# OBSTACLES AND OPPORTUNITIES FOR SENEGAL'S INTERNATIONAL COMPETITIVENESS:

*Case Studies of the Peanut Oil, Fishing and Textile Industries*

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## Abstract

Since the 1980s, Senegal has moved from a highly interventionist policy of import substitution industrialization towards a strategy based on private sector development and exports. The 1994 devaluation of the CFA franc and the accompanying structural reforms have had some positive effects, but there clearly remain profound obstacles to rapid growth of exports and investment. We seek to better understand these obstacles through case studies of several sectors: groundnuts, fishing, and textiles clothing. Our conclusion is that further important structural changes in the roles of the state and private sector are necessary, in the areas of infrastructure, administrative simplicity and transparency, financial markets, and labor markets.


## Authors' Affiliation and Sponsorship


***Stephen GOLUB***
Professor of Economics, Swarthmore College, Swarthmore, PA
Email: sgolub1@swarthmore.edu

***Ahmadou Aly MBAYE***
Professeur Agrégé, Faculté des Sciences Economiques et de Gestion (FASEG)
Université Cheikh Anta Diop de Dakar
(*currently visiting research Fellow at the World Bank)*
Email: ambaye@refer.sn


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**Stephen GOLUB**
**Ahmadou Aly MBAYE**

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**Table of Contents**


**I. Textiles and Clothing** ..... **2**
I.1. General Background ..... 2
I.2. Textiles ..... 4
I.3. Apparel ..... 7
I.3.1. Findings from Interviews with Clothing Manufacturers ..... 7
I.4. Summary on Textiles/Clothing ..... 10

**II. Fishing and Fish Processing** ..... 11
II.1. Overview ..... 11
II.2. Industrial Fishing ..... 12
II.2.1. Trawling ..... 12
II.2.2. Tuna Fishing ..... 13
II.2.3. Industrial Fishing: Obstacles to Competitiveness ..... 15
II.3. Artisanal Fishing ..... 18
II.4. Summary on Fishing ..... 20

**III. Groundnuts** ..... 21
III. 1. Groundnut Cultivation ..... 21
III. 2. Peanut Oil and Oilcake ..... 23
III. 3. Summary on Groundnuts ..... 25

**IV. Synthesis and Conclusion** ..... 25

**References** ..... 29

**Interviews** ..... 31

**Table 1** ..... 33
**Table 2:** ..... 33
**Figure 1** ..... 34
**Figure 2** ..... 35
**Figure 3** ..... 36
**Figure 4** ..... 37
**Figure 5** ..... 38
**Figure 6** ..... 39

Since the 1980s, Senegal has moved from a highly interventionist policy of import substitution industrialization towards a strategy based on private sector development and exports. Important reforms have been undertaken. Nonetheless, the Senegalese private sector remains constrained by profound obstacles. The formal sector has stagnated while the booming informal sector shows great dynamism but by its very nature retains a marginal status.

At the time of independence in 1960, Senegal's industrial sector was dominated by French enterprises. As the capital of the colonial French West Africa, Senegal had a particularly strong French presence and a relatively developed infrastructure and manufacturing capacity. These French manufacturing firms, mostly established in the 1950s, benefited from high levels of protection. In the two decades following independence, Senegal, like most developing countries, followed a policy of import-substitution industrialization with heavy government intervention. Control of most industrial enterprises was turned over to Senegalese businessmen with strong political connections to the *Parti Socialiste* (PS), the party that ruled Senegal from 1960 to 2000, although French influence remained important. Protection was increased from already high levels and acquired a highly personalized dimension, with special provisions for particular industries and firms (conventions spéciales, valeurs de référence, etc). The distortions resulting from this excessive and redundant protection led to the creation of huge rents, leading to the characterization of Senegal as an epitome of a rent-seeking economy.[1] The high levels of protection also fostered smuggling from neighboring countries with lower levels of import barriers, particularly the Gambia and Mauritania. More generally, the adverse business climate for firms not benefiting from such special favors, combined with rapid growth of the urban labor force, abetted development of the informal sector.

In the 1980s, these structural distortions, along with macroeconomic imbalances and adverse supply shocks, notably the decline in rainfall, precipitated a series of crises and reforms under the aegis of the IMF and World Bank. The most important of these reforms were the New Industrial Policy (NPI) of 1986, which substantially liberalized trade, and the 1994 devaluation of the CFA franc and accompanying measures to liberalize the domestic economy. The gradual entry into force of the West African Economic and Monetary Union (UEMOA) in the late 1990s also sets in motion a process of streamlining of trade and domestic policies. The general thrust of these reforms has been to move away from the State-led import-substitution approach to a model that emphasizes exports and the private sector as the engine of growth.

Despite nearly 20 years of reforms, it is clear that Senegal has failed to develop dynamic export-led growth in the model of the East Asian countries and other emerging economies. While the informal sector seems to be booming -- there is very little precise information about its size -- there has been little creation of new enterprises and a 30 percent decline in employment in the formal private sector between the 1970s and the 1990s.

Until the 1994 devaluation, overvaluation of the CFA franc -- combined with the rigidity of labor markets -- was a major macroeconomic brake on export-led growth. In a companion paper we study Senegal's relative unit labor costs, and show that they have had an important bearing on export performance. (Mbaye and Golub 2000) But our macroeconomic analysis can only explain about half of export variations. More specifically, the 1994 devaluation has had

[1] Boone (1989), Berthelemy et al (1996).

only a limited effect on boosting the volume of exports. We therefore believe that it is also necessary to study the more microeconomic determinants of international competitiveness.

In this paper, we seek to understand the remaining microeconomic barriers to a development path based on exports and private investment. How can informal enterprises be aided and encouraged to move into the formal economy? How can Senegal attract foreign and domestic investment in labor-intensive manufacturing and benefit from global sub-contracting? We have chosen three industries upon which we will focus our analysis: groundnut oil, fish products, and textiles/clothing.

Figure 1 shows the value of exports in US dollars for our three industries. Groundnut oil had long been Senegal's largest export, but exports have declined steeply since the 1970s. Fishing has recently emerged as Senegal's most important export (along with phosphates). While the fishing industry has boomed, we will see that the industrial fishing industry is experiencing substantial difficulties. Production of clothing and textiles were important in Senegal in the 1960s and 1970s, but output has declined precipitously, especially for the more labor-intensive apparel sub-sector. Senegal has certainly not succeeded in developing an export-oriented apparel industry, as shown in Figure 1 by the very low and stagnant level of exports.

We interviewed a number of entrepreneurs and managers as well government officials and representatives of international organizations regarding the problems of these industries, as well as reviewed the previous literature.

## I. TEXTILES AND CLOTHING

### I.1. General Background

Textile and apparel production for export to developed countries has been a stepping-stone in the industrialization of many labor-abundant developing countries. In the last 25 years or so, global buyer chains have come to dominate the apparel industry, with much labor-intensive manufacturing and assembly shifting to developing countries (Gereffi 1999). These global buyer chains take various forms: discount chain stores (e.g., Walmart, Target), branded marketers (Nike, Liz Claiborne) apparel specialty stores (The Limited, The Gap) and private label programs of mass merchandisers (Sears, J.C.Penney). Large retailers do little of their own manufacturing, and instead subcontract with firms in developing countries. For example, Nike subcontracts with hundreds of factories in 50 countries. A highly sophisticated international division of labor has developed, with the most unskilled, labor-intensive operations moving to developing countries with very low wages. As local firms acquire greater experience and technological and managerial capabilities, and wages rise, these countries lose the most labor-intensive operations and upgrade to more sophisticated products. Through this process, apparel production for export has spread to Asia, Latin America and North Africa, beginning with the most labor-intensive products, and then gradually shifting to more complex skill-intensive products. Except for Mauritius, however, Sub-Saharan Africa has hardly participated in this globalization of manufacturing and of apparel in particular. Certainly, Senegal has not.

Senegal seems well placed to attract foreign outsourcing of clothing production. Several studies (Biggs et al 1994, Hemery 1997) indicate that Senegal has some key advantages in this sector: a decline in labor costs thanks to the 1994 devaluation, a location close to Europe and the USA, highly skilled producers in the informal sector (weavers from the Casamance, tailors who custom make elegant clothes for relatively well-off local consumers). The possibility of sub-contracting from countries like Morocco where labor costs have risen relative to Senegal, could help jump-start production in the most labor-intensive operations. Hemery (1997) compared Senegalese costs of production of shirts to those in Morocco and found that Senegalese costs are lower. The Multi-Fiber Agreement (MFA), which establishes a global system of bilateral quotas on exports of textiles and apparel from many developing countries in Asia and Latin America, provides an incentive for firms to shift production to sub-Saharan Africa. This advantage is temporary, however, as the MFA is scheduled to end in 2004. The passage this year of the U.S. Africa Growth and Opportunity Act (AGOA), which accords duty-free access to the American market for African producers of textiles and apparel, also aims to stimulate outsourcing to Africa. For the first 4 of the 8 years that AGOA will be in force, low-income Sub-Saharan economies, including Senegal, are accorded duty-free access to the U.S. market, even when the apparel is assembled from cloth made outside of Africa and the United States. The entry into force of the AGOA, along with the delayed phasing out of the MFA, provide strong incentives for global retailers to consider manufacturing or subcontracting in Africa in general and Senegal in particular. But up to now Senegal has not had much success in this sector. Senegal exports raw cotton but little very little textiles and apparel, and the sector as a whole incurs a sizeable trade deficit. Imports of used and new clothes (some of which continue to be smuggled despite the devaluation and trade liberalization) constitute a large part of domestic consumption.

The vertical structure of the textile industry in Senegal is shown in Figure 2. Senegal produces at all stages of the vertical chain, from raw cotton to finished clothing. Surprisingly, Senegal has much greater formal production and employment in the more capital-intensive textile sub-sectors (spinning, weaving, printing) than in labor-intensive apparel assembly. Figure 3 shows a long-term decline in Senegalese production and employment in the textile and clothing industries. The 1994 devaluation has had little effect in shifting these patterns.

The textile industry is currently dominated by a few large firms that were established at the end of the colonial period (notably SOTIBA and ICOTAF). These firms have experienced many difficulties in the last 2 decades, and have rarely operated anywhere near full capacity. By most accounts, they are struggling and inefficient, with often antiquated capital equipment and poor management. Industrial-scale production of clothing is confined to about 10 small firms, mostly in the industrial park SODIDA.

The evolution of the textile industry is typical of the general problems of Senegalese industry evoked above. At the time of independence, Senegal inherited a relatively developed French textile industry, but largely composed of heavily protected and inefficient enterprises (Boone 1989). In the first years following independence, import substitution industrialization policies further raised protection of this sector. But, contrary to the infant-industry arguments that might have justified these policies, the industry did not take advantage of its highly protected status to improve efficiency and attain international competitiveness. Other external factors, particularly overvaluation of the CFA franc and rigid labor markets, certainly contributed to the problems of the textile industry.[2] The result was an inward-oriented industry that could only retain its domestic market through continued high rates of protection. The high

[2] See Mbaye and Golub (2000) for a macroeconomic analysis of Senegalese cost-competitiveness.

price of textile products, however, fostered the development of smuggling and informal networks, particularly through the Gambia. With the liberalization of imports connected with the New Industrial Policy (NIP) of 1986, there was a further surge of clothing imports (Boone, 1989). It is of course difficult to know how much of domestic consumption comes from smuggled or fraudulent imports, but by all accounts smuggling remains important despite the 1994 devaluation and recent reductions in import barriers associated with a move to a common external tariff in WAEMU. The biggest problem now is no longer smuggled imports through adjoining countries, but under-invoicing.[3] This involves sophisticated collusion between sellers, importers and customs officials that developed during the period of very high protection and continues due to well-established networks.

The seemingly generous investment and export incentives in the *Code des Investissements* and the Dakar Free-Trade Zone have failed to spur output and exports. The 1994 devaluation had a short-run positive effect on this sector, but mostly for the relatively capital-intensive sub-sectors (weaving and spinning) rather than the labor-intensive apparel sub-sector. The departure of Coultex, a Moroccan-French firm that set up in the Free-Trade Zone in 1998, after less than a year of operation, illustrates the weaknesses in the Senegalese business climate, and the failure to attract or retain internationally footloose firms.

