

**Country Study for Japan's Official Development
Assistance to the Republic of Senegal**

March 1995

**Study Committee for Japan's Official Development
Assistance to the Republic of Senegal**

**Organized by
Japan International Cooperation Agency**

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This report is based on the discussions and findings of the Study Committee for Japan's Official Development Assistance to the Republic of Senegal organized by the Japan International Cooperation Agency (JICA). Opinions expressed herein are those of the members of the Study Committee and do not necessarily reflect the view of JICA or its affiliated organizations.

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Foreword

Though Senegal has often been described as a model African democracy, it also remains a country perpetually burdened from its earliest independence days by ethnic unrest, conflicts with neighbouring states, and other formidable problems. What is more, the years following independence witnessed a steady deterioration in the economy, long dependent as it had been on primary commodity exports. This prompted the Senegalese government to adopt structural adjustment-oriented measures in the 1980s. Progress along that path, however, proved less than satisfactory for a number of reasons.

However, with the CFA franc's drastic devaluation in January 1994, the countries of the CFA Franc Zone entered a new era of economic development. While Senegal has seen its exports propelled onto an expansion track as a result, uncertainties still cloud its outlook for macroeconomic stability. That factor notwithstanding, the currency devaluation itself has effectively spawned a series of new undertakings in international assistance led by France, the World Bank, and the International Monetary Fund. In view of this turn of events, it would seem worthwhile for Japan to explore its own policies and strategies for future aid to Senegal.

Though Japan is currently Senegal's second-largest donor of bilateral aid, it appears to have assumed a rather low profile compared with France or the World Bank. To be sure, aid to Senegal accounts for only a small fraction of Japan's total aid. Moreover, the effectiveness of this country's aid to Senegal has been compromised by such factors as the language barrier and limited Japanese familiarity with local cultural traditions and climatic features. Accordingly, in exploring effective forms of aid for Senegal, it seems that Japan should focus its priorities in three key areas and strive to develop a foothold for expanded levels of aid to other Francophone African countries in the years ahead. In particular, it should (i) aim for an acceptable degree of effectiveness by concentrating sustained levels of aid in a few priority areas; (ii) explore Japan's uniqueness in aid undertakings with an emphasis on close coordination with programmes led by other aid organizations; and (iii) foster mutual understanding through adequate social surveys and aid programmes.

Our Study Committee was inaugurated in November 1994, when the Japan International Cooperation Agency appointed it to explore more effective and suitable forms of Japanese aid for Senegal. An assemblage of JICA person-

nel and authorities in various fields, it met on four separate occasions to discuss Senegalese development issues as well as prospective Japanese approaches to aid. This report, the "Country Study for Japan's Official Development Assistance to the Republic of Senegal," takes the conclusions of that exercise into account and brings together a number of recommendations based on manuscripts submitted by committee members themselves. I am strongly hopeful it will be of value to the provision of more-effective Japanese aid, not to mention Senegal's continued economic and social advance.

I would like to take this opportunity to gratefully acknowledge the cooperation furnished by all involved in putting this report together. My sincerest thanks go to the Study Committee members who worked so hard to finish their manuscripts in such a short time, to the staff at the JICA local office in Senegal who gathered invaluable information, and to the staff at the Institute for International Cooperation, which backed our activities as Study Committee Secretariat.

March 1995

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I. Development in Senegal to Date

1. Overview of Economic and Political Factors

1.1 Features of the Economy

(1) Industrial Structure

Senegal's industrial structure is that typical of a lower-middle-income country. Services and manufacturing supply relatively large proportions of GDP, whereas the shares attributable to agriculture and other industries are small. In fact, the tertiary sector accounts for half the total, which seems quite large compared to neighbouring sub-Saharan countries. Crop and livestock production are the chief industries forming the primary sector; fisheries and forestry furnish shares of only 2.0 percent and 0.9 percent, respectively, in GDP terms. The secondary sector is focused in industry (light industry in particular); mining, construction, and energy contribute relatively minor shares.

(2) Trade Structure

Compared with other low-income countries, Senegal's export structure is typical of Africa in general; that is, highly concentrated in primary goods. In contrast to the pattern for most sub-Saharan countries, though, Senegal is heavily dependent on exports of primary goods other than fuel or mineral resources. In particular, seafood, groundnut products, and chemicals account for about half the country's export total. Conversely, imports are concentrated more heavily in foodstuffs, followed by fuels, and on a scale that eclipses the inflow of manufactured goods.

(3) Slow Growth

In the over three decades that have elapsed since it gained independence (1960–1991), Senegal has seen its GDP grow at an average rate of no more than 2.5 percent per annum, despite parallel population growth of an average 3 percent. Per-capita GDP, moreover, contracted an average 0.6 percent per annum over the period from 1965 to 1990. Annual export growth averaged 2.4 percent (1986–1991), slower than for other West African countries.

(4) Sluggishness in the Agricultural Sector

a. Declining Groundnut Production

Groundnut-growing dominated the economy during the colonial era. Following independence, though, that agricultural activity faced a significantly altered market climate and natural environment. In 1966, Senegalese groundnuts lost their preferential treatment on the French market, and thereafter were directly exposed to the forces of international competition, including fluctuations in international prices. Groundnut producers were further hit by the extensive drought conditions that prevailed during the 1970s. As a consequence of these events, in 1992–93, the output of groundnuts for oil extraction was down by more than 60 percent on its level in 1975–76. Similarly, area cultivated in groundnuts had dwindled by some 55 percent by 1985–86. Though it has shown signs of expanding once again, total land area in groundnut cultivation has yet to recover to levels common around the time of independence. Nonetheless, groundnuts still count as a key underpinning of the Senegalese economy. Groundnuts were the single largest export item up to 1985, are still the most important cash crop for Senegalese farmers (providing about 60 percent of their cash income), and remain one of the country's most extensively grown crops in terms of cultivated area.

b. Waning Food Output

Though the total in land area devoted to food production has been expanding, the amount of land per farmer has contracted at a rate of about 1 percent per annum since Senegal achieved independence. On top of that, land productivity itself has been falling, eroding per-capita food production in turn. This has effectively intensified Senegalese dependence on food imports. As of 1991, Senegal was dependent on imports for 38.1 percent of its total food supply, far exceeding the 10.2 percent average for countries of the sub-Saharan region.

(5) Languishing Conditions in Other Sectors

Senegal has made little fresh headway in the area of industrialization. Although the fishery and tourist industries account for a growing share of current-account income, both still contribute only marginally to overall GNP. Further, outside tourism, the pace of job creation has been rather weak.

a. Manufacturing

On gaining independence, Senegal had one of West Africa's best-developed manufacturing sectors. However, after peaking out in the 1970s, that sector's share of total GDP reversed course and in recent years has hovered at a low level not much changed from the earliest days of independence.

