pésinet's work is focused on the social goal of providing preventative healthcare services and advice about proper hygiene.²⁶ Pésinet's mission is to improve the health of children less than five years of age in the poor communities of Saint Louis. Its primary service is regular weighing of children who are subscribed to the service, distributing the recorded weights to its partner doctors, and encouraging parents to consult with the doctors and follow prescribed treatments and recommendations.

Apart from the revenue generated from the small fee charged to participating mothers, Afrique Initiatives finances the operations of Pésinet, providing monthly payments to cover budgeted expenses. The objectives of the organization are also primarily developed by Afrique Initiatives. As the director of Pésinet, Awa Fall Gueye is responsible for daily operational decisions and financial management as well as contributing to the development of the overall objectives. She is responsible for the coordination and management of all of Pésinet's activities in Saint Louis including:

- Human resources hiring, training, supervision, and retention
- Managing partnerships with local doctors and community organizations
- Developing Pésinet's operational plan
- Advertising and consumer education
- Arranging appointments for consultations between doctors and parents

Currently, Pésinet's staff includes 16 weighing agents, two for each district that Pésinet serves (this includes two agents that serve their assigned districts and additionally serve one section of a large district that has been split into two service areas), and two private doctors who work on contract.

The Weighing Agents (Agents de Pesée, ADPs)

The characteristics of the weighing agents, as described in the *Origins of the Enterprise* section, have changed with the development of Pésinet. The agents are currently young women from the community districts in which they work. In fact, one of the requirements for the position is that candidates possess a good knowledge of the district they would cover, that they either live or work in the community, and, when possible, that they are recommended by other agents currently employed by Pésinet.

The agents have all completed high school and have a minimum of 10 years of general education with a majority of the current staff having more than 10 years. Ten of the current 16 agents are married and all are in their 20's and 30's, with the oldest being 36 years old.

In order to work full-time with Pésinet, agents are required to complete a two-month internship during which time they are trained in the components of their job, from visiting client homes to data entry. They are evaluated on how well they perform their responsibilities. Turnover of agents is normally quite low.

The Doctors

Pésinet currently has agreements with two of the five private doctors in Saint Louis. Both are general practitioners who work with Pésinet in addition to their private practices. Pésinet currently pays them each CFA 100,000 (US\$174.97) per month; the market rate for a single consultation with a private physician is CFA 5,000 (US\$8.75).²⁷ On average, these physicians see more than 20 patients a day—which means they can make more in one day in their private practices than they earn from Pésinet in a month. Each doctor is responsible for four of the eight districts Pésinet serves.

²⁶ Information for this section based primarily on interviews with Awa Fall Gueye, June 11, June 13, and June 16, 2003.

Services

As discussed in the Origins section above, the Pésinet project has survived key changes that have defined its current structure and service. At this time, the organization's principal activity is the collection and monitoring of children's weight who are subscribed to their service. The service is a preventative measure against the common ailments that afflict the low-income children of Saint Louis. These include malnutrition, malaria, and other childhood illnesses. Pésinet's service is intended to reduce the incidence of these illnesses during the critical period of childhood development, from birth to five years of age.

Pésinet provides eight scheduled weighings per month, two per week directly in families' homes. Two weighing agents per district regularly visit the subscribed families to weigh enrolled children. Weights are recorded manually on-site and then transferred to a database maintained by Afrique Initiatives.

Childrens' weights are graphed to provide a clear picture of fluctuations and changes. The doctors receive daily e-mail updates when new weight data is recorded. The doctors review the charts and inform Ms. Gueye, Pésinet's project director, via e-mail of any of the children they wish to see for a consultation. Generally, if a child has a low weight recorded twice, they are scheduled for a consultation. Ms. Gueye then works with agents to schedule the child and mother for an appointment with the doctor assigned to their district.

An estimated 20% of the subscribed children require consultations with the doctor each month. Mothers may be given a nutrition program to follow to improve their child's health or the doctor may dispense medication if it is necessary to treat a present illness.

Fees

Pésinet charges an enrollment fee to mothers that participate in its program. Awa Gueye describes this fee as a "symbolic," indicating that without it, the families would not consider Pésinet's services valuable, as free services may be perceived as being poor quality. However, Afrique Initiatives did not implement a fee-based structure simply to signal the service's value, but rather as a revenue-generating feature of their service delivery model.

The cost for one child is CFA 150 (US\$0.26) per month. However, on average, most mothers have five or more children and Pésinet's prices are tiered to accommodate this. Enrolling two children costs CFA 250 (US\$0.44), three children CFA 300 (US\$0.52) and CFA 100 (US\$0.17) additional for each child after the third. As a price comparison, the cost of a mango in Senegal is CFA 150 (US\$0.26) in season, mangos being a common, readily-available product.

This subscription fee is apparently affordable for the mothers enrolled.²⁸ Pésinet has not thus far seen a large drop in the number of children enrolled (see *Community Served* section for additional details) since the separation of Pésinet from Saint Louis Net, and between 80 and 90% of the mothers pay the required monthly fees as scheduled.²⁹ The subscription fee includes not only the eight scheduled weighings but also any required consultations with the doctors. Mothers can also visit the doctors individually should one of their children become ill while enrolled in the program, a good value when you compare the Pésinet subscription fee to the regular cost of a private consultation with a local physician (CFA 5,000 [US\$8.75] per visit) or a visit to the public hospital (CFA 2,500 [US\$4.37]).³⁰

²⁸ This was reiterated in interviews conducted on June 16, 2003, with mothers currently enrolled in Pésinet's services.

²⁹ Numbers collected in interview with Awa Fall Gueye, June 11, 2003.

³⁰ Interview with Awa Fall Gueye, June 11 and June 16, 2003, and Dr. Massaer Dioum, June 18, 2003.

Market

Pésinet's primary consumers are mothers in the districts the organization has targeted. Families in Senegal are often quite large, especially since religious and local laws allow for men to be married to more than one woman. Women on average have five children or more.³¹ Thus, a family unit can consist of up to 20 children of various ages and multiple children in the under-five age range.

There are currently no other organizations offering a similar service. A now-defunct community nutrition project operated for five years, but did not provide the same services. It weighed children only once per month, did not travel door-to-door to the homes of the participants, did not focus as strongly on preventative services, and did not provide private consultations with doctors.

Pésinet currently serves eight districts in the city of Saint Louis. Table 1 details the number of children enrolled per district for the months since the organization's separation from Saint Louis Net.

Table 1. Number of Children enrolled in Pésinet³²

District	January	February	March	April
Ndjolofene*	220	225	224	127
Cite Niakh*				138
Guet Ndar**	157	171	158	165
Pikine	210	210	223	229
Darou	142	145	145	147
Diamaguene***	212	193	200	237
Total	941	944	950	1043

*Ndjolofane & Cite Niakh: statistics for these districts began together and were divided by Pésinet for better management by the agents.

**Guet Ndar: a fishing district. The larger fluctuation of numbers here is most likely due to the roaming nature of the families, whose livelihoods depend on the movement of fish.