We seek to understand the obstacles to export-oriented manufacturing of apparel in Senegal. To this end we interviewed almost all the formal sector firms in the textile and clothing industries in Senegal, as well as government officials and representatives of international organizations.

We find that there remain grave institutional and policy impediments to progress in this and other sectors: lack of training of personnel and management, unreliable and expensive infrastructure, especially transport and electricity, lack of access to credit, and cronyism and lack of transparency in government-business relations.

In the following, we distinguish between the textile and apparel sub-sectors. Our argument is that the textile sector has been heavily protected and aided, to the detriment of the apparel sector and possibly cotton production.

## I.2. Textiles

Representatives of the following textile firms were interviewed: NSTS, ICOTAF, SOTIBA, SOTEXKA, CCV. NSTS, ICOTAF and SOTEXKA are vertically integrated. (See Figure 2). SOTEXKA in principle produces at all stages of the vertical chain, but in practice has hardly ever operated. ICOTAF produces thread, unbleached cloth, and printed cloth. NSTS produces thread and cloth. CCV specializes in thread.

By all accounts, these textile firms are struggling, with low capacity utilization and occasional shutdowns. ICOTAF and SOTIBA were originally owned by French business but control was transferred to Senegalese private investors. SOTEXKA and NSTS were created with substantial government involvement and have never operated satisfactorily. Only CCV seems to be holding its own, although with severe difficulties.

[3] Interview with staff from *Ministère de l'Industrie*.

Executives for these firms stress the following points:

*Cotton Prices*. The price of cotton to textile producers is fixed in negotiations between the government, the textile firms, and SODEFITEX, the government marketing board. The textile firms argue that they should continue to pay less than the world price of cotton, as is the practice in other French-speaking West African cotton-producing countries. In particular they want the government to mitigate the increase in the price of cotton, which has more than doubled since the devaluation. (Interview with Macoudou Fall, NSTS). The producers also complain that the SODEFITEX cannot always deliver the quantity of cotton they need due to its commitment to exports, for which it receives the world price. Paradoxically, however, some firms go on to say that Malian cotton is of a higher quality than Senegalese cotton, and that they prefer to import cotton.

*Import Protection.* Textile firms say that protection should be strengthened by re-instituting quotas and raising tariffs. They view the trade liberalization of recent decades as the main source of many of their problems. They acknowledge that they are not competitive with Asian imports, but blame unfair Asian trade practices for this situation. They claim that Asian producers receive export subsidies and engage in dumping. However, they do not always seem to know which Asian countries are involved, so it is not clear how they are able to determine that these countries are engaged in predatory practices.

*High Factor Costs.* They also cite high factor costs as an important competitive disadvantage. Electricity is often mentioned in this regard. The unreliability of the SENELEC also means that all of these firms must have generators to supply their own electricity. Some also believe that labor costs are high relative to Asia. These firms point out that they must pay social insurance benefits that can be as high as 50% of wages. The base price per kilowatt/hour of electricity is 65 CFA in Senegal against about 30 in Asian countries, and energy accounts for about 30 percent of average costs of making textiles (interviews with Mr. Fall of NSTS and Mr. Seye of ICOTAF).

*Credit.* Bank loans are said to be too expensive, although these firms do generally have at least some access to credit.

*Labor Relations***.** Some of these firms cite disruptions from labor unions. The manager of CCV in particular complained about unions.

**Assessment.**

Interviews with the Ministry of Industry and apparel producers suggest that the textile industry's problems reflect extensive inefficiency and lack of capital investment, resulting in obsolete equipment and poor management, in addition to the factors cited by the firms themselves. A deeper problem is the close political ties between some of the large textile firms and the government. These ties between the government and business seem unfortunately to contribute to the inefficiency of the industry. Those firms with close ties to the government have repeatedly been aided by the government in times of difficulty, and thus have not faced the competitive discipline of the market, according to interviews with the Ministry of Industry, apparel producers, and some secondary literature (Boone 1989). According to these sources, managers have been selected based on political connections rather than managerial competence.

These firms have been granted “point franc” status despite the fact that they do not meet the export criteria. They can thus import unbleached cloth duty free.

*CCV*, smaller and less well connected politically than the other textile producers, is an exception to this, as it seems to be well managed and is competitive on the local market. Nonetheless even CCV does not think it can be competitive unless it receives trade protection.

*SOTEXKA* (Societe Textile de Kaolack) was created around 1980 as part of the ambitious industrial policy of the 1970s. The SOTEXKA was meant to be an internationally competitive vertically integrated textiles and clothing conglomerate with a spinning, weaving, knitting, and dying/printing factory in Kaolack and a garment factory in Louga. These sites were not well located from an efficiency point of view, being separated by 200 km from each other and far from transportation hubs. It is generally recognized that they were selected for political reasons (Boone 1992, p. 233). The initial 8 billion CFA investment was financed by government-guaranteed loans and 28% direct government participation. In the early 1980s, much of the funds had been borrowed abroad and spent but there were no factories to show for it. The factories were completed in the mid 1980s but did not begin operating until 1989 when the Kaolack factory operated briefly at 20% capacity. The factory was shut down again after a few months due to technical difficulties and the inability to pay for its electricity and cotton, despite a total expenditure of 24 billion CFA francs (about $ 80 million) on building the factories. In 1990, the factory operated again for just a few months, and has been shut down since then. Many of the machines have never been used. A prominent businessman, Ibrahima Mocodou Fall, the owner of NSTS and closely associated with the PS, has been assigned to manage the SOTEXKA by the government. Mr. Fall assured us that the SOTEXKA would reopen soon. Virtually all the clothing manufacturers we talked to, however, view the SOTEXKA as a lost cause, and Mr. Fall as a politician who knows little about managing the business.

Technical studies of SOTIBA, ICOTAF and NSTS cite numerous examples of outdated even obsolete capital equipment (CAEE 1993, EURA 1997). These studies also note that in some cases there is over-manning. All of this results in higher variable costs and quality control problems. This is partially offset by considerable technical knowledge and skills, especially in the printing and dying of “Fancy” cloth. However, without substantial new investment and rationalization, these studies are pessimistic about the viability of these firms.

While trade barriers have fallen, protection of the textile industry remains substantial and not fully transparent. Numerous different taxes are levied and the rates applied seem to vary. In 1993, according to one study, import taxes on finished cloth products cumulated to about 50%: customs duty 15%, droit fiscal majoré 30%, timbre douanier 3% (CAEE 1993, p. 38). In 1999, the common external tariff (TEC) of the West African Economic and Monetary Union (UEMOA) has been put in place. The TEC has in principle reduced and simplified the system of import taxation of the member countries, including Senegal, with a ceiling on import taxes of 22%. The extent of implementation to date is unclear, however. A clothing firm showed us a recent custom invoice with duties and taxes on cloth that cumulate to about 40 percent with 5 different taxes: custom duty 20%, droit fiscal 10 percent, *timbre douanier* 6%, COSEC 1%, PCS 1%, PC 0.5%. (interview with NOCODA). To stop smuggling, rates cannot exceed Gambia’s by more than about 20 %. The Gambia’s tariff rates are about 12% (CAEE 1993, 52).

## I.3. Apparel

Virtually all large scale apparel production in Senegal ceased in the 1980s. The market now consists of a booming informal sector composed of independent tailors working on their own or in small shops. Their number is not known, but it probably now substantially exceeds 12,000, the estimated number in 1976 (CAEE 1993, p. 23). These tailors are often highly skilled. Their craft has been passed down from father to son for generations. There are currently about 10 small industrial-scale producers of apparel, most of which we interviewed. Altogether, they employ about 200 workers.

Otherwise, clothing for the Senegalese population is provided by imports, legal and illegal. An increasingly large component consists of imported used clothes from developed countries ("*friperie*") providing very cheap clothing for the poor (now estimated to be more than half the population).

### I.3.1. Findings from Interviews with Clothing Manufacturers

We interviewed 8 small apparel producers located in the SODIDA, the industrial zone for small and medium enterprises in Dakar. Most of these firms are just a step away from the informal sector, with 10-50 employees and very limited capital stock. MASSATA and AISSA DIONE export high-end Afro-centric products to the United States and Europe respectively. SENEGAL BROERIE MODERNE, with 65 workers the largest of the clothing producers we interviewed, manufactures African-style clothing both for the local market and for export. Most of the other firms we met produce uniforms for local businesses and government officials, as well as some clothing.

These clothing firms were almost all created by informal-sector tailors, with no external financing. Despite their small size and limited resources, these small apparel producers display considerable dynamism and potential. All of them would like to expand and would do so if they could.

*MASSATA* is an interesting special case. The owner, Massata Thioune, had apprenticed as a tailor starting at age 6, emigrated to the United States in 1986, and set up a clothing factory in New York that produced office attire with an African style. His business thrived with sales reaching $2 million to large retailers such as T.J. Maxx and directly to individuals through a catalogue. In 1995 he decided to move his factory to Senegal, thinking he could take advantage of lower labor costs and abundant skilled tailors. In Senegal, however, he has had enormous problems and his clothing production has temporarily ceased. He is currently concentrating on his food importing business as he determines a strategy to revive his clothing operations. One of the biggest problems he cites is obtaining timely deliveries from local textile firms such as SOTIBA. While acknowledging that the quality of SOTIBA's fabrics can be quite high, Mr. Thioune says that the latter does not always produce according to the desired specifications, particularly as regards color. The apparel business in the United States works on very tight deadlines and precise quality specifications. Thus the delays that MASSATA experienced in Senegal resulted in numerous cancelled orders. For example, he lost a large order from J.C. Penney. He also experienced delays due to the frequent power outages, until he purchased a generator.

Most clothing producers said that there is no shortage of orders. Demand is not the problem. Rather it is constraints on supply capabilities that impede growth. The firms cited lack of access to finance, inadequate technical and managerial knowledge to take advantage of export markets, and the poor quality of infrastructure and government services as the key bottlenecks on expanding production and exports. They recognize the need for learning-by-doing but do not know where to start.

The following impediments were frequently evoked in our interviews with clothing manufacturers:

*Lack of Government Support*. In general terms, the owners of these firms complained bitterly about the lack of any form of government assistance. They contrast this with the extensive government aid to the upstream textile firms. Mr. Fall of NSTS and SOTEXKA in particular is viewed as having benefited from close ties to the previous government. However, officials at the Ministère de l'Industrie object that some of these firms benefit from free trade status, but fail to fulfil the conditions on exporting.

*Unreliable local suppliers*. A related problem is that these upstream textile firms are perceived to be unreliable both in terms of quality control and timeliness. Hence, the clothing producers prefer to import where possible. MASSATA and several others complain about SOTIBA and ICOTAF, and Aissa Dionne is critical of SOSEFIL, which dyes thread. The apparel manufacturers have to devote considerable effort to working with their suppliers to improve quality.

*Imported inputs*. Importing, however, presents other problems. To import from Asia takes around 45 days by boat. This is too long to fulfill an export order, according to MASSATA. Clothing orders have to be filled within 8 weeks of the placement of the order or they are cancelled. Also, duties on imported finished cloth remain substantial once the various taxes are cumulated. One firm showed receipts that indicated the various taxes cumulated to a rate of nearly 40%, as mentioned earlier. With free trade status ("point franc"), inputs can be imported at much lower tax rates, but the procedures involved can be lengthy and burdensome. Alternatively, the importing firm could pay the duty and file for reimbursement, but the refund may take a long time and in the meantime the duty payments tie up large amounts of the firms' working capital.

Also, there were complaints that the customs service is slow and corrupt. Mr. Thioune, the owner of MASSATA noted that in the United States customs must release shipments in 24 hours or must make a payment to the importer. In Senegal, on the other hand, without bribes, sometimes containers get "lost". However, some managers felt that there was considerable improvement in the customs service or that this problem was exaggerated by MASSATA.

*Finance.* Most firms cited lack of access to finance as their most important impediment (MASSATA is a notable exception). Several firms said that if they could get access to finance they would invest in plant and machinery and expand employment. They said that they either could not get credit at all, or if they could, interest rates were too high for them. For example, NOCODA said that it wants to upgrade its sowing machines but the only loan it could obtain was for short term credit at 17 per cent, which was rejected as too high. This lack of financing explains in part the problems these firms have had in moving to state-of-the-art technology through the importation of the more sophisticated sowing machines that foreign competitors dispose of. (interview with Laye Diarra).