During the colonial era, Senegal supplied manufactured goods to French West Africa at large and led the region as an important hub of manufacturing activity. The countries composing the region, however, adopted protectionist industrial policies after gaining their independence, thus toppling Senegal from its privileged position as the regional market's chief supplier, and leaving it saddled with excess plant. Senegal itself also instituted policies aimed at protecting its manufacturing enterprises; however, among other factors, poor productivity, high costs, and a deteriorating corporate climate undermined its manufacturing sector's ability to develop new markets through export channels. Worse, due to the limited domestic market and a downtrend in demand, output has fallen since 1986. Currently, of all the corporations making up the formal sector, practically half are running their facilities at operating rates of less than 50 percent.

b. Fisheries

Although fishery industries account for only 2.0 percent of GDP (1992), fishery products have maintained their ranking as the top export category since 1985. On the downside, due chiefly to resource depletion and high production costs, by 1990 the production of Senegal's principal fishery export product, canned tuna, had tumbled 50 percent from its 1986 level.

c. Tourism

Senegal also runs a tourist industry that caters chiefly to Europeans. Though tourist accommodations in the country have doubled in scale (number of beds) since 1980, expensive room fees have continued driving the overall occupancy rate down from its 1985 peak. As of 1991, the average hotel occupancy rate was 34.5 percent, below the break-even point (40–45 percent).

(6) Other Features

a. Dependence on Aid

The countries of sub-Saharan Africa have developed dependence on foreign aid, and Senegal stands out as having received an especially large share. In net, per-capita terms, it has obtained from three to five times more aid than other lower-middle-income and low-income countries, and on that basis bears distinction as one of the world's top aid recipients. However, over the longer term, dependence on outside aid can be expected to give rise to distortions in the allocation of resources and foster economic and administrative decay.

b. Low Human Development Index

According to the UNDP's Human Development Report, out of 173 countries surveyed, Senegal had a Human Development Index ranking of 143rd in 1992, 29 ranks lower than where it stood in terms of per-capita GNP. This suggests Senegalese citizens do not enjoy a level of social services commensurate with their country's economic strength.

c. Dependence on Informal Sector

Senegal's economy, and employment levels in particular, are strongly dependent on the informal sector. By 1988 estimates, the informal sector (including most agricultural activity) accounted for about half the country's GDP, 90 percent of all employment, and one-fifth of total investment. To be sure, activity in the informal sector appears to be more dynamic than in the formal sector. For instance, the informal sector was largely responsible for the growth registered by the manufacturing sector between 1985 and 1991 (4.5 percent per annum), a period that saw output in the formal sector actually decline.

d. Concentration of Population and Industry in Dakar

Senegal had an urbanization rate of 45 percent in 1992, significantly surpassing the averages for the least-less-developed countries (LLDCs) and sub-Saharan Africa (21 and 29 percent, respectively). Moreover, 55 percent of its population and 85 percent of all corporations were concentrated in and around the capital city, Dakar.

e. Close Ties to France

Senegal maintains strong economic ties to France, its former colonial ruler. France is Senegal's largest trading partner in terms of both exports (22 percent in 1992, albeit declining since 1987) and imports (37 percent and growing). In addition, it is also Senegal's largest investor nation. Through the mechanisms of the CFA Franc Zone, France also wields substantial influence over Senegalese monetary and financial policies, and indirectly assists in maintaining Senegal's balance of payments. France also ranks as the single largest bilateral donor of aid to Senegal; in 1992, it supplied 33.8 percent of the aid total (including that from international organizations).

1.2 The Economy: Current Conditions and Issues

(1) Delayed Reform Actions, and Structural Adjustments

As an era of spiraling primary-commodity prices, the 1970s provided a fitting occasion for the pursuit of structural changes in Senegal. Nonetheless, at the time the government instead ran up a sizable foreign debt by investing the country's additional revenue together with enormous amounts of loan funds in large-scale but poorly profitable projects and work to expand the public services sector. The heavy and uninterrupted inflow of aid appears to have been another factor effectively retarding efforts to address that mounting debt burden.

In 1979 and 1980, Senegal was hit by a severe drought. Groundnut prices tumbled and crude oil prices shot up, further aggravating the imbalance in key economic indicators. In the end, the government was compelled to launch a programme of structural adjustments.

(2) The Structural Adjustment Programme

a. Significance

In that it incorporated retrenchment and supply-side measures, Senegal's structural adjustment programme proved fundamentally no different from those pursued by most other developing countries. As such, it comprised measures in the following areas:

- Fiscal deficit reduction
- Retrenchment monetary and fiscal policies
- Liberalization of prices (including wages) and foreign trade; deregulation
- Disengagement of the state from production sectors, and promotion of private-sector activity
- Cultivation of a favourable investment climate.

However, because of its status as a member of the CFA Franc Zone, Senegal did not take action in one "essential" area, namely, that of making adjustments to the exchange parity of its currency, until January 1994.

In that it counted as a strategy to eliminate entrenched structural imbalances, the programme sought more than the short-term goal of restoring macroeconomic equilibria. The World Bank and the IMF considered past Senegalese government policies (i.e., state intervention in the economy and regulatory controls, together with protectionist industrial policies aimed at fostering the production of import substitutes) a factor behind the slow growth and crisis conditions the country then faced. Largely for that reason, the structural adjustment programme was designed to stimulate food production, diversify exports, heighten the competitiveness of domestic products, and restructure industry, all by gearing the economy to the market mechanism and having the government withdraw from the arenas of production and distribution.

To be sure, as a strategy aimed at transforming the economic system in its entirety, the programme posed heavy costs in terms of social change and the process of transition. Accordingly, it met with stiff opposition from those vested interests who stood to lose as a consequence of its implementation.

b. Accomplishments

From 1980 to 1984, efforts in structural adjustment were limited to little more than the partial implementation of what amounted to a preparatory programme of stabilization. The more-substantive undertakings did not begin in earnest until 1985. In the years since, Senegal has exchanged Policy Framework Papers with the IMF and the World Bank several times.

Actions up to 1991 under the structural adjustment programme achieved their targets in the areas of monetary policy and price liberalization. However,

little headway has been registered with respect to the remaining targets. In particular, there has been no significant progress to speak of in wage liberalization, in education and health care, or in reforms concerning major agricultural products (rice, groundnuts, cotton).