***Diamaguene: the slight variation of numbers here is most likely because a number of families were unable to continue paying the subscription fee.

Consumer Education and Market Segmentation

Pésinet promotes its services in various ways. Mothers sometimes hear of the services through word of mouth from other women in their districts. Additionally, Pésinet works with District Associations and the heads of these associations, District Chiefs, to hold consumer education presentations of Pésinet's services and the benefits to children's health.

These promotion efforts, which Pésinet calls its "Caravane de Sensibilisation," involve all employees of Pésinet including the doctors. Mothers learn how Pésinet's services work, including seeing how the service is enabled by the Internet and e-mail, and have the opportunity to ask questions and speak with mothers already enrolled in the program. Mothers currently enrolled also provide testimonials of their involvement in the program.

At the moment, it is too early to gauge Pésinet's impact on its target population or on the city and region of Saint Louis in general. As previously mentioned, Pésinet currently serves approximately 6% of its target market of children up to five years old. According to the statistics bureau in Saint Louis, the region includes 26,119 children in the 0-4 age group and another 23,646 in the 5-9 age group.³³ Pésinet's enrollment as of the end of April, 2003, was 1,043 children (refer to Table 1.).

³¹ Interview with Awa Fall Gueye, June 16, 2003.

³² Ibid.

³³ From visits to the Saint Louis Statistics Bureau (Bureau des Statistiques), June 13 and 16, 2003.

There are, however, selling points of the service that benefit the organization and could contribute to future growth. These include:

- The service is less expensive for families compared to the cost of a single private doctor or hospital visit.
- The focus is on prevention. The service is provided by Pésinet and its private doctors, and not by the public hospitals, which are reportedly of poor quality. Additionally, the service is not only provided at the time a child becomes ill, but on an ongoing basis.³⁴
- The weighing agents provide thorough service to the communities they cover. They pay attention when a child looks ill and also help motivate mothers to take action. They provide education on the benefits of prevention.

However, there are some reasons that mothers do not enroll their children in Pésinet's services, indicating that continued consumer education is a necessary component to the growth of the organization. According to Pésinet's director, Awa Guaye, some of these include:

- Although Pésinet's services are priced low enough to be affordable for low-income women, there yet remain some very poor mothers who cannot afford the service
- Some mothers, even with consumer education efforts, fail to understand the need for and importance of Pésinet's service

Future Outlook

Pésinet's immediate plans include projected growth to 1,300 children enrolled by the end of July 2003, and 1,900 by June 2004. However, it is not clear what further growth plans the organization has in terms of target numbers per month per district, or whether the organization plans any additional outreach beyond their current advertising and consumer education activities.

Ms. Gueye also discussed the potential to offer additional services to the communities in which Pésinet currently works. This desire was reiterated by one of the doctors affiliated with Pésinet, Dr. Massaer Dioum. Dr. Dioum believes the relationships already developed by the weighing agents can be maximized to provide more sophisticated preventative healthcare services.³⁵

Additional informal plans include expanding into other parts of Senegal as well as into other countries in Africa. According to Ms. Gueye, Afrique Initiatives has plans to begin similar services in Mali and Mauritania. Detailed plans, however, are not yet available.

³⁴ Based on interviews with Awa Fall Gueye, June 11 and June 16, 2003, and enrolled mothers, June 16, 2003.

³⁵ It is not clear from Dr. Dioum's interview if he is suggesting that agents be replaced by nurses, progress into being trained as nurses, or receive another level of medical training that will allow them to more knowledgeably assess the health of the children they visit and weigh. What is clear is that he sees an opportunity for Pésinet improve its level of preventative healthcare services. Dr. Massaer Dioum, interviewed June 18, 2003.

BUSINESS MODEL—SAINT LOUIS NET

According to Mr. Dieng, the mission of Saint Louis Net is to improve life for the residents of Saint Louis and to create a self-sustaining model for the delivery of services using technology.³⁶

Saint Louis Net's structure is based on the contract agreement between Mr. Dieng and Afrique Initiatives. Lamine Bousso, assistant to Mr. Dieng, is one of the original ten students involved in the People@Net project. Mr. Sylla Lassaum is a network technician providing technical support for Pésinet and Saint Louis Net.

Saint Louis Net's potential business model is based on an Intranet platform of services, which the company plans to advertise to local telecenters. The company hopes to develop a network of telecenters that will then promote its platform and services to the local population. In addition, Mr. Dieng continues to operate the telecenter he began prior to his contract with Afrique Initiatives.

Mr. Dieng's Saint Louis telecenter offers services similar to other telecenters in Saint Louis and in Senegal more broadly, including Internet access, word processing, telephone calls, faxing, photocopying, and training in basic computer use. It is to act as a model for other telecenters in the proposed network.

At the moment, the telecenter is the only functioning activity and the only source of revenue for Saint Louis Net. Saint Louis Net has contracts with two telecenters in addition to Mr. Dieng's and the Intranet site has been designed and created by Afrique Initiatives, but none of the five proposed products and services advertized on the site are currently operational or capable of delivering services either to potential partner telecenters or to individual clients.

Telecenters - Points of Public Access³⁷

Telecenters offering public telephone access and other services are popular in Senegal due to a drop in telecommunications prices after the partial privatization of Sonatel.³⁸ In the Saint Louis region, telecenters have contracts with Sonatel and are charged CFA 60 (US\$0.10) per call unit³⁹—of which CFA 10 (US\$0.02) is paid to cover consumer tax costs. Saint Louis consumers use telecenters primarily to make telephone calls. According to Mr. Dieng, an average telecenter has between 100 and 150 clients a day. The average call is two minutes long and the average cost to the public is between CFA 75-100 (US\$0.13-0.17) per unit. By comparison, note that mobile phone use has become more popular throughout Senegal. Prices vary, but the cost per unit on average is CFA 225 (US\$0.39)

Larger telecenters with more than one private telephone booth can lower their price to CFA 65 (US\$0.11) per unit depending on their volume. On weekends and holidays, Sonatel cuts the per unit charge to telecenters in half. Telecenters then pass on the savings by doubling the length of call times on these days. The number of telecenter customers is typically higher on these days as a result. The large number of operating telecenters provides sufficient competition to keep prices relatively stable.

³⁶ Interviews with Abdou Karim Dieng and Lamine Bousso, June 9 and June 19, 2003.

³⁷ Information from this section based on interview with Abdou Karim Dieng, June 20, 2003.

³⁸ Farivar, Cyrus, pp. 6-8 and Jensen, Mike, p. 88. It should be noted that although telecenters also provide Internet access, the access they offer is not continuous Internet access. The cost of constant connection is too high for most telecenters with a low number of computer stations and low volume of customers requiring Internet services. Cybercafés allow continual Internet access with customers paying per-hour rates for access.

³⁹ Senegal's call unit system is based on the European call unit system, with a unit being a measure of call time which serves as the basic calculation of call cost. Instead of paying more money per minute for a longer distance call, the call would require more units. Calculations are made based on distance and length of the call.