*Infrastructure*. The weaknesses of infrastructure, particularly the electricity blackouts, while not the most important problem, were cited by many as a headache. Most of these firms have by now bought generators at considerable expense. Several of our interviews were interrupted by power cuts, and our interlocutors used these occasions to lament the SENELEC's poor performance.

*Managerial and Organizational Competence.* Most firms believe they lack the technical and managerial abilities to compete on the international market. They are daunted by the scale and quality requisites of the European and US markets. While they would like to export, they do not have confidence that they can meet the quality and timeliness specifications of demanding foreign buyers. One part of this problem is simply lack of information. There is no easy way for them to find out with whom to deal in the United States and Europe. More importantly, however, they do not feel they have the requisite technological mastery of production. Again, MASSATA, with its intimate knowledge of the US market, is an exception here.

These firms recognize the importance of learning by doing, to move towards larger-scale production and improved quality. Several are pinning their hopes on a school uniform project pushed by the FENAPH, the clothing industry's professional organization. The FENAPH has urged the government to require that all students wear a uniform to school and to contract with local clothing firms to produce these uniforms, which could represent a potential market of 2.5 million outfits per year. This would enable firms to expand their operations and upgrade their capital equipment and technological capabilities. With these enhanced capabilities, the firms feel they could then confront the export market. The feasibility of this project seems dubious to us, however, given the dire financial difficulties that confront most Senegalese families, who will likely balk at having to purchase these uniforms. A more promising approach is to enter into sub-contracting relationships with foreign firms, who could assist with the transition to more sophisticated larger-scale production. Some of these local firms welcomed the idea of partnerships with foreign firms, particularly if they entail transfer of technology, but have no idea how to attract foreign buyers to Senegal or how to enter into such relationships.

Only one of these firms (Aissa Dionne) mentioned any help from a support agency. These firms are either unaware that they can get assistance from the *Fondation Secteur Privé* or other institutes or doubtful that this assistance will amount to anything. Generally, the managers seem too preoccupied with immediate tasks to seek out such assistance.

*Worker Training*. An often-cited problem is the inadequate training of workers. The managers point out that one cannot simply hire informal-sector tailors and sit them down in a factory. The skills and working styles in formal industry are very different from those of the informal sector. The creativity of the independent tailor can actually be a liability in an industrial setting, because of the importance of producing a standardized product. Producing apparel in standardized sizes and styles requires knowledge of and adherence to specific operational guidelines. It also requires punctuality and lack of absenteeism in contrast to the much more flexible working arrangements of the informal sector.

On the other hand, these firms noted that while beginners with no sewing experience require up to a year of training, a professional from the informal sector could pick up the requisite skills in a few months. Also, with the incentive of a steady job and a reliable paycheck, worker attitudes readily adjust.

In 1999, in cooperation with the *Coupe Internationale de Paris*, the FENAPH set up a training center *("école de formation")* for apparel workers. France provided technical assistance but no direct financing. Sowing machines were donated by local firms. The French helped train the staff of the school in specialized industrial apparel production. The school can presently enroll 60 students. The Senegalese government pays for their education and gives them a small stipend. The students are chosen and financed by the government. They must have passed the Baccalaureat. There is some question as to whether this way of selecting students is likely to result in motivated and successful trainees.

Some firms were skeptical of the effectiveness of this training school. The managers of the center cite insufficient financing. Nonetheless, it clearly represents a step in the right direction according to several firms.

*Labor Relations.* Most of these firms do not encounter major problems with labor unions, in contrast to those in the textile and fishing industries. The explanation for this discrepancy may be that most of the apparel firms are so small and informal in their organization, that they are not targeted by unions. However, Aissa Dionne is an important exception. She cites numerous hassles with unions. She has suffered from a number of strikes in recent years, and has an ongoing legal battle with a cook she had hired to prepare meals for her weavers and who was subsequently encouraged by the union to take Aissa Dionne to court. Work is interrupted frequently by union meetings. The three union delegates can absent themselves for 20 hours per month each for union activities.

Asked to explain why some firms do not seem to experience these problems with the unions, Aissa Dionne speculates that it may because the owners of some of these firms are from the same Mouride Islamic brotherhood as their workers. Aissa Dionne also laments the large number of paid holidays and required overtime pay rates.

*Judiciary.* The slowness and unreliability of the judiciary were also stressed by Aissa Dionne. Others did not note this problem, perhaps for the same reasons that they did not experience difficulties with unions--they are too small and borderline informal.

*Work Ethic.* The work ethic and abilities of the labor force are **not** viewed by these firms as a problem. In fact most firms spoke with admiration and respect of the attitudes and skills of their workers. As former tailors themselves, the entrepreneurs have a high regard for the skills of the tailors they hire from the informal sector. They recognize that although these tailors lack an "industrial culture," they are quick studies and adjust rapidly if the employer respects his obligations, i.e., pays on time.

### I.4. Summary on Textiles/Clothing

Senegal would seem to have a comparative advantage in clothing, but the formal clothing industry is minimal. There is booming informal production of clothing by skilled *artisanal* tailors that seems to offer substantial potential for export, if it can be organized into industrial-scale production. To achieve this, however, major changes of the business environment are needed. The playing field has long been tilted in favor of the textile firms as opposed to the clothing producers and cotton growers. This is manifested in continued high rates of protection on textiles, despite some trade liberalization, and government bailouts of textile firms. The structure of protection should be reviewed with a view to increasing the competitiveness of the apparel producers.

There are several other problems that deter an expansion of formal-sector clothing production and exports: inadequate training and technical assistance, lack of access to finance, and in some cases administrative hassles, unreliable and slow judiciary proceedings, and conflicts with unions. The latter problems are likely to increase in severity as a firm becomes larger and more "formal", thus deterring the transition to the formal sector. The high cost and unreliable supply of electricity is also a problem confronting small producers, for whom the cost of purchasing a generator is very burdensome.

## II. Fishing and Fish Processing

### II.1. Overview

The fishing industry is of major importance to Senegal's economy. Direct and indirect employment in the fishing industry is estimated at around 600,000 or about 10 percent of Senegal's working population. It accounts for about 30 per cent of exports. Fish constitute the major source of protein for the Senegalese population.

Unlike most of Senegalese industry, the fishing industry has grown rapidly in recent decades (Figure 4). Senegalese waters are very rich in a number of fish species highly prized in world markets. The rising global demand for fish combined with pressures on world supplies means that Senegal's "blue gold" is an increasingly valuable resource. It is an industry with great promise but also major problems, as Senegalese industry is at present not in a position to take full advantage of this resource.

Figure 5 shows a schematic representation of the industry. A salient aspect of the fishing industry is the separation into industrial and "*artisanal*" components. Within industrial fishing there is a further cleavage between nationally-owned and foreign-owned boats and processing facilities. Fish stocks in Senegal can be separated into four categories: coastal bottom, coastal surface, deep-sea bottom, deep-sea surface (mainly tuna).

Artisanal and industrial fishing compete to varying degrees for many of these species. Artisanal fishing now dominates coastal surface fishing, which consists mainly of smaller fish such as sardines, which are not highly sought after in the export market, and are destined mostly for local consumption or other African countries. These fish are processed locally through a highly developed semi-formal or informal sector using traditional methods (smoking, salting). Nearly all industrial fishing of sardines has ceased in the face of the competition from the artisanal sector.

The most intense competition revolves around the highly lucrative "noble" coastal bottom species such as grouper, yellowfin, mullet, and sole, which are exported, primarily to Europe. Most of the fresh fish exports are caught by artisanal fisherman, and delivered to industrial processing factories located around Dakar. Frozen fish exports mostly originate from the industrial fishing fleet equipped with freezing facilities. Tuna catches are mostly intended for canning. There are three canning factories in Dakar. In recent years, however, Abidjan has increasingly been the preferred destination for tuna boats fishing near or in Senegalese waters.

The 1994 devaluation gave a strong boost to the fishing industry, but the boom seems to have mostly petered out. The increased fishing effort may have contributed to the depletion of stocks of some species.

The problems of the industrial and artisanal sectors are quite different, although there are some issues of overlapping interest. We focused mostly on industrial fishing (trawling and tuna) in our interviews. We did not talk directly to fishermen in the informal sector, but several of our interviews with industry and government officials focused on the problems of artisanal fishing. There is much mutual suspicion between these two branches of the industry.

Agreements with other countries allow for foreign trawlers to operate in Senegal's exclusive economic zone. The most important of these is the agreement with the European Union. The 1997 agreement that is in force until 2001 specifies the volume of permitted captures for various categories of fish, or in the case of tuna fishing, the size of the fleet. In return, the EU consented to pay 48 million Ecus to the government of Senegal over 4 years. Relative to the previous agreement, the new agreement reduced the permitted captures while increasing the fees paid by the EU, although there is controversy over possible adverse effects on the domestic fishing industry. Half of the fees from the accord were to be allocated to the local fishing industry, but this has apparently not happened so far. There are also accords with Japan and neighboring West African countries.

In recent years, the industrial fishing industry has been confronted by the need to upgrade hygienic norms to meet EU criteria. This has required very large investments, which have been partially subsidized (30 percent) through French foreign assistance.

## II.2. Industrial Fishing

### II.2.1. Trawling

Trawling occurs both inside and outside Senegal's exclusive fishing zone. The domestically based trawler fleet consists of 212 ships of which 60 are foreign (SOFRECO, 1998). The majority is old, with an average age of 23 years, while the normal depreciation period is 10 or 11 years.

The government gives various incentives to this sector. Fuel purchases are tax-exempt for foreign ships based in Dakar, and there is a tax abatement for Senegalese ships. Thus diesel fuel used by the fishing fleet is subsidized by 42 to 50%. In addition, there was an export subsidy which amounted to 1.5 million CFA francs in 1989/90, but which was eliminated in 1994.

The main export markets are the European Union (which takes 42% of fresh fish exports), Japan (which imports mainly invertebrates--cephalopods, shrimp) and other African countries, which are important for frozen and salted fish sales, on which the profit margins are slim.

Senegalese products are exempt from the 24% European Union customs duties that apply to exporters that are not members of the Lomé Convention. Asian exporters nonetheless continue to increase their market shares at the expense of Senegal.

Trawling mainly supplies Senegalese fish-processing plants, which export fresh and frozen fish. Due to their long time at sea, the trawlers usually deliver their catch frozen. For fresh fish, the factories rely on artisanal fishing.

Senegalese fish-processing factories face a number of difficulties.

(a) *Low profit margins*. Among the four categories of fish exports (fresh whole, fresh filets, frozen, and salted/smoked) only the first two have decent profit margins. For the other two categories, prices barely cover costs, except for cephalopods and shrimp. But fresh fish only account for about 15% of exports. Table 1 illustrates the differential prices of fresh and frozen fish in European markets.

(b) *Insufficient number of flights.* Airline departures from Senegalese are predominantly passenger flights, that only accept air freight to the extent that room is available. For some destinations, notably Greece and Italy, there is sometimes insufficient space, which is a major problem for fresh fish with very limited shelf life. According to some of our interviews, however, airfreight service has improved considerably.

(c) *Small scale.* The fish processing plants are often small operations, with limited access to finance; this inhibits their ability to move to higher value-added activities such as filets and can make them very dependent on financing from foreign clients.

(d) *Competition from foreign boats.* An increasing presence of foreign freezer vessels has resulted in rising shipments of frozen fish exported from ships at sea rather than via the processing plants in Dakar. This, along with reduced yields for some species, contributes to excess capacity and financial difficulties for domestic processing firms. The lack of competitiveness of domestic boats and factories is related to insufficient capital investment. (interview with Mamadou Gossama, U.S. embassy commercial service). Illegal fishing by Korean and Russian boats, and over-fishing by others, are suspected by the professional fishing organization GAIPES.

We discuss some of these problems in more detail below.

### II.2.2. Tuna Fishing

Tuna fishing was introduced in Senegal in the 1950s. The catch is intended primarily for export in the form of canned tuna. Tuna fishing is carried out by French and Spanish tuna boats using nets and Basque boats using fishing rods. The boats using rods are based in Dakar and unload all their catch at their homeport. Boats using nets range further and sometimes have an option over where to deliver their fish. Much of the tuna unloaded at Dakar is caught outside

Senegalese territorial waters. Over time, there has been a noticeable decline in the delivery of tuna in Dakar, as tuna boats are increasingly delivering their catch to other ports, notably Abidjan. 41 tuna boats, of which only 2 are domestically owned, serve the canneries of Dakar, down from 80 in 1962. (SOFRECO, p.3). This is part of a serious crisis of competitiveness of the Dakar tuna canning industry.