Key economic indicators help to illustrate the impact structural adjustments have had on the economy. Annual GDP growth averaged 2.1 percent in the period from 1980 to 1985, and 3.2 percent from 1986 to 1991. However, agricultural output (which is dependent on weather conditions and international price trends), and not economic policy, per se, was the leading factor behind fluctuations in the pace of economic growth. Though GDP growth from 1986 to 1991 slightly outpaced growth in the population, this in itself was attributable primarily to high rainfall averages during those years, as well as to improved terms of trade. Also, while the budget deficit has been shrinking, the shrinkage is due to spending cutbacks, as there has been no visible growth in revenue. Finally, although Senegal also has witnessed a significant improvement in its trade balance, the prime reason is that lackluster economic activity has effectively curbed the flow of imports.

c. Suspension of Structural Adjustment Lending

In 1991, Senegal's key economic indicators took a sharp turn for the worse, and for a number of reasons. For one, terms of trade for the country had deteriorated. Additionally, exports were losing their international competitiveness due to a stubbornly firm domestic wage floor and the overvaluation of the CFA franc relative to its level in other developing countries. On top of this, the implementation of the structural adjustment programme was very limited. In 1992 and 1993, the Senegalese government substantially scaled back its structural adjustment drive, in part because of pending elections. Reflecting that development in June 1992 the IMF did not renew the enhanced structural adjustment facility (ESAF) it set up for Senegal. Further, in June 1993 the World Bank suspended its fourth structural adjustment loan (SAL-IV). Though real GDP grew 2.9 percent in 1992, it suffered a net decline of 0.8 percent the following year.

With its finances squeezed in turn, in August 1993 the government decided to impose wage cuts, boost import tariffs, and lift prices for petroleum products. While these actions had the effect of providing some temporary budget relief, prospects of renewed economic growth became even more distant.

d. Factors Behind the Limited Implementation of the Structural Adjustment Programme

Senegal's structural adjustment programme has not lived up to initial expectations. Though deteriorating terms of trade have obviously been one factor, the World Bank has pointed to extreme inconsistencies in implementation itself as another key underlying cause. The structural adjustment programme in Senegal has been only partly implemented for two reasons. One is that Senegal's currency has long been pegged against the French franc, and the other is that certain elements of Senegal's government have shown a lack of commitment to the programme. In fact, the government can hardly be described as having pursued structural adjustments in earnest despite the terms of agreement with its aid donors. To be sure, it appears to have considered structural adjustments something imposed from outside, and accordingly has demonstrated little or no desire to pursue the above-cited structural changes or address the consequent social costs.

Certain actions called for under the programme have been ignored entirely, or sidestepped through the pursuit of substitute measures. In some cases, the government has even backpedaled in areas where it had earlier taken action: for instance, as seen with measures for the liberalization of foreign trade. Further, an apparent interest in placating influential pressure groups (religious groups, labour unions, civil servants, etc.) has also hampered steps in programme implementation on numerous occasions. On top of this, extensive amounts of aid (mainly budgetary assistance from France) not conditioned on accomplishments in structural adjustment, per se, have effectively undermined the government's commitment to the adjustment process.

Unable to restore the international competitiveness of its products through adjustments in the CFA franc exchange rate, Senegal sought instead to enact "internal adjustments": namely, cuts in domestic wages and commodity prices. That strategy, however, ultimately posed heavy sacrifices while proving largely ineffective all the same. In any event, amid conditions of mounting economic crisis throughout the Franc Zone, in January 1994 the CFA franc was devalued by 50 percent against the French franc; this propelled the adjustment process into an entirely new phase. Acting on that development, members of the Paris Club agreed to a massive public debt-relief programme for Senegal the following March. In particular, the IMF approved SDR 476 million in stand-by credit, and the World Bank agreed to resume suspended loan disbursements

under Senegal's structural adjustment programme. Further, June 1994 saw Senegal, the World Bank, and the IMF work out an agreement on a Policy Framework Paper stipulating actions to be taken from 1994 through 1997. That agreement was formally signed the following August.

(3) Short-Term Economic Outlook

The CFA franc's devaluation removed one key impediment to the serious pursuit of structural adjustments. Indeed, through currency devaluation, hikes in primary commodity prices, and progress in cutting its outstanding debt, Senegal has witnessed an upturn in the direction of its economy. Bright signs currently characterize agricultural output, and conditions are now firmer than initially forecast in other productive sectors of the economy. In the meantime, Senegal has managed to sustain its high levels of foreign aid. Though the devaluation has aggravated disequilibria (e.g., in the trade and fiscal balances), these transitory phenomena have already been taken into account by the programme.

Though inflation has been one of the most serious concerns, Senegal has capped it at a level close to forecasts (in the 30 percent range). Primary commodity prices appear likely to hold firm for some time to come. In addition, there has been no indication of any letup in the flow of aid from donors. Given these conditions, it would seem the economy's direction through the near term will chiefly hinge on whether Senegal sticks faithfully to established economic policies now in force.

1.3 Development Programmes

(1) Features of the Eighth Economic and Social Development Plan

Senegal has followed seven successive economic and social development plans since 1960, and is currently moving forward with actions under its eighth. Under prior plans, it set target rates for economic growth and launched programmes in public-led investment considered essential to achieving those targets. The eighth plan, however, entrusts the responsibility of fueling economic growth to private investment, while concentrating the government's energies in the implementation of sound macroeconomic policies, the establishment of a favourable economic climate, and the pursuit of social policy. Specific invest-

ment projects are to be managed within the context of a three-year public-investment programme (Programme Triennal d'Investissements Publics, or PTIP). The framework of the Eighth Plan is none other than the structural adjustment programme itself. In reality, Senegal has already established the foundations for its economic policies in terms of the structural adjustment programme outlined below. Accordingly, elements of the eighth economic plan amount to little more than a description of general observations concerning long-term issues in free-market economics, and have been of only referential value in setting PTIP sectoral policies.

Under the eighth economic and social development plan, actions in the following areas have priority:

- Rural development,
- Promotion of private-sector initiative,
- Cultivation of small and medium-sized enterprises,
- Human resources development (in education, training, health care),
- Regional development, and
- Expansion of the private sector.

(2) Development Policy Following Currency Devaluation

a. Promotion of Structural Adjustments

Economic policy in Senegal actually consists of efforts in structural adjustment. In fact, it is questionable whether the country has any official development policy of its own in any strict sense. As it happens, the Policy Framework Paper for 1994–1997 counts as the principal economic programme currently in force.

(a) Key PFP Goals for 1994–1997

Under the PFP for the period extending from 1994 to 1997, Senegal is to reverse the downtrend in GDP in 1994, power GDP growth to a level of 4.5-5.0 percent in 1995, and achieve per-capita growth of 2 percent in 1996 and following years. In addition, it plans to calm the temporary spiral in commodity prices following the devaluation of its currency, and return inflation to a level

around 2-3 percent by the start of 1996. The fiscal deficit stood at 3.9 percent of GDP in 1993. Under the PFP, the country will strive to trim the deficit to zero by 1997 and achieve and sustain a budget surplus thereafter. The target for the deficit in the current account (excluding grants) for 1994 is 9.8 percent of GDP. Plans call for gradually trimming it to a level of 6.8 percent by 1997.

(b) Key PFP Policies for 1994–1997

To achieve the above goals, the Senegalese government will work to fully implement all facets of its structural adjustment programme. On the budgetary front, efforts will primarily be focused in the following areas: improved tax collection, tax and administrative reform, the liquidation of domestic accrued liabilities, deflationary monetary policies, broad-based and accelerated deregulation and price liberalization, the promotion of private enterprise activity, the privatization of public enterprises, strengthened investment and export incentives, and PTIP formulation and execution.