In addition to basic telephone service, some telecenters also offer services such as fax, photocopy, and assistance with writing and sending e-mails. The cost of photocopies varies from CFA 20-75 (US\$0.03-0.13) per page. Faxing charges are in the range of CFA 150 (US\$0.26) per page plus the cost of the units for the transmission. Pre-paid telephone cards are also sold in denominations of 5,000 and 10,000 CFAs (US\$8.75 and US\$17.50). With either of these telephone cards, telecenters earn CFA 250 (US\$0.44) per card.

Establishing a telecenter involves an initial fee of CFA 50,000 (US\$87.75) and a deposit of CFA 300,000 (US\$524.71) to Sonatel to ensure against the unmonitored use of call units and as security against loss of revenue if a telecenter shuts down before paying for the calls it generated. Additional costs include installation fees of CFA 53,000 (US\$92.70) telephone booth equipment CFA 35,000 (US\$61.22) and call unit monitoring equipment CFA 90,000 (US\$157.41). Most telecenters operate from 8:00 AM to midnight with two shifts of managers in charge of operations. These managers usually earn monthly salaries of CFA 15,000-20,000 (US\$26.24-34.98), which is nearly comparable with the average monthly income for Senegal as a whole of US\$39.⁴⁰

Saint Louis Net's Proposal

Saint Louis Net proposes to develop a network of telecenters in Saint Louis that will act as franchises for its services. The company has set a target of 25 telecenters in operation by the end of 2003. Services will be accessed by telecenter managers via an Intranet interface that will permit access to the database of service offerings (described below). Saint Louis Net will provide the information technology services, including the purchase of computer equipment and the Intranet platform (the interface of which, as previously indicated, has already been designed and created by Afrique Initiatives). Franchise telecenters will provide Saint Louis Net's services to individual customers as a pay-per-use model using a per-service fee schedule determined by the company.

The telecenters will pay Saint Louis Net a flat fee of CFA 50,000 (US\$87.75) per month, and retain any profit generated by the fees they charge to consumers after the monthly fee has been paid. Of the 300 telecenters currently in existence in Saint Louis, three have been chosen to begin promoting Saint Louis Net's suite of services and have already had computer equipment purchased and installed by Saint Louis Net. Computers are loaned by Saint Louis Net, which remains responsible for their upkeep and periodic upgrades or replacement. Mr. Dieng is currently training the managers of these telecenters (including his own) in the use of Saint Louis Net's interface and service model. For the remaining 22 telecenters projected to be part of the Saint Louis Net network, the company is targeting telecenters primarily in the L'Isle and Langue de Barbarie areas of the city. However, a clear idea of partnership criteria has yet to be established.

⁴⁰ Calculated using yearly gross national income divided by total population. Statistics taken from World Development Indicators, 2002, World Bank. <http://www.worldbank.org/data/countrydata/countrydata.html>

Proposed Products and Fees

A list of proposed services and prices is included in Table 2.

As Mr. Dieng says of the pricing schedule:

“We want to sell [the services] very cheap because people don’t know about technology here, so the only way we can reach them and convince them to use the services is by offering our services at very, very low prices.”

Table 2. Price List of Saint Louis Net’s Proposed Services

SERVICES	Service Description	Price Per Use
Recherche d’Emplois (Employment Search)	Post Resume/Curriculum Vitae	CFA 200 (US\$0.35)
	Post Job Offer	No Cost
	Search Job Listings	CFA 200 (US\$0.35)
	Let Employers Know You are Searching	CFA 200 (US\$0.35)
Espace Entrepreneurs (Entrepreneurs’ Space)	Contract Listing	CFA 250 (US\$0.44)
	View Listings of Partnership Opportunities	CFA 250 (US\$0.44)
Petites Annonces (Classified Listings)	Service Subscription (monthly)	CFA 200 (US\$0.35)
	Advertisement Posting	CFA 150 (US\$0.26)
Le Marie a Votre Service (City Hall At Your Service)	City Hall Listens To You	CFA 100 (US\$0.17)
	City Hall Document Service: Birth Certificate copies, Construction Permits, Drivers Licenses, etc.	CFA 100 (US\$0.17), plus the government charge for the document
Météo Marine (Marine Weather)	View Weather Report	CFA 100 (US\$0.17)

Recherche d’Emplois – Job Search Services

Recherche d’Emplois will be an online job and internship search service featuring job announcement postings by local businesses. Appendix 1 provides a screenshot of the Intranet page for this proposed product. Saint Louis Net’s goal is to promote employment in Saint Louis and the region. The service will be targeted to a wide range of businesses and households. The primary focus of the service will be targeted at the population of physical and skilled, but not highly educated, laborers such as carpenters, plumbers, janitorial workers, and hairdressers.

According to Mr. Dieng, the demand for these types of jobs is high. For example, in the case of janitorial workers, who are predominantly women working as chamber maids in hotels or as house cleaners in local homes, the size of families and households creates an adequate demand for positions. According to the

Bureau of Statistics of Saint Louis, there are approximately 35,000 households in Saint Louis. Mr. Dieng reports that while not all of these households can afford housekeeping services, those that can often hire people from outside their immediate neighborhoods. Currently, most people in housekeeping positions find their jobs through personal referrals or word of mouth. The *Recherche d'Emplois* interface is intended to provide public, searchable job announcements for all locations in the city, giving additional access to available jobs.

There are also two local publications currently advertising vacancies for professional services of more highly-skilled workers published every fifteen days. In addition, there are a few Web sites and nationwide newspapers that offer job announcement services. These are not focused on local areas such as Saint Louis, but on the capital, Dakar. Job announcements for the less-skilled, less-educated workforce in Saint Louis are usually circulated through more local, personal, word-of-mouth mechanisms. Thus, Saint Louis Net is hoping to be the first to offer an online service that will allow these types of vacancies to be advertised more quickly throughout the city.

However, Saint Louis Net has not completed market research on the size of this population of workers, nor has it performed a market survey to ascertain the demand for these jobs amongst the households that can afford to hire such workers. Additionally, the number of households, average income levels, and class structure of the city could not be confirmed as part of this study. Thus, market demand for job search services, such as those offered by Recherche d'Emplois, is not known. Furthermore, should this market demand be confirmed, there is no way of knowing if Internet-based search services will be embraced.

***Petites Annonces* – Classified Listing Services**

The service proposed in *Petites Annonces* is an online listing of local classified advertisements to assist in the exchange of goods and services as well as to provide a format for facilitating communication among residents of Saint Louis. While the details are not yet specified, the proposed service would allow residents to access the classified listings at one of Saint Louis Net's telecenters for a fee of CFA 200 (US \$0.35).