In Senegal, there are now three tuna-canning enterprises, down from 7 in the 1960s: Societe Nouvelle de Conserverie du Thon au Senegal (SNCDS), Interco, and Pecheries Frigorifiques du Senegal (PFS), formerly Pêche et Froid du Sénégal. These factories were established by European -- mainly French -- fishing enterprises, to supply the European market, taking advantage of the benefits of processing the fish when it is fresh and the lower labor costs in Senegal. Increasingly, however, ownership has been transferred to Senegalese investors as the French have exited in the face of the low profitability of the industry. 65% of SNCDS and all of Interco and PFS are now owned by Senegalese investors. These three firms have an annual capacity of 45,000 tons, but the level of deliveries in recent years has never exceeded 35,000 tons. They thus suffer from chronic excess capacity. Only PFS has been functioning regularly, although at low levels of profitability (interviews with Saer Seck and Faical Sharara). The other two are operating intermittently. There are widespread allegations of poor management at SNCDS and Interco. SNCDS has received substantial government support to stay in business (GAIPES, 2000).

At the world level, the two biggest consumers of canned tuna are the USA and Europe. The USA does not import from Senegal, which therefore mostly sells to Europe, and especially France. In order to protect the industries in Francophone countries closely linked to its' own, France has long limited imports from other developing countries (South America, South-East Asia). Other European countries also give trade preferences to the ACP (African, Caribbean and Pacific) countries. The European community has a quota of 166,0000 tons (1996) and a tariff of 24 percent on all non-ACP countries' tuna exports. These European preferences are critical for Senegal as several studies have shown that Senegal's costs are not competitive with Thailand, the main Asian exporter of canned tuna, even after the 1994 devaluation. (Caisse Française de Development, 1998) Indeed, Senegal is not able to compete in the US market, where it is on a level playing field with Asian producers. As Europe eases its preferences towards ACP countries, the pressures on Senegal to improve its cost-competitiveness will increase.

The Senegalese tuna canning industry's long-standing competitiveness problems vis-à-vis Asian producers were ameliorated but not eliminated by the 1994 devaluation of the CFA franc and by efforts of the enterprises to improve productivity (Caisse Françoise, 1998). These gains have also been largely offset by the devaluation of Asian currencies associated with the Asian financial crisis of 1997-8. Even in comparison to Abidjan, however, Senegalese costs of transforming tuna are high. In 1998, the *Caisse Française de Développement* estimated that Senegal's unit costs of production of a can of tuna were about 25 percent higher than in Thailand and about 10 percent higher than in Cote D'Ivoire. SNCDS (1997) reports similar figures for the Thailand-Senegal cost differential.

The excess of Senegalese costs over those of Cote D'Ivoire partly reflects the exogenous difficulty in obtaining raw tuna at certain times of the year when the fish migrate away from Senegalese waters, and Senegalese producers must consequently pay a premium to attract boats to Dakar. In addition, the higher costs in Dakar are related to problems at the level of the port and the factories. Compared to Abidjan, unloading fees are higher in Dakar as a result of the powerful dockers union, which is paid by the hour instead of a piece rate as in Abidjan. Also, the unloading time is greater in Dakar, partly because the tuna factories are not equipped for receiving shipments as expeditiously as in Abidjan. (Caisse Francaise, 1998, p. 26). The consequent desire of tuna boats to bypass Dakar in favor of Abidjan when they have a choice largely accounts for the excess capacity of the tuna canning factories, which in turn further raises unit costs in Dakar relative to Abidjan. Labor costs at the factory level are also slightly lower in Abidjan, as are costs of other inputs such as electricity, fuel oil and water (SNCDS, p. 14). As a result of all this, tuna deliveries to Abidjan average 100,000 tons per year, whereas Dakar only gets 25,000 to 35,000 tons compared to its processing capacity of 45,000. Our interviews suggest that Dakar loses of the order of 10,000 tons to Abidjan because of the problems at the level of the port (interviews with GAIPES, Saer Seck).

The cost differential vis-à-vis Thailand narrowed significantly after 1993 but remains substantial according to the analysis of the Caisse Francaise. While Thailand imports about 90 percent of the approximate 450,000 tons of raw tuna it processes, the neighboring Pacific waters are yielding ample supplies, so Thailand does not have a resource problem. The much larger production volume of the Thai industry allows for economies of scale in the provision of boxes and packaging. The Thai industry is also able to improve profitability by making effective use of tuna byproducts for pet food, etc in ways that the African producers have not been able to do. The depreciation of the Thai baht in 1997-98 undoubtedly exacerbated these cost differentials. In short, Senegalese tuna-canning firms face formidable competitive challenges from East Asia which are kept at bay only by highly preferential European trade barriers.

### II.2.3. Industrial Fishing: Obstacles to Competitiveness

Our interviews and documentary research uncovered the followed principal problems.

*Overfishing*. Almost everyone we talked to expressed concerns about overfishing of certain species. The Centre de Recherche Oceanographique de Dakar-Thiaroye (CRODT) which is an agency under the Ministere de la Peche et des Transports Maritimes (MPTM), is responsible for research and information on the stocks of fish. The estimates of the CRODT as well as others all point towards evidence of over-fishing and diminishing stocks of some types of fish. A decline in Senegalese fishing yields has been observed in recent years for trawling and to a lesser extent for pirogues (Table 2). The declining catch combined with the creation of new processing firms following the devaluation has entailed problems of excess capacity at many industrial fish processing firms (interview with Saer Seck).

The most affected species seem to be coastal bottom fish such as soles, grouper, daurade. For others such as shrimp, there is no firm evidence of over-fishing, but there is cause for concern given the increasing number of shrimp boats. Coastal surface fish (sardines) do not at present show convincing signs of over-fishing, but bear watching because of their importance for domestic consumption. Likewise, some species of tuna seem to be approaching a threshold of overexploitation.

A number of observers note, however, that there is substantial of uncertainty about the available estimates, and that more thorough research is needed. Moreover, too little is known about the timing and location of zones of reproduction. For example, fishermen catch pregnant female octopus, resulting in large reductions in reproduction, although some efforts have recently been made to return babies to the ocean. Most of the professionals we talked to expressed some alarm about the problems of overfishing, and stressed the urgency of obtaining more accurate information about the conditions of fish stocks and the sustainability of current fishing efforts.

The government has in principle imposed a freeze on all new fishing licenses. Representatives of the industrial fishing organization GAIPES (Groupement des Industriels et Marayeurs Exportateurs du Senegal) and others, however, express skepticism about the implementation of this measure. According to them, the government continues to award licenses on a discretionary basis to favored applicants.

There are also regulations about the volume of the catch and restrictions on fishing locations based on the size of boats, which have been reinforced with the new Code de la Peche. But implementation and enforcement are problematic. The Projet Protection et Surveillance des Peches au Senegal (PSPS), initiated in 1981 with a grant from Canada, is intended to enforce Senegal's fishing zone and regulations but suffers from a shortage of means to carry out its responsibilities. It has a single functioning patrol boat and airplane. The industrial fishing organization GAIPES believes that there is substantial evasion of the regulations.

All domestic and foreign industrial boats must have an official on board to ensure that these regulations are respected. Fishing professionals, however, are skeptical about the effectiveness of these observers. Indeed, the observers are paid, lodged and fed by the operator of the vessel that they are observing, seemingly providing perverse incentives for reporting violations.

Another source of controversy concerns which groups of fishing fleets are most responsible for overfishing and disregard of restrictions. There is much mutual recrimination between small artisan fisherman and industrial fishing, each accusing the other of primary responsibility for overfishing. Among some industrial fisherman, also, there is suspicion that foreign boats take more fish than they are entitled to.

In addition to the problem of overfishing, increasing pollution is a potential threat to both the supplies of fish and norms of hygiene.

**Access to Credit**

Views are divided about the extent of this problem for the industrial fishing sector. For some firms, this appears to be a secondary issue. A number of owners (Saer Seck, Faiçal Charara) feel that if an enterprise is well managed and has transparent and open accounts, banks will provide credit, and cite their own experiences to this effect. However, this credit is mostly short term and long-term credit is said to be difficult to get. While it is true that the fishing fleet is very old, our interviews revealed that a number of firms have substantially upgraded their boats, so that the common perception of an antiquated fleet is overdone (Saer Seck, Jacques Marek.)

**International Norms of Hygiene**

Another serious obstacle is the non-conformity to international norms of hygiene. This lack of hygiene is especially linked to the unloading by traditional fisherman on beaches, which are also used as garbage dumps.

The European Union in particular has demanding norms on hygiene. Recently, major investments were undertaken by Senegalese producers to upgrade their facilities to meet EU norms. The EU provided partial financing of these investments. This was a costly endeavor, with many firms unable to cope and going bankrupt, but has been largely completed successfully by the remaining exporting enterprises.

**Labor Relations**

Several firms were emphatic about the gravity of the conflicts with unions. The tuna-canning industry in particular has had repeated problems with unions. Workers in industrial fish processing are affiliated with the CNTS (Confederation Nationale des Travailleurs Senegalais), which had close ties with the outgoing Socialist government. Thus the strikes were often at least tacitly supported by the government (interview with Mamadou Gossama, U.S. embassy).

The GAIPES and others cite the high cost of handling at the port, associated with labor regulations protecting dockers, as one of the main reason that tuna boats tend to deliver their catch to Abidjan rather than Dakar, when they have a choice. Faical Sharara of Pecheries Frigorifiques du Senegal views adversarial labor relations as the foremost impediment to increasing productivity and profitability in the tuna-processing sector. The resistance of unions to improved productivity is more of a problem than their wage demands. The unions particularly target foreign ships and enterprises. There is sometimes violence and theft.

One owner (Saer Seck), while confirming the pervasive labor problems of the larger enterprises, has harmonious relations with his own workers on his tuna boats. His strategy is to treat the workers well and provide bonuses based on firm performance. In response, he benefits from highly motivated workers, and his two boats have turned in the best results of the domestically based tuna boats.

**Worker Skills and Training**

While Senegal has many skilled traditional fishermen, there is a shortage of ship officers with the technical and managerial expertise required in industrial fishing. Thus, a number of boat operators use expatriates for middle management and technical posts at considerable additional expense. These expatriate workers earn much higher salaries than Senegalese workers. For example, for Saer Seck's two tuna boats, the salary bill for the 3 expatriates is higher than for the 17 Senegalese salaried workers. (interviews with Saer Seck, Jacques Marec) Clearly, there would be benefits both to firms and local workers to having trained Senegalese personnel who could carry out these tasks.

There exist several public institutes whose mandate is to train workers for these tasks. The Centre National de Formation des Techniciens des Peches Maritimes (CNFTPM) is responsible for training management personnel for the fishing industry. *L'Ecole Nationale de Formation Maritime* (ENFM) in turn is charged with training of sailors and navigating personnel on ships. According to SOFRECO (1998, pp.40-41), as well as our interviews, these agencies are unable to carry out their functions, in part because of budget cutbacks.

**Physical Infrastructure**

For industrial fishing (as opposed to artisanal fishing), infrastructure is mostly adequate. Roads are of uneven quality, with affects mostly the artisanal fishing industry's ability to move its produce to factories in the Dakar area. Shipments of fresh fish by air, which require care in handling and timeliness, seem to have improved.

At the Port of Dakar, the main problem for the tuna boats evoked above seems to be labor relations rather than inadequate facilities.

Several firms complained about the power outages and the expense of purchasing generators. This contributes to the high cost of electricity in Senegal compared to other countries.

**Corruption and the Judiciary**

A pervasive problem in Senegal has been the politicization of business decisions, with government tilting the playing field towards larger firms and those with political connections. A case in point, according to the GAIPES, is the recent government bailout of the tuna-canning firm SNCDS through a loan from the Fond de Promotion Economique (FPE) and the placement of high government officials on the Board of Directors of that firm. Also, the GAIPES suspects that illegal fishing by Russian vessels is tacitly authorized by the government, presumably in exchange for bribes. There are allegations ship capacity is systematically under-reported by many operators, to evade taxes and to obtain more leeway in coastal fishing zones.