The Policy Framework Paper calls for several actions with a bearing on human resources development and the need to protect vulnerable groups from the negative social costs of structural adjustment itself. In particular, attention will be focused on measures to curb personnel expenses in the health-care sector and shift the emphasis of educational funding from higher to primary education. The PFP also incorporates provisions for the formulation of a National Environmental Action Plan (NEAP) as well as revisions to the country's land tenure law to give farmers and herders clear ownership rights. Though the subject of regional unification is mentioned—namely, vis-à-vis Union Economique et Monétaire de l'Ouest d'Afrique (UEMOA) and Organization pour la Mise en Valeur du Fleuve Sénégal (OMVS)—no substantive measures for action are set out.

b. Three-Year Public-Investment Programmes (PTIPs)

As indicated earlier, PTIPs are devised to make public investment projects consistent with the framework for the structural adjustment programme. They each cover three years, but are subject to annual revisions that reflect yearly performance and fund flows; such revisions are incorporated into new programmes designed for the three-year span beginning the next fiscal year. For this reason, the target level for public investment (CFAF 1,390.0 billion) under the eighth economic and social development plan amounts to a benchmark

figure at best, as the PTIPs will vary in scale every year.

Under the latest PTIP, i.e., that for 1995-97, the most prominent feature highlighting funding appropriations is the relatively small share earmarked for the secondary industrial sector. This is an outcome of drastic cutbacks in direct public investment in the industrial sector, and in accord with policies designed to reduce government involvement in the manufacturing segment of the economy. Incidentally, 63 percent of all public investment funding for this sector has been earmarked for energy projects.

The second most noteworthy feature is the massive scale of funding allocated to the tertiary sector, which is in line with government policies aimed at expanding the manufacturing base and creating a favourable climate for private investment. About 50 percent of the total in public investment funding earmarked for this sector is for the construction of roadways, followed by shares of about 10 percent each for projects focused in air, rail, and marine transport and communications. However, due to funding shortfalls, most projects have been limited to the refurbishment and maintenance of existing facilities.

c. Addressing Long-Term Development Issues

By itself, the structural adjustment programme contains virtually no tangible targets for achievement in dealing with population issues or the environment. Though the structural adjustment programme should theoretically benefit population trends and environmental conditions in Senegal to some degree, there is as yet absolutely no evidence to substantiate that expectation. Efforts to address issues in these areas will likely follow a two-pronged approach, through the pursuit of integrated policies on the one hand, and issue-specific programmes (e.g., the NEAP) on the other.

d. The Union Economique et Monétaire de l'Ouest d'Afrique (UEMOA)

In January 1994, the seven-nation Union Monétaire de l'Ouest d'Afrique (UMOA) was reorganized into the Union Economique et Monétaire de l'Ouest d'Afrique. UEMOA can be expected to furnish a new market for Senegal, which, among its West African neighbours, has a comparatively well-developed infrastructure and historically long-established industrial sector. (All told, the UEMOA market serves a population more than seven times the size of Senegal's.) As to be expected, Senegal's head of state, President Abdou Diouf, has

been one of the leading political proponents of this framework for West African regional unification. At present, though, that framework remains little more than a legal phrase; it is impossible to predict at this point how much progress will be achieved through working-level talks aimed at ironing out differences among all the signatory nations. And likewise, it is far too early to speculate about the potential impact the UEMOA arrangement will ultimately have on the Senegalese economy.

Under the UEMOA framework, French capital interests will have most of the incentive to invest. (Business-related legal code within the region will be consolidated along lines similar to France's.) However, French investors will likely be slow to act on such developments. Additional efforts to create a more-favourable investment climate and foster economic integration are essential if the region is to lure in substantially heightened levels of foreign investment.

1.4 Politics, Administration, and Society

(1) General Features of Senegalese Government Administration

Senegal has been cited as a model of democratization for Africa; French influence has affected practically all aspects of political, cultural, and educational endeavour in the country since its colonial era, and remains strong even to this day. Also, Senegal introduced a multiparty system of government relatively early on—in 1976—albeit in limited form. At present, the ruling Parti Socialiste (PS) appears to have a firm grip on the reins of official power. Nonetheless, as the top opposition party, the Parti Démocratique Sénégalaise (PDS) commands a strong base of support among urban workers, students, and the poor.

(2) The Casamance Separatist Movement

Central Senegal is predominantly populated by the Wolof ethnic group. With the urbanization trend in that region of the country, the Wolof vernacular has steadily become the de facto language of commerce and government administration. As a result, many inhabitants of the Casamance (on the southern edge of the country), and the Joola people in particular, see themselves as having been placed out on the political and economic fringes of society. To fight that trend and protect their own traditions and culture, they have launched

a resistance movement against groups of non-Casamance origin (northerners). This developed into a radical secessionist movement under the banner of the Mouvement des Forces Démocratiques Casamançais (MFDC) around the end of 1983, and was followed by intermittent warfare over the ensuing decade. Tensions appear to have cooled somewhat since 1993.

(3) A Distinctive Structure of Government Authority

During the colonial years of the early 20th century, the French government utilized the marabouts (spiritual figureheads) of Islamic brotherhoods as agents of political influence in Senegal. This dual structure of religious and secular authority was retained in unaltered form by Senegal even after it achieved independence, and eventually afforded the informal sector of the economy immense powers. It is believed that workers in the informal sector have traditionally donated a sizable share of their earnings to their religious affiliations, and on a scale that cannot be overlooked.

(4) Relations with Neighbouring Countries

Since assuming his position as head of state, Senegalese President Diouf has built on his powers of influence in the international arena. In the meantime, external maneuvers aimed at stemming that influence appear to be one of the factors behind Senegal's sour relations and conflicts with some of its neighbours.

In 1981, Senegal sent troops into the Gambia to help put down an attempted coup against the administration of then-President Sir Dawda Jawara. That in turn led to the formation of the Senegambia Federation, which was eventually dissolved in 1989 after Senegalese troops stationed in the Gambia were pulled out. A friendship and cooperation pact between the two countries was ratified in 1991.

In 1989, Senegal became embroiled in a territorial dispute with Guinea-Bissau over interpretations of boundaries established during the colonial era. The dispute is over who owns the oil fields in waters along the coastal border between the two countries.

The 1989 border incident with Mauritania, which resulted in hundreds of deaths on both sides, counts as the largest international conflict Senegal has been engaged in since gaining independence. Though diplomatic ties between

the two countries were thus broken off temporarily, in 1992 they were restored, leading ultimately to a reconciliation. Even so, guarantees of livelihood to the tens of thousands of returnees displaced during the conflict, tangible compensation for war damages on both sides, and the border disagreement itself all remain unresolved questions.