Commerce is one of the three strongest economic sectors of Saint Louis. There are two outdoor markets of significant size in the city, where buying and selling of food, clothing, and other goods occurs. The remaining commercial activity consists of smaller, specialized shops such as bookstores and street vendors, which are located in various areas apart from the market locations.⁴¹ Small- and medium-sized businesses use several channels to publicize their products. The most common, just as in the case of job vacancies, is word of mouth. Local newspapers are sometimes used to advertise products.

Radio advertising is also a popular method of publicizing goods and services, and Saint Louis Net is counting on its strong relationship with one station in particular, Radio Taranga, to help promote its services, especially the classified and job listings services. Radio Taranga, which is known to have the highest listener rating in the city during its noontime and after-6:00 PM programming, is clearly in support of Saint Louis Net's mission and services. The following statement by Radio Taranga's founder exemplifies this:

"I believe technology can help the development of Saint Louis, and I am a true Saint Louisienne, living and working in my hometown. So, I'll be more than happy to help in the development of this project."

⁴¹ From visits to the Saint Louis Statistics Bureau (Bureau des Statistiques), June 13 and June 16, 2003.

Radio Taranga has even gone so far as to offer to publicize the company's services free of charge. However, it should also be noted that the station found a past working arrangement with Afrique Initiatives less than satisfactory. Says the founder,

"I worked with Afrique Initiatives a couple of months ago, when we did a community program together on IT informational sessions. I didn't even receive a thank you."

Based on this statement, it is unclear if Saint Louis Net can depend on the continued support of the station or continued free advertising for its services. As a result, they may need to factor additional costs into their long-term model if they indeed continue to advertise on the radio.⁴²

As with its job search service, Saint Louis Net has yet to research the current circulation of the two local publications listing classified advertisements, nor has the company polled local vendors or businesses as to their needs for a service of this kind.

What may prove to be a stronger initial market segment for this service is the student population of Saint Louis. Saint Louis Net hopes to introduce its service to students through a partnership with the Centre de Formation, or Training Center. This organization, run by two psychologists and affiliated with the Ministry of Education, is Saint Louis' center for all information related to higher education. Located near the city center, the office publishes and posts information about exams, internships, educational requirements, academic opportunities, and updates on the latest regulations from the Ministry of Education.⁴³

Oumar Ndiaye of the Training Center regularly makes the four to five hour drive (eight to ten hours roundtrip) along predominantly unpaved roads to Dakar to gather the latest information on higher educational matters. This new information is then posted on the public bulletin boards at the Center. Students from the greater Saint Louis region must travel to the center to access the information. Students use the center year-round, though certain months see a marked rise in numbers. As Mr. Ndiaye indicates, "In months of exams, between January and March, we get more than a 100 students each day. They come here to check all sorts of information."

Saint Louis is home to the University of Berger, with an enrollment of approximately 3,000 students. The Training Center estimates that there are an additional 10,000 students transitioning from the high school to university level each year, with students going on to university in Saint Louis as well a large number that go to school in Dakar. As Mr. Ndiaye notes,

"It is not only students from the university, but students from the pre-university level who have to check information about their educational future here at the Centre de Formation."

He continues,

"It would be great for us if we could have the information posted on the Internet. That way we could devote our time to helping students and advising them, which is what we get paid for and what we were originally trained to do."

⁴² Information in the Radio Taranga portion of this section, as well as quoted statements, are from an interview with the station's founder at Radio Taranga's offices on June 18, 2003.

⁴³ Information included here and in the remainder of the product section are based on a visit to the Centre d'Orientation, June 17, 2003, that included an interview with Mr. Oumar Ndiaye and Mr. Aliou Diop.

Students would also benefit from having information available via the Internet. In contrast to Saint Louis Net's other target market segment of low-skilled laborers, a large number of students are comfortable using computers and are familiar with the Internet. One such student visiting the Center indicated that he usually visits the Center once a week to check on the educational updates. He also states, "I would pay up to CFA 200 (US\$0.35) each day to avoid coming here if I could check this information on the Internet."⁴⁴

Although the Training Center would clearly benefit from the decrease in travel time that automating the information update process would allow, more research is required at this time to fully assess the potential success of such a service. More information is needed on the current level of technology at the Dakar offices of the Ministry of Education and whether Saint Louis Net would be able to adequately update its Intranet to accommodate the weekly changes in educational information (even with the assistance of Afrique Initiatives).

It is also unclear how well Saint Louis Net's current model of using an Intranet platform accessible only at its proposed network of telecenters would accommodate a market segment hoping to access information via the Internet. In fact, it is evident that the proposed network of 25 telecenters would not prove any more advantageous for students or others who did not live near one of the telecenter locations. However, if Saint Louis Net's information was accessible over the Internet, students could obtain the information they needed wherever they currently access the Internet, such as the University of Berger campus, which has adequate computer facilities and Internet access.

To successfully capture this market segment via Internet access, Saint Louis Net would also need to develop an adequate pricing method—possibly charging the Training Center a monthly fee for maintenance, partnering with the University of Berger and other nearby schools (and charging them fees), or determining a way to charge students for access to their database of information (a service currently offered at no cost to students visiting the Training Center).

Météo Marine – Marine Weather

The purpose of the Météo Marine service is to provide online weather forecasts and marine information to help improve the safety of the fishing community of Saint Louis. Fishing is the primary economic activity in the city, accounting for CFA 5,911.20 million (US \$10.34 million) and providing jobs for 15,000 people.⁴⁵ This population figure includes those who actually go out to sea (almost exclusively men) and those who work in the transport, preparation, or sale of fresh or smoked fish (almost exclusively women). The community is migratory, with a large number traveling along the coast of Senegal following the supply of fish, depending on the season (fishing season runs from January to May). Fishing excursions vary from one to three days out at sea.⁴⁶

The fishing community is organized into 15 associations with elected representatives that help organize community meetings and association activities. Further groupings of six to eight people make up a single fishing boat. Most boats consist of groups of people who share family ties. The overall environment is cooperative rather than competitive.⁴⁷

⁴⁴ From informal conversation with users of the Training Center (Centre d'Orientation) during visit on June 17, 2003.

⁴⁵ From visits to the Saint Louis Statistics Bureau (Bureau des Statistiques), June 13 and June 16, 2003.

⁴⁶ Interview with Mr. Alioune Badara Tall of the Saint Louis Fishing Federation (Federation des Pecheurs Saint Louis), Magatte Fall fishing community, June 19, 2003.

⁴⁷ From visits to the Saint Louis Statistics Bureau (Bureau des Statistiques), June 13 and June 16, 2003, and an interview with Mr. Alioune Badara Tall of the Saint Louis Fishing Federation (Federation des Pecheurs Saint Louis), Magatte Fall fishing community, June 19, 2003.

According to Saint Louis Net, the fishing community has shown interest in a weather forecasting service on more than one occasion. For the community, getting a forecast could mean avoiding dangerous conditions that could threaten their safety. For example, between February 5 to February 15, 2003, 15 people in Saint Louis died in fishing-related accidents due to storms and bad weather.⁴⁸ Similar incidents occur every year. The fishing community could benefit not only from forecasts for the areas they chose to fish, but also from real-time knowledge of weather conditions that could assist them in planning their travel to and from these locations.