The judiciary system was cited as the most important remaining problem by Jacques Marec, who told us about a case he lost against a worker who was caught in a flagrant act of theft.

## II.3. Artisanal Fishing

Artisanal fishing in motorized pirogues is a modern extension of the long tradition of fishing in Senegal predating the colonial era. It is generally recognized that Senegalese fisherman are highly knowledgeable about their craft and courageous. Indeed, it is a dangerous profession, particularly around Saint Louis due to the rough seas and lack of a breakwater. Many fishermen lose their lives each every year (approximately 50 in the St. Louis area alone).

The fishing code reserves 6 nautical miles of the coastal zone for traditional fishing. In addition, the government exonerates all equipment purchases from taxes.

*Artisanal fishing is booming*. Artisanal pirogues number over 10,000 of which 90 percent are motorized, and account for about 80 percent of all captures and 60 percent of exports. It also involves extensive on-shore handling, processing and transporting, which are very labor-intensive. Nonetheless, there are many impediments to further progress. The problem of overfishing discussed above is also applicable to artisanal fishing, especially in the Petite Cote region South of Dakar.

*Credit*. Credit to artisanal fishing is a perennial problem with mutual recriminations from bankers, government, and borrowers. Creditors cite the poor record of repayment while debtors point to onerous conditions and the politicization of credit facilities.

There is a long history of failed government initiatives to provide credit to rural and informal producers, including fishing, with new loan programs started, arrears developing, followed by debt cancellations (SOFRECO, 1998). These repeated debt cancellations have exacerbated the moral hazard problem by setting a precedent that credit need not be serviced.

The main extant government program is associated with the Caisse Nationale de Credit Agricole (CNSAS), created in 1984. It charges an interest rate of 12.5% (down from 25%), which is viewed as too high by small fisherman. Also, the CNSAS requires substantial down payments that are difficult for small fisherman to comply with. The procedures involved in applying for a loan are long and arduous for a small business.

The share of non-performing CNCAS loans to the fishing sector is about 12.5%, high but not as bad as in agriculture. The CNCAS has arrears of 250 million CFA francs owed by fishermen in the St. Louis area and consequently has refused all access to credit for this region for many years. (*Le Soleil*, March 18, 1998). This high rate of delinquent loans reflects many of the characteristics of informal fishing: the precarious nature of this trade, lack of training and technical knowledge in modern management and accounting, high geographic mobility making tracking of debtors difficult, and the attitude among fisherman that credit need not be repaid. There is also the common perception that the CNCAS is not well managed.

Private financial markets have not been able to fill the void left by mostly unsuccessful government credit programs. The large commercial banks are not well adapted to making loans to small-scale fishing, and do not have the requisite technical expertise in the fishing industry that would enable them to screen and monitor risk accurately. Nor are artisanal fishermen in a position to provide the demanding documentation and collateral that banks normally require. The fishermen decry the lack of appropriate credit facilities, while creditors complain about the chronic lack of repayment of existing debts. Interestingly, the women who process the catch are reputed to be far more reliable in servicing their debts than the fishermen themselves.

There have been a number of initiatives to extend credit to artisan fisherman through lines of credit placed by donor organizations at the commercial banks. The main such line of credit is the Fond de Promotion Economique (FPE). The FPE was initiated with a 39 billion CFA line of credit from the African Development Bank in 1991. The Senegalese government kicked in an extra 3 billion CFA. The maximum interest rate is 13 percent. The success of the FPE has been mixed at best. Only a small fraction of the credits have gone to the fishing industry. In the first 4 years of the FPE, only 26 fishing projects were financed for a total of 3.5 billion CFA francs. Moreover, even for these 26 projects, the FPE provided only about 40 percent of the financing. (SOFRECO 1998, p. 85). There have been several other lines of credit in recent years financed by other donors (Canadians, EU, French, World Bank), but the artisanal fishing industry has not benefited much.

One small firm owner argued that it is very difficult to get access to these lines of credit placed with commercial banks by donor organizations. Some accuse the FPE and other such funds of political bias and corruption. On the other hand, a representative from the Observatoire de la Peche, an arm of the fishing Ministry MPTM, claims that these lines of credit have been quite successful.

Networks of mutual credit associations may be the best solution to the financing problem of small fishing enterprises.

*Infrastructure*. Infrastructural problems tend to be more severe for the artisanal than the industrial fishing sector. While there has been considerable progress, infrastructure deficiencies remain in the areas of hygiene and cleanliness as well as other areas. A survey of region-by-region infrastructure for artisanal fishing reveals deficiencies in the unloading, stocking, and processing of fresh fish: availability of ice and cold storage, water , electricity and cleanliness. (Sofreco, 1998, p. 26). In addition transportation of the product is a problem in some locations: Petite Cote, Sine Saloum, Casamance.

In 1995, the French Government has extended financing to the government of Senegal for improving unloading infrastructures. Substantial progress has been made.

*Safety issues.* As mentioned earlier, fishing is a very dangerous profession. A number of measures should be taken to reduce the number of fatalities and loss of production such as encouraging fishermen to wear life jackets. A breakwater is badly needed in St. Louis.

*Skills and Information.* Although highly skilled in traditional tasks, artisanal fishing professionals lack knowledge about modern techniques and norms. Approximately 90 per cent of artisanal fisherman is illiterate. Cultural attitudes may also sometimes be a problem. For example, fishermen have resisted wearing life vests despite their low cost and the substantial number of lives that could be saved. As another example, the women involved in marketing and processing of the catch suffer from lack of organizational and knowledge of modern techniques and export markets.

## II.4. Summary on Fishing

There is considerable dynamism and potential in Senegal's fishing industry. Employment and exports have increased markedly in recent years. Yet the industry is confronted by serious problems: overfishing of some species, lack of competitiveness of tuna-canning and other industrial fish-processing sectors, and inadequate infrastructure and services to the artisanal sector. The government, the artisanal and the industrial fishing sectors must work together to confront their shared problems: monitoring and regulation of fish stocks, technical assistance, finance. Infrastructure has improved but severe deficiencies remain at the level of roads, electricity availability, and unloading and processing facilities for artisanal fishing. Weaknesses in social capital, notably the capricious and inefficient judicial system and confrontational labor relations remain very important in hampering the competitiveness of the industrial sector. The often-evoked financing problems would be alleviated if these other problems of physical and social infrastructure, appropriate regulation, and technical assistance are addressed. Well-managed firms have good access to credit. While the government has a clear role in aiding artisanal fishing, it must strive to maintain a level playing field and avoid special assistance to well-connected firms.

## III. GROUNDNUTS

From the colonial era until the middle of the 1970s, groundnuts were the mainstay of the Senegalese economy; the sector's contribution to GDP was about 20 percent, and it accounted for more than 70 percent of employment, and was by far the most important export commodity. Towards the end of the 1970s, however, a steady decline set in. Between 1962 and 1987 land productivity and output declined by average annual rates of 0.2% and 1.14% respectively.

Groundnuts are cultivated by peasant farmers throughout most of rural Senegal. Until recently the government had a near monopoly on the purchase and processing of groundnuts through the parastatal SONACOS, which produces peanut oil and oilcake, primarily for export. Only a small fraction of the crop is edible peanuts. The SONACOS is heavily involved in the cultivation of the crop too through its affiliate SONAGRAINES which distributes seed and fertilizer to the peasants and collects the crop for the SONACOS factories. While the government long had an official monopoly, an "underground" parallel market has also played an important and growing role.

### III.1. Groundnut Cultivation

There is no question that severe exogenous shocks have adversely affected the supply of groundnuts. Rainfall is of critical importance, given that irrigation covers less than 1% of the arable land. The probability that rainfall falls below the 800 mm threshold for producing groundnuts is around 50%, and since the drought of 1972-73, the frequency of inadequate rainfalls has doubled relative to its level in the 1960s. The second factor is the advance of the desert, which reduces the availability of suitable land, now confined to the Southern half of the country (the Southern part of the groundnut basin and the Upper Casamance).

Nonetheless, the problems of social organization and government policies seem to be more important than these adverse exogenous shocks. From the beginning, the government has been heavily involved in all stages of the production process with dismal results.

*Agricultural credit for seeds, fertilizer and equipment*. At the level of groundnut cultivation the government's main role has been to provide the seed grains and fertilizer to farmers on credit, to be reimbursed when the crop is harvested and delivered to the SONACOS. The major problem has been that the peasants have had a poor record of repayment of the loans granted by the government. In addition the government agencies have been poorly managed.

As early as 1960, the government established the regional centers for development aid (*centres régionaux pour l'assistance au développement* -- CRAD) whose responsibility was the management of the seeds, credit to peasants, technical assistance, and marketing. In 1966 ONCAD replaced CRAD which had a staff of about 4000 and a budget of 100 billion CFA francs (about $400 million). The ONCAD distributed an average of about 120,000 seeds each year, based on 100 kg per man and 50 kg per woman. The debts were to be reimbursed in kind at interest rates of 12.5%. (Badiane and Gaye, 1997). The peasants, however, then had an incentive to default on their debt and sell in the parallel market. In 1966-1980, the repayment rate averaged 73%. Of course, the government could withhold seeds to defaulters in the following season, but in practice it cannot credibly commit to this and tended to cancel the farmers' debts rather than deny them seeds. When it was eliminated in 1980, ONCAD left the State a debt of 90 billion CFA francs. After 1980, the system of credit and repayment was modified with the government withholding part of the price of the peanuts when purchasing the crop from the peasants and using this implicit tax to pay off the farmers' debts. But this only increased the farmers' incentive to sell on the parallel market and the effective rate of reimbursement fell to around 32 percent in 1984. (Badiane and Gaye, 1997, p. 10)

After these failures, the *Nouvelle Politique Agricole* moved towards a system where the peasants themselves would be more responsible for providing their seeds through personal saving in kind or cash. To obtain seeds from the government, farmers would now have to pay cash. The SONACOS has partially opened the production and distribution of seeds to private operators (*operateurs semenciers*--OS) licensed by the SONACOS.

A private firm, NOVASEN, that has recently emerged as a competitor to the SONACOS, also distributes seed to farmers that it has contracts with. We interviewed the director of NOVASEN, Mr. Abdoulaye Diop, who formerly was director of the SONACOS. According to Mr. Diop, the NOVASEN does not have the same repayment problems as the SONACOS and the reimbursement rate is 93 percent. According to Mr. Diop, the problem is that the SONAGRAINES is not well run. The peasants know that they can get away with defaulting on their debts to the SONAGRAINES and so they do. Peasants under contract with NOVASEN, on the other hand, receive higher amounts and better quality seeds, and have an incentive not to default to remain in good standing.

Except for those peasants working with the NOVASEN, the liberalization of the market has not been successful. According to Badiane and Gaye (1997) peasants are often ill equipped to save enough for several reasons. The volume of seed required is significant and it may be extremely difficult in years of poor harvests to save. In addition the peasant may have difficulty storing the seeds safely. Peasants may also have difficulty resisting the temptation to sell off their savings in the face of an emergency or other need for liquidity. When the time comes to buy seeds, farmers may skimp on the quality of the seeds they purchase, choosing to ignore the consequences in diminished output. In general, the peasants seem unable to adopt a long-term perspective. Consequently, a market-based organization of seed production and distribution still requires substantial assistance to the peasants. Perhaps for this reason, the SONACOS/SONAGRAINES have not fully disengaged from the process. At the present time, the SONAGRAINES still distributes seeds on credit to peasants, while the OS operate primarily through cash sales. Much of the official seed grain market is still directly or indirectly controlled by the SONAGRAINES.

The problems are very similar for the provision of fertilizer and agricultural equipment. Peasants have incurred debts that they do not reimburse. As a result, the whole circuit has become blocked and many peasants have little access to fertilizer or equipment. The result is depressed output. Again those farmers who have contracts with the NOVASEN receive disproportionate amounts of credit for these purposes.

In 1997, responding to the drop in the collection of peanuts in 1996, the SONACOS again revised its credit facilities, lowering its interest rate and easing access to credit, while at the same time instituting procedures to work more closely with the peasants at all steps of the production process. It remains to be seen, however, if these measures will be implemented and will stem the problem of loan defaults that has stymied the whole system.

The apparent success of the NOVASEN, if it can be independently validated, suggests that private firms may be able to act as intermediaries more effectively than the SONAGRAINES.