2. Sectoral Development Issues

2.1 Agriculture and Fisheries

2.1.1 Agriculture

Senegal has modestly expanded its production of rice, cotton, and maize; other key crops, however, have languished. Further, the country has been extremely slow about liberalizing markets and prices for groundnuts and rice, two principal cash crops that have long been considered sacred turf. Senegal in recent years has improved its self-sufficiency in grains, to a level around 65 percent.

The agricultural sector (excluding fisheries) is now expanding at a rate of 2.1 percent. In its declaration on agricultural development policy (Déclaration de Politique de Développement Agricole, or DPDA), the government has set a growth target of 4 percent, faster than the current 2.8–3.0 percent pace of population growth.

Agricultural output in Senegal appears to be largely constrained by the following factors:

- The climate, including irregular and limited rainfall and the fact that most of the country is in a semi-arid zone;
- Forest depletion, desertification, and other forms of environmental degradation reported nationwide;
- Limited budget appropriations for agriculture and improvements in rural standards of living; flat trends in the purchase price for groundnuts (albeit prior to CFA franc devaluation); and
- Farmers' distrust of the government following failures in agricultural policy.

2.1.2 Fisheries

Senegal's coastline fronts teeming fishing grounds in the central eastern Atlantic nurtured by the warm Northern Equatorial Current and the cold Canaries Current. Fish catches are thus abundant as well as rich in their variety. Fish products have grown steadily in volume and since 1985 have been Senegal's leading export. The fishery industry can be divided into two forms: small, coastline operations and deep-sea operations conducted with large vessels. The small operations account for about 70 percent of Senegal's total fishery output. Fish obtained through deep-sea operations—trawling, bonito and tuna net fishing, and pole-and-line fishing—are chiefly exported as frozen or canned products. About 70 percent of Senegal's processed fish products are exported to EU markets. The devaluation of the CFA franc has lifted the international competitiveness of Senegalese fish products. Though it is anticipated exports will thus head up in the years ahead, improving product quality will remain a challenge for the longer term.

2.2 Infrastructure, Mining and Manufacturing, and Energy

2.2.1 Infrastructure

Production costs as well as shipping costs and efficiency are key factors behind the export competitiveness of agricultural and mining and manufacturing products. Senegal, however, is still burdened by a number of problems: chronic shortfalls in maintenance and management budgets, meager investment programmes, heavy investment costs, and inefficiencies characterizing the operations of concerned government agencies and organizations. Though Senegal—particularly in Dakar—has the best-developed communications infrastructure of any country in West Africa, it nonetheless faces an array of problems ranging from poor maintenance and management to high phone fees, low fee collection rates, and lagging phone network development beyond the outskirts of Dakar.

2.2.2 Mining and Manufacturing

Mining contributes less than 2 percent of Senegal's GDP. Even so, mineral resources led by phosphate ore accounted for about 8.2 percent of all exports in 1991. In 1988, Senegal simplified and streamlined its existing

mining-related regulations and statutes, and set down general terms for the future exploitation of its mineral resources.

The Senegalese government has already divested itself of some of its key holdings in the manufacturing sector, and fresh actions in privatization were expected in 1994. Most of the country's light industrial operations are in the private sector; however, as is the case with the chief manufacturing facilities, they are heavily dependent on foreign companies for their capital and management. Processed foods and consumer goods are two key manufacturing sectors easily impacted by agricultural output. Also, high production costs have hampered output in the textile, apparel, and leather industries.

2.2.3 Energy

Senegal's power-generating plants and power-supply network are concentrated around the capital of Dakar. Electricity is typically in short supply. Power plants, as well as the transmission grid itself, have reached an advanced stage of decay, and their low efficiency has become a cause of heavy transmission loss.

To cut its dependence on crude-oil imports, Senegal has little choice but to harness its hydro power, peat fields, and other domestic energy sources, while striving to diversify its energy mix by shifting increasingly to the use of cheaper, imported natural gas. In the meantime, to preserve its forest resources, it must move first to curb the use of firewood.

2.3 Human Resources Development

(1) Overview of the Education Sector

During 1990/91, gross enrollment rates were 58 percent for primary education, 13 percent for secondary education, and 3 percent for higher education. The adult literacy rate stood at 27 percent. The process of universalizing access to education has faltered for several reasons. While the government's education budget has not increased, the school-age population has been growing at an annual rate of 3.3 percent; in effect, the government has been unable to keep pace with the country's expanding educational needs. Unsuitable educational policies and administrative practices, however, count as another factor

that cannot be overlooked, for they have aggravated the situation and hampered efforts toward improvement. Official Senegalese education policy places heavy emphasis on primary education; education outlays under the current three-year public-investment programme (1995-97) are broken down as follows: 82 percent for primary education, 14 percent for general secondary education, 0.4 percent for higher education, 1 percent for vocational training, and 2.6 percent for literacy education.

(2) Delays and Disparities in the Prevalence of Primary Education

Primary education in Senegal is characterized by low gross enrollment rates and disparities in access at the regional level and between boys and girls. Slow growth in government budget outlays for education counts as one factor behind poor enrollment. In addition, though, Islamic parents of school-age children place little or no trust in the content of public secular education, which tends to be patterned along European cultural lines; further, educational content appears to be inconsistent with children's educational needs.

(3) Low Internal Efficiency

High dropout and failure rates underline conditions of low internal efficiency in the Senegalese educational system, which in turn raises questions about the quality of education itself. In fact, personnel expenses account for 95 percent of the total budget for primary education; only 3 percent is allocated to subsidies to private schools, and the remainder of only 2 percent to instructional materials and school facility operation. As a consequence, schools typically face shortages of instructional materials while school inspectors lack the funds or means to make their appointed rounds. In addition, in-service training of teachers has been inadequate. Many of the same problems are evident at the post-primary levels as well. This, together with the poor quality of primary education and a sharp increase in absolute student numbers, has hastened the decline in the quality of secondary and higher education.

(4) Education Budget Shortfalls and Misappropriations

Education already accounts for a large share of government expenditures, and for that reason, it does not seem advisable to substantially expand that budget allocation any further. Resources for education are unable to meet the country's growing educational needs in quantitative terms. On top of that,

several qualitative problems can be cited regarding educational content as well:

- Internal efficiency is low across all educational levels.
- Most of the recurrent budget at the primary and secondary levels is eaten up by personnel expenses.
- Effective class hours and students per instructor are low at the upper-secondary level; further, administrative staff have been employed in excess.
- Within higher education, student increases have been unsystematic and per-student costs are disproportionately high.

(5) Deficiencies in Administrative Ability

Though Senegal has in recent years sought to decentralize some of the administrative functions of its educational system, administrative agencies at the regional level still lack essential funds and means of transport. These problems present obstacles to the performance of their administrative duties. What is more, deficient administrative capabilities at the central level have inhibited efforts to draft effective educational programmes.