The current business model for the Météo Marine service is based on the creation of an online, real-time weather forecasting system targeted to Saint Louis' fishing community.. Customers would pay either to access the information through Saint Louis Net's Intranet, or pay for the weather information through the telecenter operator. The proposed fee is CFA 100 (US\$0.17) for each weather report.

The proposed Météo Marine service, though beneficial to the community, faces several difficulties Saint Louis Net will need to address in order to successfully develop the product. According to Mr. Dieng, there is one ideally-located telecenter in the fishing district. However, few other telecenters exist in the five districts that make up Langue de Barberie, the center of the fishing community. Without adding additional telecenters, the Météo Marine service will likely face supply and distribution problems.

Additionally, the service model is based on the assumption that community members will require daily forecasts and will be able to pay the proposed CFA 100 (US\$0.17) fee per forecast. Much of the community is unable to read or write; the fee would include a consultation with the telecenter manager. This individualized service may prove difficult if a large number of community members, all wishing to access information prior to going out to sea, simultaneously arrive at a single telecenter.

More significantly, however, is the cooperative nature of the community. There is no reason why an individual member of the community who paid the access fee would not then share the information with the rest of the community. Saint Louis Net may wish to consider other pricing models, such as targeting association representatives and charging a monthly subscription fee for the service, in order to improve its chances of earning a profit with this product.

The pricing issue, however, is not the most problematic hurdle to the development of the product. Still more significant are the limitations of the information provided by the national weather service of Senegal. According to Aida Diongue Niang, an employee of the agency, the weather service is unable to provide sufficiently detailed information on the area of Saint Louis for a Météo Marine-like service to be valuable.⁴⁹

Current weather reports cover the country as a whole and are provided free of charge. The national weather service is in the process of redesigning its services in order to provide more detailed weather information. The forecast information, however, is not anticipated to be specific enough to provide a valued service that Météo Marine could then market through Saint Louis Net. It is not clear at this time what further levels of specificity might be in store for the future, or when such information might become available.

Additionally, to cover some of the costs of improving the technology and equipment needed to provide more specific, real-time weather information, the national weather service plans to begin charging private

⁴⁸ Interview with Mr. Alioune Badara Tall of the Saint Louis Fishing Federation (Federation des Pecheurs Saint Louis), Magatte Fall fishing community, June 19, 2003.

⁴⁹ Interview with Ms. Aida Diongue Niang, of Senegal's National Weather Service (Direction de la Météorologie Nationale), June 20, 2003. Information indicated in the remaining paragraphs of this section also from this interview.

companies wishing to access this information. However, the agency has not yet developed a clear policy on who will be eligible to access the information or how much it will cost.

Finally, Ms. Diongue Niang has indicated that at least one other private company, based in Dakar, has approached her agency with plans to develop an Internet-based weather information service.

Without an adequate government information infrastructure to support Météo Marine, it is unlikely that the service, as originally envisioned, will exist for some time.

Espace Entrepreneurs – Entrepreneurs’ Space

This service is planned as an online space for local entrepreneurs to exchange information and services, develop business-to-business partnerships, facilitate local commerce, and promote the development of economic activity in Saint Louis and the region. The service will include online access to the Appel d’Offres process (government contracting similar to RFPs, or Request for Proposals, used in the United States), as well as partnership requests published by the Chamber of Commerce, Regional Development Agency, and City Hall government offices. Users will be able to complete applications online. Appendix 2 provides a screenshot of the product’s Intranet page.

The Saint Louis Chamber of Commerce has been in existence for approximately 100 years. More than 200 businesses are affiliated with the organization. Most are not active participants but attend the Chamber’s annual assembly. The Chamber of Commerce offers the only formal communication channel for contacting local businesses. At this time, the Chamber of Commerce newsletter is part of the Saint Louis Net Intranet site. Only 15 members of the Chamber currently subscribe to the newsletter; yet Mr. Dieng remains confident that more members will wish to use the service.⁵⁰

According to Mr. Dieng, Saint Louis Net can utilize the Chamber of Commerce’s network to advertise its proposed services to a large number of companies. He believes the connection can be used to help *Espace Entrepreneurs* act as a centralized information hub for development projects and as a conduit for creating business-to-business partnerships in Saint Louis. For example, Mr. Dieng hopes to have information about local projects financed by international organizations like the World Bank included on his Intranet site in order to inform local entrepreneurs about partnership opportunities with these organizations.

Saint Louis Net’s main goal in establishing the online Appels d’Offres (or RFP) service is to allow for increased transparency in this government process. Mr. Dieng explains that with the current system, local entrepreneurs are often left out of the bidding process; personal relationships and a word-of-mouth communications process contribute to a system where officials offer RFPs and contract opportunities to their personal contacts. Mr. Dieng believes Saint Louis Net’s service can facilitate a more public process with all local entrepreneurs having equal opportunity to bid on contracts.

Despite the possible benefits to the local business community, several issues need to be resolved before the market potential of the *Espace Entrepreneurs* service can be ascertained. The number of requests and contracts, the amount of money these represent, and the significance the business partnership opportunities for local businesses all remain unclear. Also, the Chamber of Commerce is as yet unable to establish strong communication channels with local entrepreneurs and businesses and may not provide as strong a marketing venue as Mr. Dieng believes. Lastly, the impact Saint Louis Net can have in establishing a more transparent system of government contracts without securing the full support of local

⁵⁰ Interview with Abdou Karim Dieng, June 19, 2003. Interview with Mr. Abdoul Gueye, Saint Louis Chamber Of Commerce (Chambre des Commerce), June 17, 2003.

officials and agencies is questionable. A survey of current laws and policies in place to encourage transparency in government processes would be beyond the scope of this study; however, without these official measures, it is unclear how Saint Louis Net will successfully counter resistance from those who benefit from the current system.

Le Mairie a Votre Service – City Hall at Your Service

Saint Louis Net also proposes to help automate local government processes through its Intranet site. *Le Mairie a Votre Service* is Saint Louis Net's most ambitious service, and also potentially its riskiest. The intent is to bring local government administration online and provide step-by-step assistance to the community in obtaining documents and completing various registration and application processes.

The proposed service would enable those in need of documents to request them at a local Saint Louis Net telecenter, paying Saint Louis Net a fee for access time and consultation. City Hall officials will also have access to the Intranet and be able to receive applications and requests online. City Hall would then process the documents and send them to a City Hall liaison or appointed community leader in the resident's district. The requestor would then pay the City Hall liaison for the cost of document processing at the pick-up point.

Saint Louis Net hopes this service will also provide up-to-date local government information and give the public an opportunity to voice opinions and concerns, thereby generally improving daily life for residents of Saint Louis. Saint Louis Net and Afrique Initiatives envision that *Le Mairie a Votre Service* will be an interactive tool, informing government officials of citizens' concerns and allowing them to respond.