*The Parallel Trading Circuit.* Farmers who have received credit from the government are theoretically obliged to deliver their produce to the SONAGRAINES or its private agents. However, there are also informal traders who compete with the official circuit for collecting and distributing the harvest. Badiane and Gaye (1997, p. 114) estimate that the parallel market absorbs an average of about 10 per cent of the harvest but this increased in 1997 to 14 percent. There is considerable regional variation in the importance of the parallel market.

The informal traders are considerably more flexible than the SONAGRAINES. They also offer a higher price to peasants, by about 10 percent. They travel to villages rather than confine their collection at the storage depots designated by the SONACOS. They also operate throughout the year, while the SONAGRAINES only operates for about 4-5 months. On the other hand, the traders are accused of dubious practices such as falsifying weights. But the main reason peasants still deliver the majority of their product to the official dealers is probably to retain their access to SONACOS credit.

*Prices*. There is substantial variation in prices both across regions and between unshelled and shelled nuts. (Badiane and Gaye 1997). The official market deals only with unshelled nuts whereas the parallel market only trades in shelled nuts. The large price differentials between shelled and unshelled are surprising given that shelling is a very simple process of crushing the shells. It is clear the market remains highly segmented despite the liberalization and growth of parallel markets.

Prior to the 1980s, the SONACOS paid prices to producers 30-50 percent below the world or export price, in effect heavily taxing producers and subsidizing the oil producing factories. This changed with NPA policies of the mid-1980s and the sharp decline in world prices. In the 1980s and the 1990s, the ratio of producer price to world price has fluctuated sharply mainly due to fluctuations in world peanut prices and the real exchange rate of the CFA. In the early 1990s prices to producers were higher than the world price, and the government maintained the viability of the oil factories through large subsidies. (Badiane and Gaye, 1997, p. 194). The devaluation of 1994 led to a sharp rise in the CFA world price of peanuts that was not fully passed on to producers, once again effectively providing subsidies to the SONACOS oil processing.

### III.2. Peanut Oil and Oilcake

Figure 6 shows the evolution of output and employment in the edible oil industry. The long-term decline in output is similar to the decline in exports shown in Figure 1. Employment has not declined as much, however, reflecting the excess capacity problem discussed below.

In Senegal, the processing of groundnuts was until recently the monopoly of the SONACOS, which makes oil and oilcake. SONACOS exports unrefined peanut oil, mostly to Europe (France, Italy and Spain primarily.) Senegalese peanut oil benefits from a 10 percent subsidy from the European Community. Little of the peanut oil is intended for the local market, because of its high price relative to other types of oils. However, the SONACOS also imports lower-cost unrefined vegetable oils that it refines and sells on the local market. It benefits from high protection on imported refined oils. It also sells a limited amount of refined peanut oil. The SONACOS has 4 factories spread around the country (Dakar, Kaolack, Djourbel, Ziguinchor) for pressing peanut oil and refining. The private firm NOVASEN has recently started a peanut oil factory.

The SONACOS factories all have technical deficiencies that adversely affect production capacity (SOFRECO, 1990). This problem is obviated by a more important one: huge excess capacity. In recent decades, capacity utilization has never exceeded 50 percent, and Mr. Diop of NOVASEN, the former director of the SONACOS, estimates it at 30 percent. According to Mr. Diop the factory at Dioubel has been closed since 1990 due to insufficient raw material.

Senegalese oil benefits from a number of advantages in the EU market, in addition to the above-mentioned subsidy:

a. It has a reputation for high quality (SOFRECO, 1990);

b. Payments are made in French francs, thus avoiding any exchange rate risk; and

c. Senegal's geographic proximity to Europe should mean relatively low transportation costs and shorter delivery times than for its Brazilian and Chinese competitors.

The principal negative exogenous factor often cited to explain Senegal's poor performance is the downward trend of world demand, particularly in France, which absorbs 70 % of Senegalese oil. In 1965, peanut oil constituted 87% of French oil consumption, compared to 2% for safflower oil, but in 1988, the respective shares had altered to 18% and 65% (SOFRECO, 1990). Concern about aflotoxin has negatively impacted EU demand for peanut products.

Nonetheless, these explanations fail to account for the fact that while Senegalese exports declined by 2% between 1962-67 and 1986-88, Asian and Latin-American groundnut oil exports rose by 400%. Also, the aflotoxin problem should not affect Senegal, because its oilcake is detoxified.

The declining exports of peanut oil reflect the difficulties of groundnut cultivation, discussed above, as well as the inefficiency of the SONACOS. The cost of processing peanuts into oil is higher in Senegal than in its competitors (Badiane and Gaye 1997 p. 191).

**Privatization of the SONACOS?**

For many years, the SONACOS had a monopoly on almost all aspects of the peanut trade. The market has been substantially liberalized but is still dominated by the SONACOS. The powerful incumbent position of the SONACOS has limited entry by other producers. We interviewed an entrepreneur, Alla Sene, who recounted his attempt in 1979 to set up an industrial complex in Djourbel that included a peanut-shelling plant and units that would use the shells and other byproducts to produce electricity and animal feed. His project was blocked by the SONACOS, as other private initiatives have been. Mr. Diop of NOVASEN also views the stranglehold of the SONACOS over the industry as the key blockage in the whole system. According to these entrepreneurs, privatization of the SONACOS is essential to open things up--the SONACOS is poorly run and continues to have huge excess capacity because of the political unwillingness to close factories. Indeed, it is unclear what logic justifies government operation of this sector in a market economy. Peanut oil processing is surely not a natural monopoly or an essential public service.

The SONACOS has been slated for privatization since the early 1990s, but two public offerings have failed. In 1995, the first attempt was called off in the face of what the government deemed insufficiently attractive offers. The second attempt, in 1999, resulted in no offers! The failure of the privatization to generate acceptable bids is related to the conditions attached by the government, which require the buyer to maintain the basic structure of the firm intact. This condition deters prospective buyers' interest because of the poor prospects for the firm as it is currently structured, notably the SONAGRAINES's holdings of uncollectable loans to peasants. In addition, there is uncertainty and lack of transparency surrounding the tariff protection on imported vegetable oil from which the SONACOS profit is derived.

According to the private entrepreneurs in this sector, successful privatization requires that the SONACOS be broken up into separate components to be offered for sale individually.

### III. 3. Summary on Groundnuts

The peanut oil sector has until recently involved heavy government intervention in all aspects of the industry. There has been substantial liberalization but the parastatal SONACOS remains a key player. There is no clear economic justification for government operation of peanut oil processing. Peasants do require technical assistance and access to credit, but the SONACOS has not been highly successful in these areas. In contrast, the apparent success of the NOVASEN in its contractual relationships with peasants suggests that further liberalization and privatization of the industry is essential.

## IV. SYNTHESIS AND CONCLUSION

Senegal has made important strides in macroeconomic stabilization and structural reform. Our case studies show, however, that the country is a long way off from successful private-sector development and export led-growth. While negative exogenous factors are important, the deeper problem is that economic policies are failing to come to grips with some of the fundamental obstacles to growth.

We have focused on the interaction of the government and the private sector in three important tradable goods sectors in which Senegal has an actual or a potential comparative advantage: peanut oil, fishing, and textiles/clothing. The traditional main export of the Senegalese economy, peanut oil, remains in crisis. The peanut crop is steadily declining and the stalemate associated with the unpaid debts of peasants to the government paralyzes the system. Fishing has seen impressive growth, especially in the artisanal sector, but much of industrial fishing sector is in precarious shape, and the long-term management of its key resource--fish stocks--is not assured. While informal clothing production is booming, the formal clothing industry has nearly disappeared in Senegal and the large textile firms face severe difficulties.

While our research reveals serious problems, it should not be forgotten that there is much that is positive and promising in Senegal's economic development. First and foremost is the entrepreneurial spirit and work ethic of the Senegalese. Almost all of the smaller firms we talked to praised the skill and dedication of their workers. This was particularly true of the clothing manufacturers and owners of fishing vessels, who often cited the expertise in sowing and fishing that have been passed along for generations of workers. Secondly, Senegal's location is propitious for all of these industries in terms of access to the European and American markets. Third, the relative political stability of Senegal is an important asset.

There are a number of cross-cutting problems for these industries that seem to prevent Senegal from cashing in on its strengths.

*The absence of a transparent and level playing field.* Government policy strongly favors some incumbent private firms or parastatals. In the case of the peanut oil, it is the dominant role of the SONACOS that has long squelched private initiative. In the textile industry, the high protection and other forms of aid channeled to large textile producers such as SOTIBA and ICOTAF acts as a tax on apparel production. In the fishing industry, the fishing organization GAIPES alleges that the government inappropriately bailed out the tuna-canning firm SNCDS. In all these cases, the government and private business interests are closely related in non-transparent ways.[4] The new government has an opportunity to make a clean break with this corrosive cronyism.

*Training and Management.* In all three industries we examined, there is a thriving informal sector but with severe technical constraints inhibiting transition to more formal production. There is entrepreneurial dynamism, but lack of management expertise, knowledge of foreign markets etc. In the clothing sector, there are thousands of highly skilled tailors but they cannot readily be implanted in an industrial setting without further training. There are around a dozen small and medium enterprises (SMEs) in the clothing sector that mostly originated in artisanal form and in many cases remain on the border between formal and informal. These firms recognize their own deficiencies in the area of managerial expertise. Likewise for the industrial fishing industry, there is a shortage of intermediate level personnel, resulting in the use of expatriates at much higher cost.

Modern industry requires certain types of knowledge that are rather different than the skills acquired in informal production. There is clear need for training and support institutions that aid workers and firms in acquiring technical know-how. In Senegal, there are plenty of training and support institutions but they have proved ineffectual. Clearly, it is not just a question of creating additional institutions, but rather having flexible organizations with personnel that are familiar with the problems of local firms and also have the technical skills to help firms address these problems. It is striking that the SMEs we talked to receive little or no assistance from support organizations in addressing these issues. This is clearly an area where the government, business groups, and foreign donors could collaborate to develop more effective

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4 This point is also stressed in Berg (1997).

institutions that work closely with small businesses to disseminate information about managerial practices and assist with training. A promising approach would be for organizations such as Fondation Secteur Prive to work with industry-level associations such as the FENAPH to determine what the greatest needs are, and appropriate interventions. In working with organizations such as the FENAPH, it is important that meetings be open to member enterprises rather than only the leadership of the organization. Members of these organizations do not always trust the head of the federation to represent them fairly. Open meetings would help dispel suspicions and ensure that all member firms know about any assistance programs.

*Finance.* Larger firms, particularly those that are well managed and profitable, have little difficulty accessing credit from the banking system. Even for such firms, however, longer-term credit is difficult to obtain. For artisanal firms or SMEs, credit is often unavailable and/or judged to be too expensive. Lack of access to finance is one of the most important obstacles limiting investment and employment creation, according to SMEs in the clothing sector.

The nature of the market failure blocking the proper functioning of financial markets is not always clear. Are the banks too cautious or are the firms unable to make a convincing case that their investments will be lucrative and that they will service their debt? Clearly, both are true.

There are several avenues to ameliorating this impasse. First, the judicial system in Senegal is widely seen as unable to adjudicate bankruptcy and loan defaults effectively and rapidly. Reform of the judicial system to address this issue is a necessary condition for a viable financial market.

In addition, this is another area where support organizations could be helpful in assisting SMEs with loan applications and project advice. Many SMEs have little idea how to prepare accounting statements and business plans that would satisfy a bank loan officer. Moreover, banks lack expertise in loans to SMEs. Without addressing these problems, additional lines of credit placed with the banks are unlikely to find their way to SMEs.

*Infrastructure and public services.* An essential function of government in a market economy is to provide the public goods and services without which a market cannot function. These include social infrastructure such as the judiciary and law enforcement, and physical infrastructure such as roads and electricity. Our case studies show substantial progress in some of these areas. For example, air transport seems to have improved for fresh fish exports. In a number of areas, however, there remain important problems.

In terms of physical infrastructure, the most frequently noted problem is the unreliability and high cost of the SENELEC provision of electricity. This is particularly serious for small firms for whom a generator is a prohibitive expense.

On social infrastructure, the delays and capriciousness of court cases, particularly concerning labor law cases, is widely seen as a major deterrent to investment.

For the fishing industry, there is the particular problem of conservation of fish stocks, which is widely acknowledged but not yet adequately addressed.