2.4 Health Care

(1) Levels of Health Care

Though infant mortality has been falling sharply in recent years, it is still characterized by significant regional gaps, and increases from the western district (where the capital, Dakar, is located) to the central, northeastern, and southern districts, in that order. Maternal and child health care and measures against disease count as the primary challenges to improving the level of health care overall. To that end, Senegal is striving to reduce the danger of pregnancy- and childbirth-related complications and death, and to lower the infant mortality rate and improve the health of children. Improved maternal and child health care is the central goal of family planning programmes, and for that reason, it is crucial that campaigns aimed at heightening the public's awareness and knowledge of related health issues be sustained and strengthened.

(2) The Response to Population Issues and AIDS

According to estimates compiled by the Ministry of Economy, Finance and Planning's Statistics Office, in 1994 the population stood at 8.13 million. The annual population growth rate is currently around 3.0 percent and expected to average 2.8 percent up to the year 2025. Also, the influx from rural districts has fueled pronounced population growth in urban areas. Senegal's total fertility rate (TFR)—defined as the average number of children a woman will have from ages 15 to 49—is still high; albeit lower than before, the crude death rate, too, remains high. The demographic composition of the population thus forms a typical pyramidal structure heavily concentrated in the under-15 age bracket.

Senegal is now relatively well-equipped with the personnel and frameworks needed for surveys concerning population issues, family planning, and maternal and child health care. Nonetheless, it still receives significant amounts of financial and technical cooperation in these areas from external donors. The public has demonstrated strong resistance to limits on the number of children as a means of curbing population growth, and appears largely uninterested in contraception. For these reasons, Senegal's family-planning programmes place heavy stress on steps to improve maternal and child health care. In general, the Senegalese place value on early marriage and large families. Women have traditionally been powerless in society and in their relations with men, and face numerous cultural, social, and religious constraints. The incidence of HIV infection is high among certain groups, including prostitutes, hospital patients, and people infected with tuberculosis. The danger of prenatal HIV infection is also serious, and there is now concern that the numbers of infected people are destined to climb in the years ahead.

(3) Administrative Reform in the Health Sector: the De-concentration of Authority, Regional Decentralization, and Access to Financial Resources

In 1993, Senegal restructured the administrative framework of its health-care system and enacted a series of institutional measures aimed at parceling out central-government authority and promoting regional decentralization. Nonetheless, policymaking powers for all intents and purposes still remain concentrated in the hands of four central-government offices. Far from promoting decentralization, the strongly entrenched structure of guidance and author-

ity in the health sector has actually intensified regional dependence on the powers of the central government.

Though outlays for health care account for over 5 percent of the national budget, that still amounts to less than the 9 percent share recommended by the World Health Organization. In per-capita terms, moreover, the allocation has shown little growth. Further, personnel expenses absorb a sizable share of the budget allocation for public-sector health-care services. That in turn has strained purchases of medical equipment and drugs and has prevented Senegal from financing facility renovation work, new facility construction projects, or other large-scale investments with domestic capital alone. What is more, since as much as 85 percent of the public-sector allocation is earmarked for general hospitals, the operations of smaller-scale public health-care facilities have become imperilled. With a view to helping health-care service providers attain administrative and management autonomy, Senegal itself has introduced participatory, profit-oriented frameworks that require beneficiaries to pay; however, the providers have shown little interest to date.

Senegal relies extensively on the private sector for its supplies of medical drugs. However, total drug sales typically outweigh available public budgetary resources by as much as ten- to twenty-fold. The Pharmacie Nationale d'Approvisionnement, the public-sector drug procurement and distribution system, is responsible for managing, stockpiling, and distributing drugs. However, due to deficiencies in personnel and technical expertise, the performance of this national supply system has been less than satisfactory.

(4) Enhancements in Health-Care Facilities and Services

Senegal's public health-care facilities form a systematic structure with national university hospitals and general hospitals at the state level positioned at the top, followed by prefectural health-care centres, county health posts, and village health huts. Also fitting within the system are maternal and child health-care centres, which are responsible for the promotion of family-planning programmes. Serious regional gaps characterize the distribution of these facilities nationwide; furthermore, due to deficiencies in maintenance and management, many existing facilities are not fully utilized. The population per public health-care worker continues to expand in scale year after year. Though the ranks of private health-care workers have been growing in the meantime, most private facilities are concentrated in the Dakar area. Also, due to the

high medical fees they charge, private facilities are accessible to only a small segment of the population.

2.5 The Environment and Water Resources

(1) Environmental Policy

Senegal currently has no less than six environmental programmes in effect, yet not a single one has been drawn up on the basis of official environmental policy. In fact, they consist primarily of undertakings in regional or national infrastructure development or of desertification countermeasures, forestry programmes, and other ventures aimed at dealing with specific environmental problems. The philosophy underlying policy on environmental issues remains ambiguous in Senegal. Even under the six programmes currently in force, efforts to analyze the causal and structural features of the country's environmental ills have been less than adequate.

(2) The Urban Environment

Rapid urbanization has already sparked a number of environmental problems in the Dakar area. In particular, due chiefly to the lagging pace of sewerage facilities development, most residential wastewater effluent is discharged directly into the ocean in an untreated state. As a result, some beachfront areas are no longer fit for swimming or other recreational activities, and heavy-metal contamination has been reported in certain coastal fish and shellfish species. About 85 percent of all solid waste is dumped at suburban sites, and garbage-based blockage of the water-drainage system has become a serious problem in urbanized districts. Though Dakar has long been popular with European tourists, environmental degradation is ruining its charm as a tidy and scenically endowed resort city.

(3) Desertification

The Sahel cuts from east to west across Senegal. Due to increasingly dry conditions in this savanna region in recent years, an arid belt of under 500mm in annual precipitation now stretches some 150km further south. Soil and vegetative depletion attributable to human activities during periods of drought has in many cases accelerated the pace of desertification. In Senegal, ground-

nut-farming practices in particular have led to the formation of several wasteland areas. In the past, farmers persistently abandoned land that had lost its fertility as they moved on to cultivate newly opened districts. The drought conditions of recent years, coupled with the reckless government sell-off of protected forest reserves to private interests, effectively aggravated the destruction of vegetative cover in such wasteland areas. Senegal now faces an array of desertification-related problems. Accordingly, many domestic observers frequently stress a need for comprehensive desertification countermeasures.

(4) Environmental Development

Two recent periods of serious drought—1968 to 1973, and 1980 to 1984—witnessed a heightened level of debate over the priorities of environmental policies aimed at protecting the country from the advances of desertification. Senegal's arid districts, however, have been a scene of relentless and ambitious experimental development undertakings in environmental improvement. In June 1994, the Ministry of Water Resources held a seminar for officials from related government ministries and agencies on what it termed a "Programme de Revitalisation des Vallées Fossiles." In effect, "fossilized" river basins in the country were once served by ancient inland waterways through which water no longer flows. Theoretically, they could be opened up to agricultural development if waters from the Senegal River were allowed to run through those waterways once again. The above-mentioned programme calls for draining into the fossilized river basins the amounts of water that cannot be controlled by the Senegal's two existing dams, and thereby fostering environmental improvements and expanding agricultural output.