City Hall officials and representatives from the mayor's office are supportive and enthusiastic about the possibility of using technology to improve their processes, procedures, and service delivery.⁵¹ At the moment, residents of the city of Saint Louis and the surrounding region must travel significant distances to obtain any official documents or document copies. Saint Louis' City Hall issues just over 20 types of documents, ranging from birth certificates and marriage certificates to tax payments. (A full list of the types of documents processed by City Hall administrative offices can be found in Appendix 3). In addition, residents must often travel to city offices multiple times to obtain the documents they require because City Hall does not issue documents at the time of the initial application. The manual processing of the applications, forms, and certificates often takes several days, so residents must return to pick up the documents they have requested.

Through a partnership with City Hall (yet to be developed and confirmed) and Saint Louis Net's yet-to-be-established network of telecenters, Mr. Dieng believes Saint Louis Net and local officials can help reduce the travel and waiting time encountered by residents in obtaining documents.

The proposed model is problematic for several reasons. First, Saint Louis Net has yet to determine whether the City Hall administrative offices will have the required level of technology to use the Saint Louis Net platform effectively. Second, it is not clear how the model will significantly reduce the time involved in processing documents. City Hall will have the added quality-assurance burden of mailing documents to the correct district representatives. Third, with only 25 of the 300 telecenters in the Saint Louis region in its network, Saint Louis Net's service will not serve the region's full population for at least two to three years.

⁵¹ Information in this section is based on a visit to and tour of Saint Louis's City Hall offices in which administrative offices for processing civil documents, the Mayor's office, and the regional archives are located. Interviews at City Hall include: Mr. Amadou Diagne, Contrôleur Gestion à la Municipalité (Managing Inspector of the Municipality), and Madame Dimé.

Yet these initial challenges are minor in comparison to the underlying legal and political risks of the service. Though current City Hall officials are enthusiastic about a partnership with Saint Louis Net, they have also stressed the legal responsibility involved in the processing and delivery of government services, especially those involving private information. The financial implications of possible legal liabilities have not been fully researched, calculated, or addressed by Saint Louis Net. A further liability is a loss of credibility for its other products and services should the company be unsuccessful with this effort.

An additional concern not fully analyzed by Saint Louis Net at this time is the political environment of the city and region. Despite the personal relationships and connections of Mr. Dieng and the enthusiasm and support of current government officials, Saint Louis Net must fully consider the potential impact to the company when political incumbents are replaced by newly-elected officials. Will Saint Louis Net be able to continue as City Hall's service provider? Will new officials end the Saint Louis Net contract in favor of their own contacts? Will Saint Louis Net be able to withstand the subsequent loss of revenue and possibly damaged reputation? Before the success of this product can be fully analyzed, more research will be required.

TECHNOLOGY

Pésinet and Saint Louis Net face the same equipment and technology hurdles that other organizations and businesses in Saint Louis face. With consistent electricity being one of the city's main service problems,⁵² hardware difficulties are inevitable and regular equipment maintenance necessary. The two entities share a single technician, Mr. Sylla Lassauma, who also works occasionally as a network technician for the local Sonatel cybercafé.

In general, neither Pésinet nor Saint Louis Net has significant technology-related difficulties. Their services are or will be provided through the Saint Louis Net Intranet site created, developed, and currently maintained by Afrique Initiatives' technical staff in Paris. An analysis of the back-end technology at Afrique Initiatives' Paris location is outside the scope of this report.

The Intranet site designed by Afrique Initiatives is locally hosted in Saint Louis and includes a PHP interface. The back-end database is currently maintained by Afrique Initiatives in Paris. Currently the database stores Pésinet's weight information, and in the future it will include such information as the personal details of Saint Louis residents applying for civil documents, government RFPs for the Appel d'Offres service, and applications of local businesses.

No technical information is yet available about how this database will be updated or how the telecenters in Saint Louis Net's network will access the stored information. For example, where will the server running the Intranet data be stored? Will a peer-to-peer network be used? Will the computers in the proposed telecenter network be connected to one another, and how? Or will the computers provided by Saint Louis Net to these telecenters host and store the Intranet site and accompanying data locally?

Choice of database technology will thus be important to consider as the services proposed by Saint Louis Net are implemented and the company moves to become a self-sustaining business. The two basic considerations are the cost of purchasing and maintaining adequate computer equipment and the cost of hiring personnel with sufficient technical expertise to maintain the back-end database and continually

⁵² Interview with Mr. Amadou Diagne, Contrôleur Gestion à la Municipalité (Managing Inspector of the Municipality), June 17, 2003.

update the site. These additional costs need to be included in Saint Louis Net's projected operational costs and development plans.

Saint Louis Net is faced with two additional technology considerations that will impact its service delivery and company development. First, as detailed in the specific product sections, using a locally-hosted Intranet site as its service platform could potentially limit the market potential of the company's services. However, without more research and further product development, it is difficult to be certain; choosing an Internet platform could bring its own difficulties, for example in pricing. Second, the current model of having Saint Louis Net purchase and supply its network of telecenters with computer equipment should be fully assessed as discussed above.

Pésinet's services use simple computer and Internet technology. Aside from the Intranet site from which its data can be accessed, the only technologies used are simple telephone service and e-mail. The organization's current office computing equipment, similar to that of Saint Louis Net, was supplied by Afrique Initiatives (see Appendix 4 for a sample configuration). Currently, the private physicians use their personal computers to review the children's records that are e-mailed to them. However, any expansion of Pésinet's services would require the technology provisions for the doctors to be reexamined. Additional equipment includes the weight scales used by the agents, which cost approximately CFA 70,000 (US\$122.44) apiece. They are lightweight enough to be carried by agents to the homes they visit.

Pésinet's software and hardware have been provided by Afrique Initiatives. The software is currently maintained by Afrique Initiatives. Ms. Gueye provides suggestions and recommendations for changes to improve the interface and its capabilities; however, Afrique Initiatives retains primary control of these choices.

Pésinet's hardware is maintained with the help of Saint Louis Net and the network technician who addresses network problems between the two offices (Pésinet and Saint Louis Net) and the doctors' offices. The primary server is maintained in Dakar by Afrique Initiatives.

Additional technology costs would be incurred if Pésinet were to return to collecting data on-site. Handheld computing possibilities could be explored to provide a faster, more simplified data collection process. However, per-unit costs would need to be aligned with the projected growth of the budget and expansion of services, and lightweight devices would need to be chosen in order to avoid the transport difficulties Pésinet previously experienced.

FUTURE CHALLENGES

The contract agreement between Afrique Initiatives and Mr. Dieng includes financial support for the development of the products and services, but only until December 2003. Afrique Initiatives expects that Saint Louis Net will be fully operational by that time. However, as the product analysis above indicates, there is still much research to complete and many pending contracts to finalize. At this time, it is clear that Saint Louis Net is years away from becoming a locally-based, self-sustaining business along the lines of the current model.