*Labor Relations*. Senegal inherited much of traditional French labor law that greatly restricts employers' flexibility, particularly regarding layoffs. In an environment where job creation is one of the foremost objectives of economic policy, such labor market rigidities are extremely counterproductive. Many of the most restrictive provisions of these laws have been reformed but the problem persists according to some of our interviews. While employers may now lay off workers for economic reasons, there remain detailed statutes prescribing the conditions and modalities of such layoffs. Combined with the uncertainties associated with the judicial system, labor laws remain dissuasive of hiring permanent workers, according to the fishing organization GAIPES and others.

Another French tradition, adversarial relations between unions and employers, also remains an important problem for some firms. Foreign firms are particularly likely to be targeted by unions. This confrontational environment may be one of the factors that deters international subcontracting in apparel production into Senegal.

In summary, our case studies show that the Senegal has made important progress, but still has a long way to go towards creating an environment where the private sector is the engine of growth.

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**Interviews**

(carried out in 1999-2000)

**Clothing**

Massata, Mr. Massata Thioune
Laay Diarra, Mr. Diarra, owner-director
EGA, Mr. Gora Athj, owner-director
Sodaco, Mr. Camara, owner-director
Aissa Dionne, Aissa Dionne, owner-director
Senegal Broderie Moderne, Ahmed Diallo
FENAPH-Centre de Formation, Mr. Adama Gueye, director
NOCODA (Nouvelle Confection Dakaroise), Serigne Gaye Amar

**Textiles**

ICOTAF, Mr. Moustapha Seye, Directeur Technique
SOTIBA, Babacar Mbaye, Resources Humaines
Cotonniere du Cap Vert, Mr. Jacques Dufour, Directeur
NSTS, Mr. Ibrahima Macodou Fall, Directeur Général

Ministère de l'Industrie, Bella Diong, Conseiller Technique

**Fishing**

GAIPES, Mr. Dougoutiqui Coulibaly, Secrétaire Général
Soracope Armaments (ship chandler) Mr. Medoune Diop, Directeur Général
ABDA Peche (fresh fish, filets), Mr. Seck.
NAFI (tuna fishing) Saer Seck, Président Directeur Général
SOPASEN (frozen fish) Jacque Marec, Directeur Général
Pecheries Frigorifiques du Senegal (tuna canning) Mr. Faycal Sharara, Directeur Général
Amerger (frozen and processed fish) Mr. Faical Sharara, owner

Observatoire de la Peche, Mr. Boubacar Ba, Conseiller Technique

**Groundnut Oil**

SONACOS, Mr. Bathily, Directeur commercial
SONAGRAINES
NOVASEN, Mr. Diop, Directeur Général
Sahel Gaz, Mr. Alla Sene, President Directeur Général

**Patronat**

CNES, Mr. Tidiane Boye
UNACOIS, Mr. Ibrahima Diouf
OCAAIS, Mamadou Ly, Secrétaire Exécutif

**Donors**

IMF Mission, Mr. Michel Dessart, Principal Representative
World Bank Mission, Mme. Maimouna Savane, Economist
U.S. Embassy Commercial Service, Mamadou Gossama, Economist
USAID, Kifle Negash, Program Economic Officer
PNUD, Mr. Ba
UNIDO, Francois D'Adesky, Directeur
Caisse Française de Développement, Bertrand Loiseau
Agence Française de Développement, Patrick Cohen, Conseiller

**Others**

BICIS bak, Mouhamadou Ndiaye, Departement Clientele Entreprises
Unité de Politique Economique, Mr. Aliou Faye, Economiste
GRCC, Hamath Sall, Secrétaire Général
CRJ, Mr. Karim Mbengue, Secrétaire Général

**Table 1**

**Price Differentials Between Fresh and Frozen Fish (french francs per kg) in Selected European Markets**

| Species | Fresh Fish | Frozen Fish |
|---|---|---|
| Dorades | Italy: 1300-1600 | Holland, France, Spain: 150-800 |
| Soles | Italy : 2150 | Italy : 800 |
| Saint-Pierre | Italy: 1925 | Italy: 1500 |
| Pageot | Italy: 1300-1460 | Spain, Japan: 500-700 |

*Source Verdillac and Maal 1994.*

**Table 2:**
**Evolution of Senegalese Fishing Yields**

| | 1981 | 1982 | 1989 |
|---|---|---|---|
| I- Trawling | | | |
| - Tons per day at sea | 1.9 | 1.8 | 1.4 |
| - Tons per boat capacity per year | 3.3 | 2.8 | 1.7 |
| - Tons per horsepower per year | 0.8 | 0.7 | 0.5 |
| II- Artisanal Fishing | | | |
| - Tons per year per pirogue | - | 31-32 | 25-31 |

*Source: Verdillac and Maal 1994.*

**Figure 1**

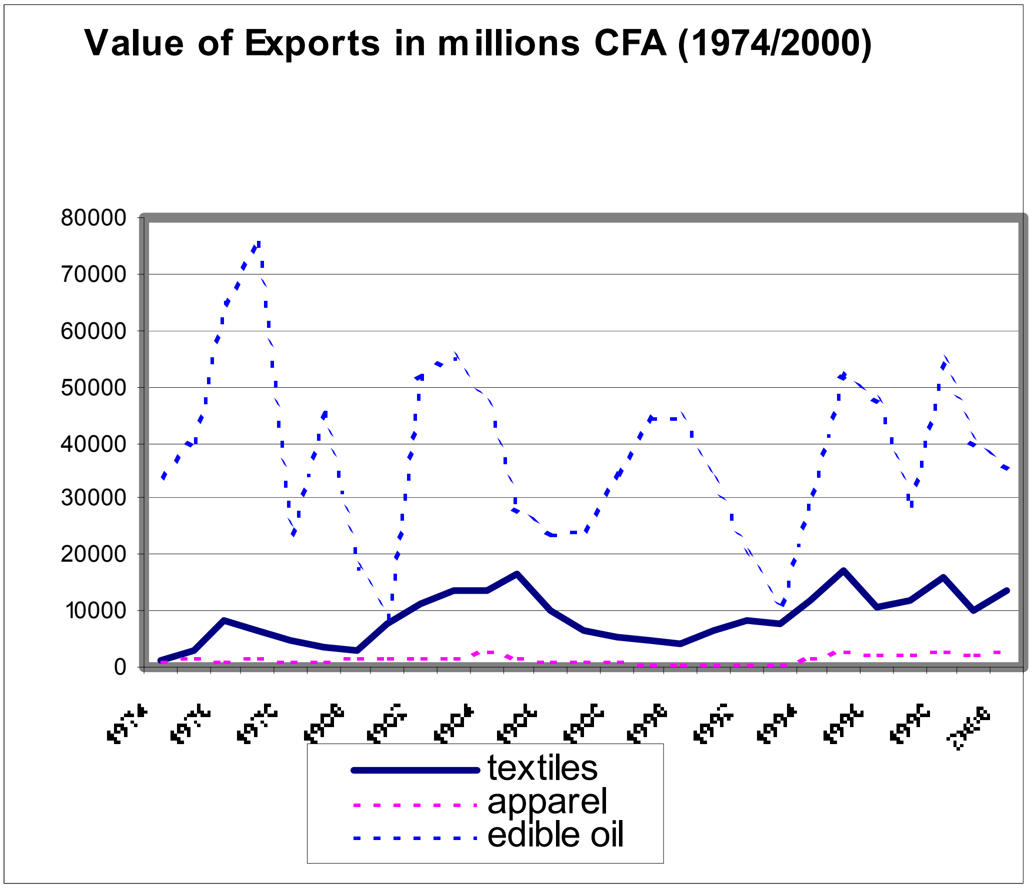

Value of Exports in millions CFA (1974/2000)
80000
70000
60000
50000
40000
30000
20000
10000
0
textiles
apparel
edible oil

**Figure 2**
**Vertical Structure of the Senegalese Textile Industry**

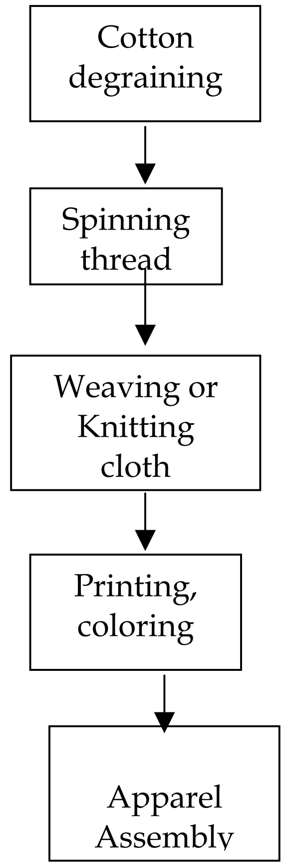
SODEFITEX (government marketing board)

CCV, ICOTAF, NSTS (large, former French-owned)
SOTEXKA*

ICOTAF, NSTS,
SOTEXKA*

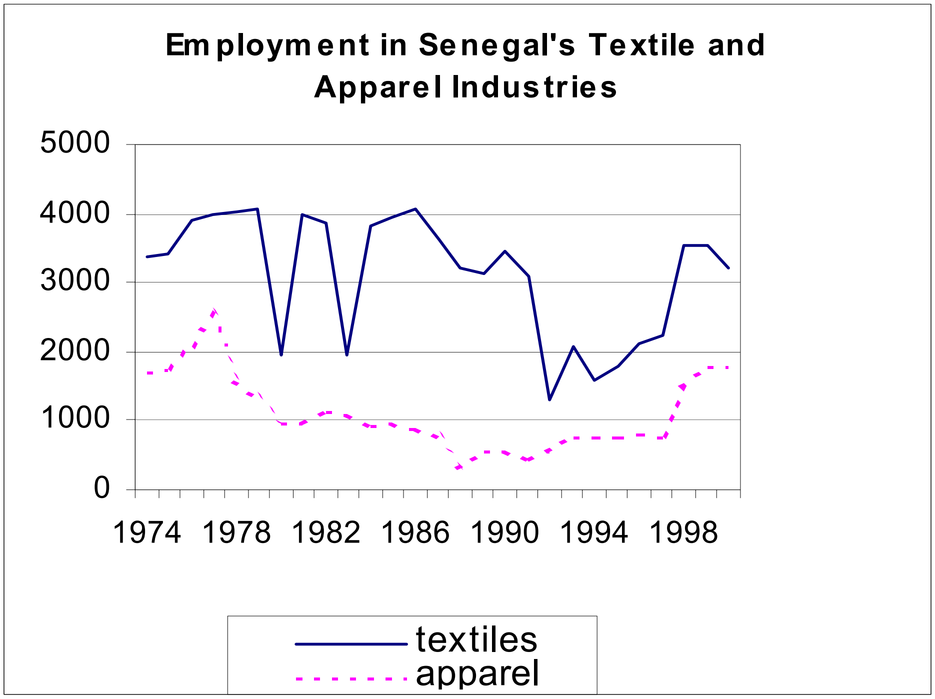
SOTIBA, ICOTAF
SOTEXKA*

MASSATA, NOCODA, …(dozen small local firms mostly created by informal sector tailors)
SOTEXKA*




**SOTEXKA:* large vertically integrated firm created by government in the early 1980s with partial government ownership and very large subsidies and loan guarantees in politically strategic regions. Run by political friends of government. Hardly ever operated and is now completely shut down.