(5) Water Resources

In the quest to develop and harness the country's water resources, the government institution responsible for Senegal River development (the Organization pour la Mise en Valeur du Fleuve Senegal) has pursued several large-scale projects for a number of goals ranging from dam-based irrigation to inland river navigation and hydroelectric generation. It built the Diama and Manantali dams on the Senegal River some years ago, and more recently initiated projects to revitalize ancient water basins and build the Canal du Cayor, a waterway extending from the mouth of the Senegal to Dakar, and designed to

supply irrigation and drinking water. However, several environmental problems were soon found with these latter projects.

Given the current size of its population, Senegal is still considered to have ample reserves of underground water. Nonetheless, serious water shortages have already begun to surface in urban areas that have witnessed rapid population growth. Also, in urban and farmland districts along the coast, the excessive pumping of underground water has hastened its salinization.

II. Japanese Approaches to Aid

1. Basic Aims of Japanese Aid

1.1 The Outlook for Senegalese Development Policy

Through the 1970s, a period marked by rising world prices for many primary commodities, the Senegalese government maintained its traditional, protectionist development strategy, based as it was on government intervention, and pursued policies aimed at expanding the public sector. However, these policy choices met with failure, and Senegal as a result ended up unable to exploit favourable trends in the international terms of trade as a springboard for new economic growth. In fact, the economic difficulties plaguing Senegal today had their origin in this period. Accordingly, despite the government's own development efforts and enormous infusions of aid from Western countries, Japan, and international organizations, Senegal's economy has found itself amid harsh conditions. In certain areas, conditions are even worse now than when the country achieved independence more than 30 years ago.

So, as roughly outlined earlier in section I (Development in Senegal to Date), the issues now confronting the country are diverse in their scope, and in certain respects each appears to be closely interrelated with the others. Though primary commodity prices are again on a renewed uptrend, Senegal this time around is striving to cope on the basis of an entirely different set of policies, namely in the form of a structural adjustment programme.

For now, successful economic management would appear to depend primarily on (i) whether the government assumes greater ownership of the structural adjustment process and devotes itself to the implementation of policies of its own design, and (ii) whether private investment by foreign and domestic interests intensifies. Over the longer term, the healthiest development course for Senegal would seem to be concentrated in the following areas: developing the manufacturing sector by making use of the country's relatively well-developed infrastructure; encouraging increases in farm incomes and food output, and environmental protection through gains in agricultural productivity; and fostering rural development and enhancements in social services.

In following that course, the government must create an environment and provide assistance aimed at enabling the private sector and the agricultural community to bring these goals to life. And in that process, it must also

move to rebuild the nation's backward systems for education, health care, and other social services. Further, it seems essential that actions to address population and environmental problems be tied to efforts in economic development. Nonetheless, the country will likely find it imperative also to reinforce measures aimed principally at specific issues. The above understanding underlies Senegal's eighth economic and social development plan and is shared by those members of the international community currently providing assistance to the country.

1.2 Basic Position on Japanese Aid to Senegal

(1) Basic Viewpoints

Aid to Senegal has demonstrated a general pattern of qualitative change shaped by an awareness of the limitations on Senegal's ability to utilize aid and the need to encourage the structural adjustment process as well as participatory programmes that actively involve the general public. Nonetheless, Japan is not positioned to take the initiative on aid to Senegal, nor is Japan well-versed in or ready to effectively deal with such influential factors as the country's French-derived cultural and institutional frameworks, its unique ruling structure, or its social and cultural traditions. Consequently, the basic task for our Study Committee was understood to amount chiefly to identifying the strategy best able to maximize the effectiveness of limited Japanese aid resources.

First, given the harsh economic and social conditions affecting Senegal and the limited aid resources at Japan's disposal, in striving to maximize the viability of that aid, it would appear worthwhile for Japan to follow an approach comprising concentrated and sustained activities in a few selected areas. For example, effectively utilizing facilities, equipment, and materials provided through aid programmes will demand work to nurture Senegal's own strengths in the arena of aid project maintenance and management. That goal, though, will likely require sustained efforts over a rather lengthy period of time. To begin with, Japan is not prepared to accept full responsibility for improving conditions in Senegal. And accordingly, it has little choice but to adopt a basic strategy that devotes concentrated and sustained efforts toward a few selected priority areas and objectives.

Second, it would also seem wise that Japan explore effective aid strategies with attention to policy trends in Senegal, aid trends among other donor nations and institutions, as well as the leading aid approach in force. For instance, in view of efforts to spur growth in the private sector and trends toward participatory development programmes, in addition to aiding the government sector, Japan probably needs to consider providing aid to non-governmental sectors—particularly in the arena of social services—that to date have not been viewed as direct aid targets, *per se*. Within this context, the non-governmental sector should be broadly understood as comprising not only local NGOs, but also regional organizations (such as municipal governments and communities), universities, and research institutions. Moreover, aid to NGOs should extend beyond small-scale grant assistance. Indeed, expanding the overall benefits of aid will demand that Japan weigh more-flexible policies that incorporate aid programmes for the non-governmental sector into existing formulas for the provision of general grant assistance and technical cooperation.

Third, it seems imperative to have a clear grasp of Senegal's aid needs along with its preparedness to utilize aid, and to reflect that understanding in aid projects. That task, however, will demand undertakings in project formulation that take fully into account the findings of preliminary surveys, including those into the social dimension. Given its limited aid resources and experience, Japan will find it vital to train aid personnel on-the-job, and to supplement their work in the aid planning and implementation stages by utilizing local specialists and third-country consultants. Fully assessing the impact of aid projects on local inhabitants, and in other ways striving to accurately reflect the lessons of success and failure in subsequent aid undertakings, will also be of critical value. In steadily accumulating the findings of aid studies and amassing its expertise in the aid field, Japan can establish aid programmes based on the experiences of its own development path and the lessons it has learned in aid-giving to date.

(2) Japanese Aid Priorities

Considering Senegalese development policy, the features of current Japanese aid programmes, and the basic viewpoints on aid noted above, Japanese aid priorities can be consolidated into two general areas: namely, social and economic infrastructure development and restoration; and the development of the social-services sector and the pursuit of rural development programmes

that value the active participation of local inhabitants. Social and economic infrastructure in this context would range from big projects in economic infrastructure development down to small-scale projects for such public-service facilities as primary schools and community health centres. At a deeper sectoral level, aid priority would conceivably be focused on the following areas in particular:

- the restoration and improvement of transportation and electric-power infrastructure;
- measures to deal with the pressures of urbanization;
- underground-water resource management and countermeasures against desertification;
- basic human needs, especially expanding access to primary education and improving the level of health care ; and
- agricultural development-related surveys and research.