Despite this overall analysis, the ideas behind Saint Louis Net's products and services are feasible and could make significant, positive impacts for the community of Saint Louis. If proper research can be performed and, based on the findings, the proposed product and service models can be adapted to reflect the local market needs and safeguard the company against risk, then Saint Louis Net could eventually become a profitable local enterprise.

One or two of the company's most promising products, based on market research, should be chosen as test products before the full suite of services is rolled out. The *Petites Annonces*, or classified listings service, geared specifically to the Saint Louis student population probably offers the most immediate chance of success, if delivery and pricing methods can be adequately developed. Threats would still exist—for example, should the Ministry of Education develop its own method of electronically transmitting information to the Training Center or even directly to students, the need for Saint Louis Net's service would be eliminated.

Saint Louis Net's current franchise model should be reconsidered as it is not a true franchise model. As currently envisioned, the telecenters in Saint Louis Net's network will pay a subscription fee for access to the company's Intranet site and the company will provide the computer equipment. Telecenters receive training in the use of the Intranet site and retain the fees for the services they sell to local customers. However, neither Saint Louis Net nor the proposed "franchises" are guaranteed any real return under this model. Although the telecenters receive fees for whatever services they sell, there is no guarantee that customers will use the services Saint Louis Net is proposing. Saint Louis Net, for its part, could end up subsidizing the telecenter owners who would be able to use the free computers to provide various services in addition to the ones they pay St Louis Net for.

Obviously, telecenter owners and managers are key participants in Saint Louis Net's model, yet the company has not fully assessed its ability to provide them with support services, especially as it adds telecenters to its network. Not only will equipment costs rise, human resources costs will also rise as the company is forced to hire more personnel who can install computer systems, train new telecenter managers, and provide advertising assistance in the promotion of Saint Louis Net services.

Additionally, the issue of a clear definition and review of responsibilities cannot be ignored. Accountability on the parts of both Afrique Initiatives and Abdou Karim Dieng, if not improved, will hinder the further development and future success of Saint Louis Net. Mr. Dieng would benefit if Afrique Initiatives' staff increased the frequency of their visits and included practical and tangible assistance in market research, analysis, and incorporation of results into the company's business strategy. Furthermore, Afrique Initiatives would benefit if it assisted Mr. Dieng in managing the time he spends on Saint Louis Net activities and his other businesses. Saint Louis Net represents only 20-30% of Mr. Dieng's business portfolio, depending on the season, with his food and real estate industry efforts generating a majority of his revenues and taking a majority of his time and attention. Possible solutions include hiring additional personnel to assist with needed research or changing the role of Lamine Bousso, assistant to Mr. Dieng.

Mr. Bousso already has significant history with the company and knowledge of the intended products and services. Changing his role to include more responsibility and more personal investment in the company could generate additional enthusiasm from Mr. Bousso and enable Saint Louis Net to take fuller advantage of his experience and education. This would also create more flexibility in Mr. Dieng's schedule. In the end, these benefits could contribute to needed innovation in Saint Louis Net's products and services as well as accelerated development of the company into a self-sustaining local business.

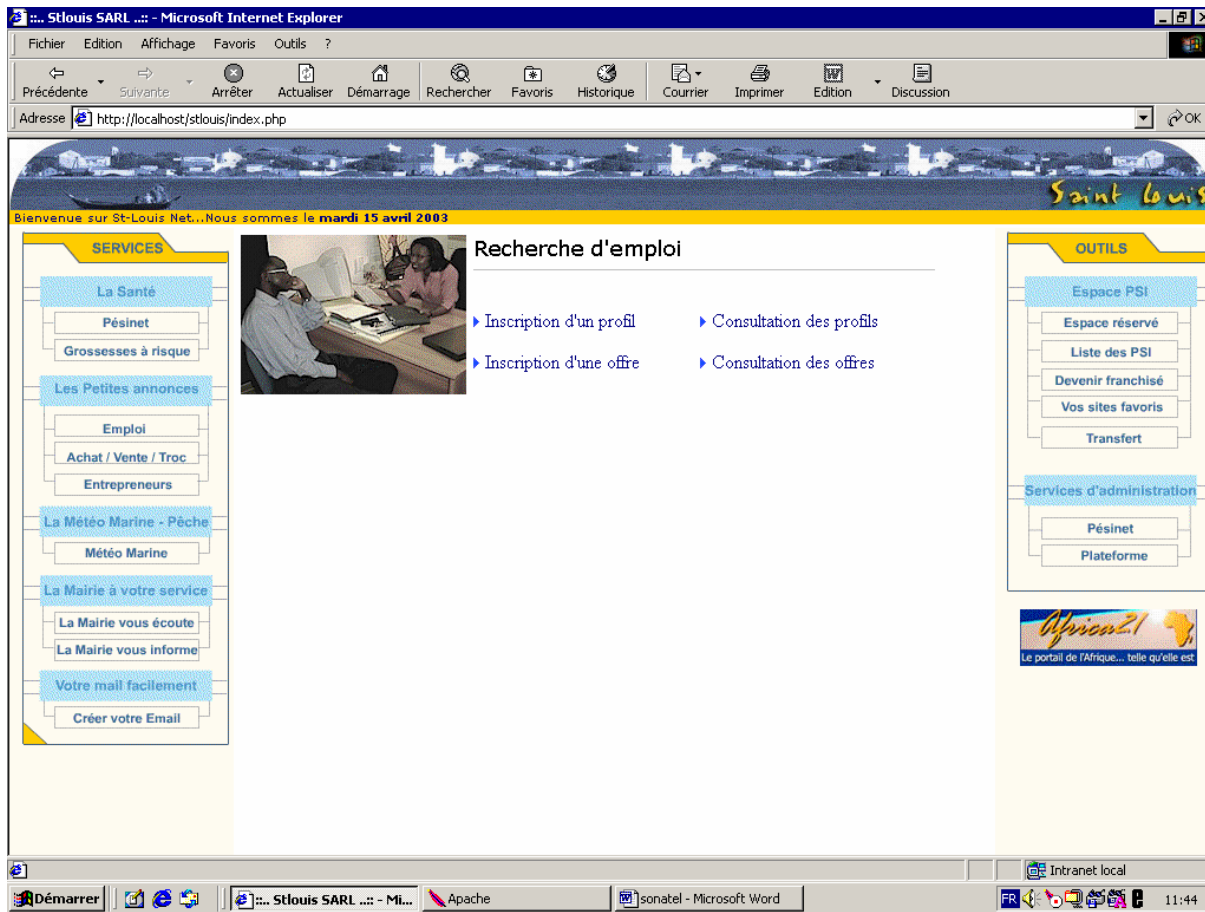
KEY LESSONS

The initiative that has become Pésinet and Saint Louis Net has evolved and adapted over time, with mixed results. Pésinet succeeds as a non-profit, social service organization, and could develop additional services if significant human resources and equipment cost increases are not required. Expansion within Saint Louis, Senegal, and even other African countries is also possible if adequate research is undertaken to assess scalability (market research would be necessary, as well as considerations such as social, political, and family structures, and cultural norms that may affect healthcare delivery). Additional funding would also need to be secured, as Pésinet is not self-sustaining in its current form. Future technology improvements could be considered as well, including on-site data entry on lightweight handheld units, if available at a sufficiently low cost. Nonetheless, Pésinet's current technology and service delivery model are working successfully—local children are being served, and useful preventative healthcare services are being delivered cheaply and efficiently.