**Figure 3**


Employment in Senegal's Textile and Apparel Industries
5000
4000
3000
2000
1000
0
1974
1978
1982
1986
1990
1994
1998
textiles
apparel

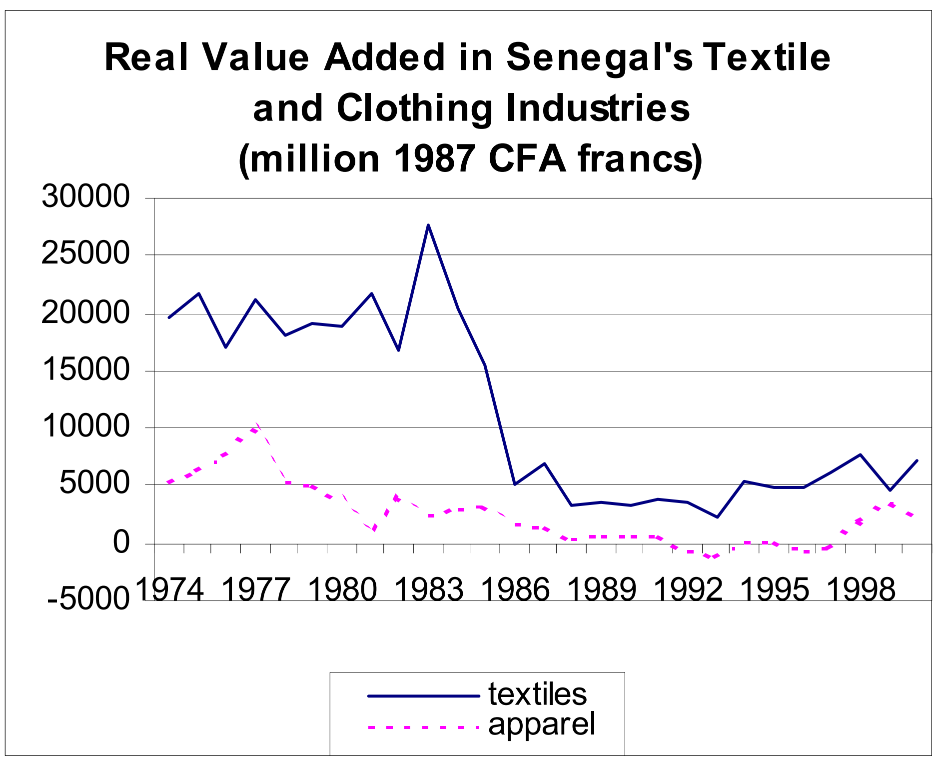

Real Value Added in Senegal's Textile and Clothing Industries (million 1987 CFA francs)
30000
25000
20000
15000
10000
5000
0
-5000
1974
1977
1980
1983
1986
1989
1992
1995
1998
textiles
apparel

**Figure 4**
**Structure of the Senegalese Fishing and Fish-Processing Industry**

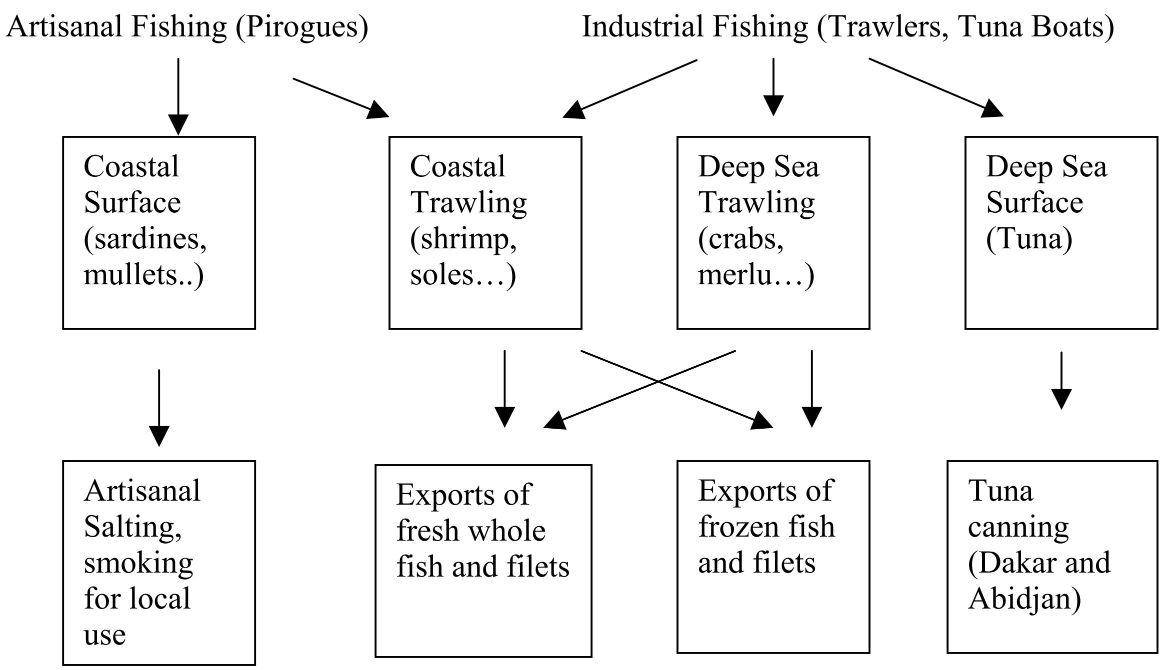
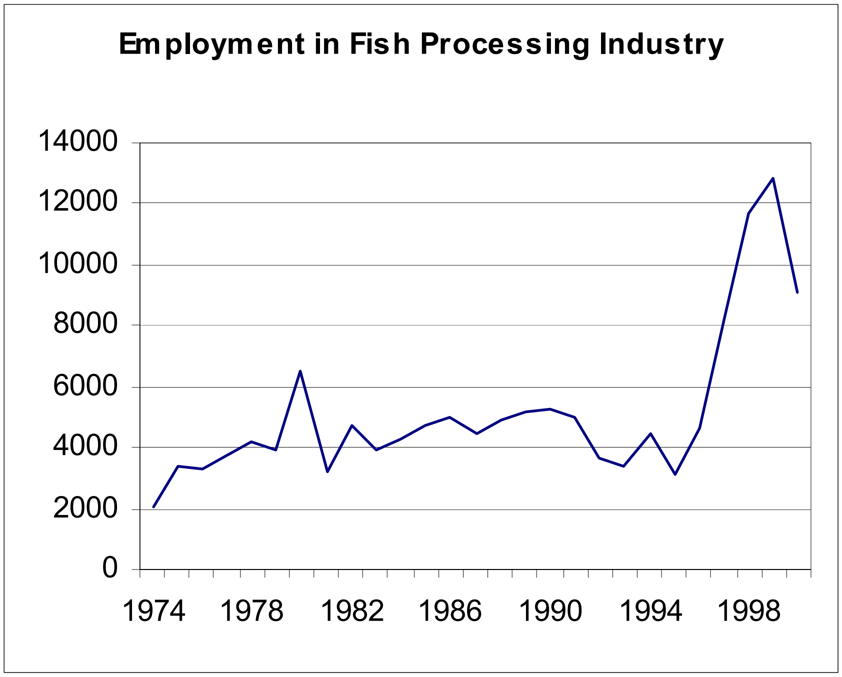


**Figure 5**


Employment in Fish Processing Industry
14000
12000
10000
8000
6000
4000
2000
0
1974
1978
1982
1986
1990
1994
1998

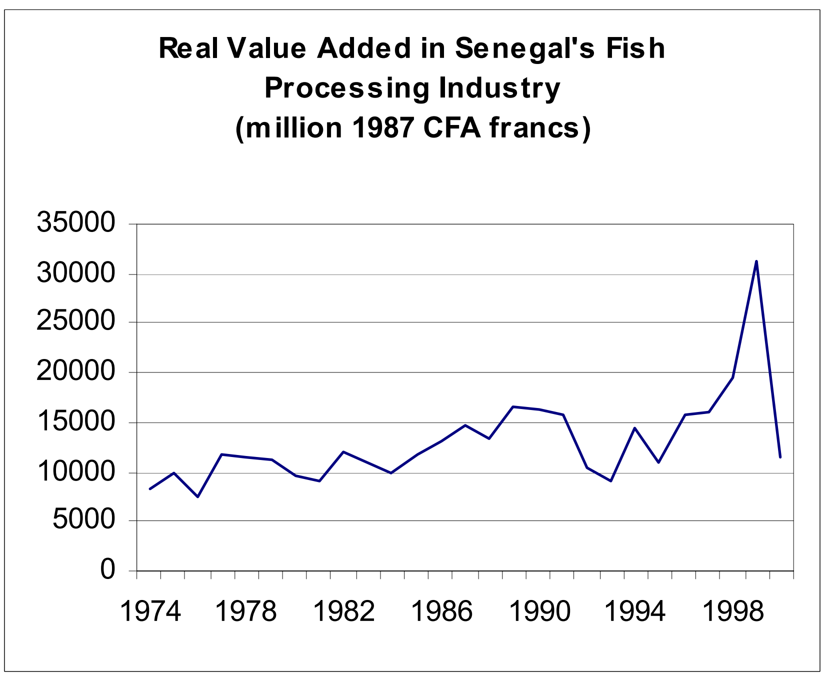
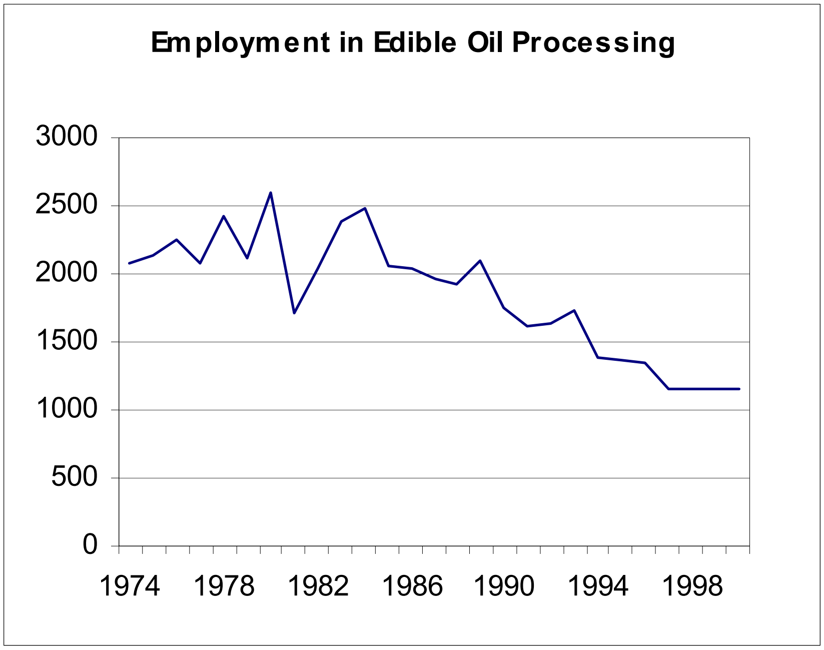
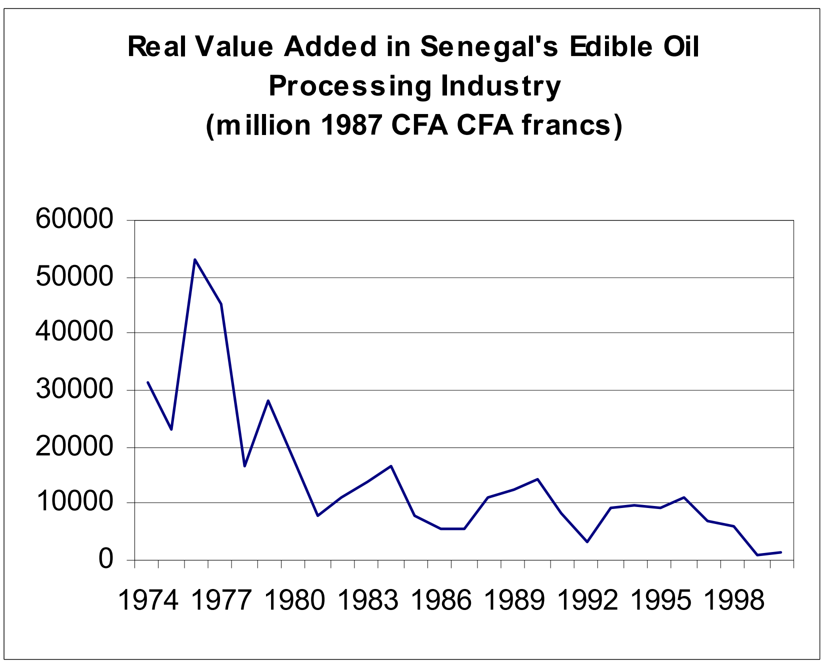

Real Value Added in Senegal's Fish Processing Industry (million 1987 CFA francs)
35000
30000
25000
20000
15000
10000
5000
0
1974
1978
1982
1986
1990
1994
1998

**Figure 6**


Employment in Edible Oil Processing
3000
2500
2000
1500
1000
500
0
1974
1978
1982
1986
1990
1994
1998


Real Value Added in Senegal's Edible Oil Processing Industry
(million 1987 CFA CFA francs)
60000
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