Saint Louis Net's current business model, on the other hand, will need to be fleshed out further before its chances of success as a self-sustaining business can be assessed. Additional market research is needed for each of the proposed products, and its technology choices may prove limiting. Saint Louis Net's central difficulty, however, seems to stem from a lack of focus and motivation of the local entrepreneur involved—illustrating the challenge of launching an enterprise whose primary impetus comes from a non-resident, foreign partner.

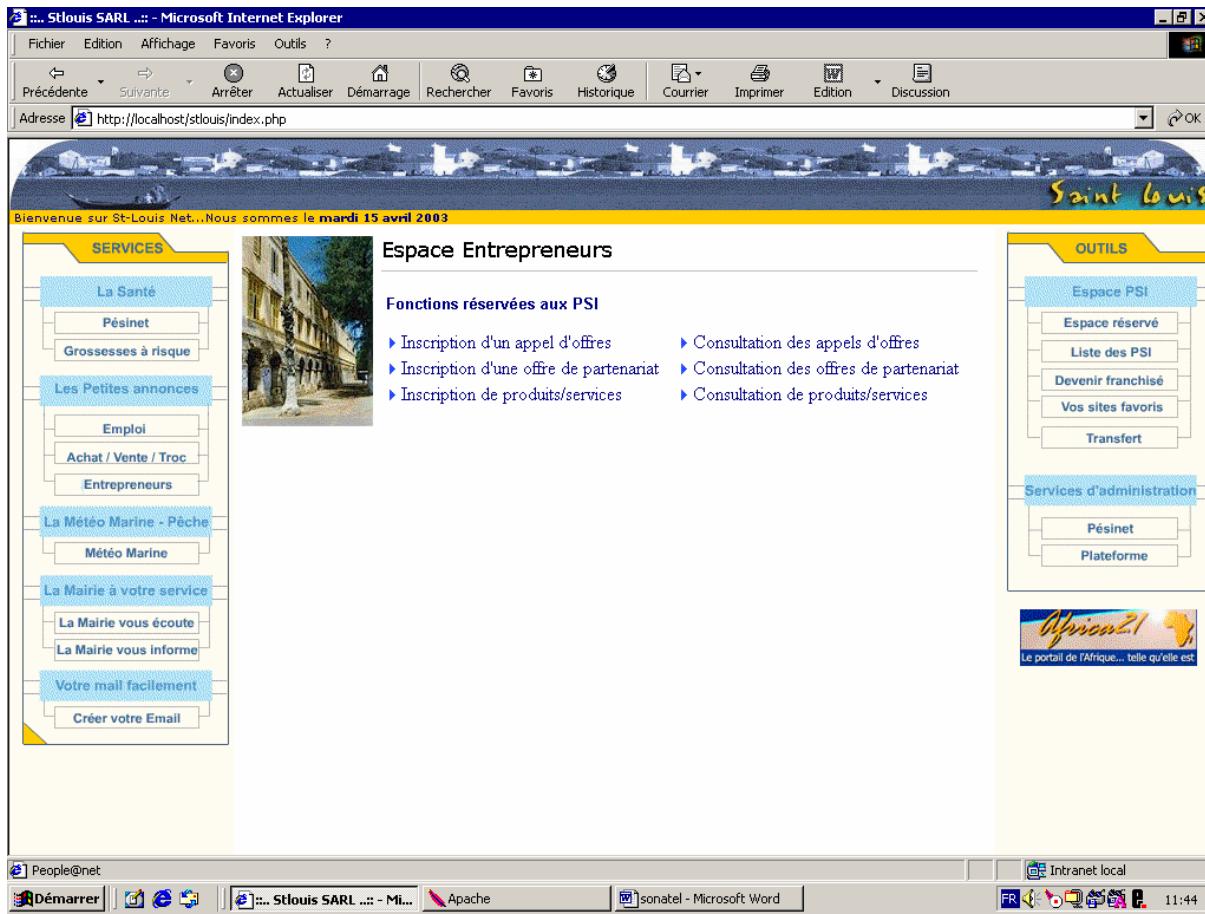
APPENDIX 1. Screenshots of Saint Louis Net Interface

Product: *Recherche d'Emploi* – Job Search



APPENDIX 2. Screenshots of Saint Louis Net Interface

Product: *Espace Entrepreneurs* – Entrepreneurs' Space



APPENDIX 3. List of City Hall Documents

1. Bulletin de Naissance (Birth Announcement)
2. Constatation de Deces (Death Certificate)
3. Extrait du Registre des actes de Mariage (Marriage License)
4. Permis d’Inhumation (Funeral Permit)
5. Certificat de Divorce (Certificate of Divorce)
6. Certificat de Non-Divorce (Legal Separation)
7. Fiche Familiale D’Etat Civil (Driver’s License)
8. Certificat de Vie Collectif (Certificate of Family Births)
9. Certificat de Coutume Matrimoniale (Certificate of Common Law Marriage)
10. Certificat de Non-Divorce, Non-Separation de Corps et de Non-Remariage (Literal translation: Certificate of Non-Divorce, Non-Separation of Bodies and Non-Remarriage)
11. Certificat de vie Pension (Application for Social Security Allotment)
12. Copie Litterale Acte de Mariage (Legal Marriage Certificate)
13. Certificat de Vie-Procuration (Voter’s Registration)
14. Certificat d’Entretien et de Charge de Familles (Head of Household Certificate)
15. Certificat de Residence (Legal Residency Certificate)
16. Certificat de Celibat (Certificate of Non-Married Status)
17. Certificat de Tutelle (Certificate of Legal Guardianship)
18. Certificat de Monogamie (Application for only one marriage—as opposed to the four allowed by civil and Islamic laws)
19. Copie Litterale d’Acte de Naissance (Request for Marriage License Copy)
20. Certificat de Non Inscription (Certificate of Audit)
21. Extrait du Registre Des Actes de Naissance (Birth Certificate)

APPENDIX 4. Planned Configuration for Saint Louis Net Telecenter Network

Public-Access Computer Specifications:

IBM Pentium 400 MHZ

128 RAM; 20 GB HDD

Readers: CD-Rom 50x

Network Cards: 100 MB NIC with graphics card

Interfaces: 2 USB ports, 1 video port, 3 serial ports

Installations: Windows 2000 Pro, Office 2000 Pro, Norton 2003

15” IBM CRT monitor

PS/2 keyboard 101/102 keys

PS/2 mouse and mouse pad

Average cost: CFA 430,000 (US \$50)

APPENDIX 5. Photos from the Field Visit



Saint Louis Net



At a community education meeting promoting Pesinet