2. Sectoral Aid Priorities

2.1 Agriculture and Fisheries

2.1.1 Agriculture

Though this observation applies to most Japanese aid undertakings in Africa to date, it would seem approaches that assume a general analytical understanding of current conditions and that strive immediately to address the question, "What should be done?" deserve a fundamental reappraisal shaped by the awareness that the economic and social stalemate in Africa still bears no serious evidence of improvement. In particular, it should be borne in mind that there are no straightforward, quick-and-easy solutions to the problems facing Senegalese agriculture, for the natural conditions underlying weakness and instability in that area are multifold, and at the same time intrinsic to a social and cultural fabric shaped by a set of influential factors, each important in its own right.

Accordingly, we want to stress at the outset that the recommendations made by our Study Committee with regard to suitable forms of Japanese as-

sistance in the arena of agriculture were limited in their scope. Indeed, in order to be productive, discussions concerning the proper focus of agricultural assistance at this time should strive to identify the approach essential to exploring forms of assistance that will be acceptable both to Senegalese people involved in agricultural development and to the Japanese public, prior to exploring the question "What should be done?" This section thus strives to set out some of the aims of Japanese assistance to Senegal in the agricultural sector, as based on that understanding.

(1) Strengthened Agricultural Development Research

In many instances, not only in Senegal but also in other countries of Africa following their independence, stalled agricultural development has plainly been an outcome of government failure to motivate producers, or worse, policies that actually stifled producer incentive. In Senegal, this has fostered a deeply rooted rural distrust of the government. In turn, foreign ODA projects have been widely identified as extensions of government policy, and as such, tend to be greeted either with the same distrust or with overly optimistic expectations.

Therefore, work to formulate strategies of sustained effectiveness and to identify viable development projects that are also acceptable to rural society will call for the creation of research frameworks headed up by Japanese personnel with the requisite skills to adequately and comprehensively gauge current conditions. In taking that step, though, several points must be borne in mind. Namely, Japan should first do away with approaches preoccupied from the outset with the applicability of a particular technology to a given agricultural development task, and abandon concepts limited to fields under the jurisdiction of individual Japanese ministries alone. Instead, it should humbly open its eyes to the conditions and circumstances actually distinguishing agricultural development in Senegal. As regards potential technological inputs and areas for government intervention, it is best to explore them at the time problems arise, rather than working the other way around.

Further, in pursuing survey and research activities, it will also be important to welcome the participation of specialists in the social sciences and humanities who have an extensive understanding of Senegal's social structures and mechanisms. To be sure, though raw scientific data on the country's semiarid regions is lacking, agricultural development research has been espe-

cially weak in their analysis of the soft dimensions, namely, the social and cultural factors of importance.

However, it is expected to take some time for Japan to put together its own research framework. Therefore, in striving to identify local needs and develop an analytical grasp of social factors in Senegal, Japan should explore aid strategies that actively draw on the skills of non-Japanese specialists from African and other countries. In addition, it should improve on its mechanism for extensively utilizing the findings of surveys and research that have already been conducted by institutions outside Japan.

(2) Clarifying and Diversifying Subjects for Agricultural Development

In connection with the above-stated points, Japan will also find it necessary first of all to pursue an in-depth dialogue with the Senegalese government and strive to accurately gauge its administrative capabilities. These objectives, however, will be preconditioned on developing an adequate understanding of Senegal's formal position on issues in agricultural development, and of the factors underlying that position.

At this stage, work to draw up facility-construction projects should not be undertaken on the assumption that such projects will definitely create structures for use by people engaged in farm development (e.g., rural inhabitants and producers) or foster the spread of new technologies. Indeed, prior to that, Japan must adequately determine in real terms the extent to which rural citizens and farmers actually have access to such facilities in the first place. Neglecting this step, or taking it as a mere formality, would conceivably threaten the sustained operational viability of such projects beyond the initial construction phase.

The most effective means of achieving sustained project operation lies in explicitly clarifying levels of mutual commitment through actual dialogue with Senegalese counterparts, and supporting a plurality of active agents for agricultural development by finding non-governmental organizations to work with. More specifically, this would involve building working relationships or "partnerships" with NGOs and rural groups experienced in regions targeted for aid. In this context, "partnerships" refer to those cooperative relationships that can take shape during the planning, formulation, implementation, and follow-up evaluation stages of the aid-project cycle—albeit dependent on the degree of

equal standing—between organizations spearheading aid programmes on the one hand, and rural inhabitants, producers, and the organizations working most closely with them in areas targeted for agricultural development, on the other.

Given Senegal's administrative and personnel frameworks, the above-cited recommendations probably will not be that easy to put into action. However, they nonetheless bear strong significance, assuming the lack of healthy partnerships between the government and producers counts as Senegal's biggest weakness in its agricultural development policy.

(3) Strategies for Environmentally and Economically Sustainable Agricultural Development

As indicated earlier, economically and environmentally sustainable measures to secure water, technology, and human resources for the semiarid regions will together serve as elements of a sustainable development strategy capable of overcoming the fundamental bottlenecks confronting agricultural development in Senegal. That emphasis will be in accord with Agenda 21 and the Rio Declaration announced at the 1992 UN Conference on the Environment, the goals of which Japan also has committed itself to observing. In addition, it will also bear importance as a position in keeping with the Convention to Combat Desertification. To be sure, Senegal, too, appears to be embarking on efforts to meet the global-scale challenge of achieving sustainable development.

Among the latest challenges, Senegal must surmount the water-supply bottlenecks on agricultural development attributable to environmental conditions. That achievement will be conditioned on solutions to the following problems:

- environmental problems stemming from water-pumping in semiarid districts;
- questions of economic sustainability, namely, meeting maintenance and operating costs in an exceptionally harsh climate of scarce funding;
- domestic, regional, and international disputes over water utilization (e.g., the use of the Senegal River, which is managed by three countries); and
- enhancements in technology and the labour force needed for effective water utilization.

Seriously addressing the above issues will no doubt demand that Japan enlarge and improve its own frameworks for development research. Here, aid strategies are outlined for the three leading districts in agricultural production in Senegal.

a Senegal River Delta

Government actions to reduce or entirely eliminate intervention in the agricultural sector by such public enterprises as the Société d'Aménagement et d'Exploitation des Terres du Delta (SAED: the delta development and operation company), the Caisse de Péréquation et de Stabilization des Prix (CPS: the state rice monopoly), and so on have helped to empower small-scale producers (household operations, farm cooperatives, etc.). It thus seems advisable to explore aid strategies in which such producers have shown interest: in particular, repair of existing small-scale irrigation facilities and expanded levels of credit for farm business operations.

b. Key Groundnut-Growing Districts

These areas would conceivably benefit from aid projects designed to maintain and improve soil quality and to establish and foster the spread of multifaceted, intensive systems of family farming.

c. The Casamance Region

Though a political settlement to the secessionist issue will be one precondition for success, it will be vital to offer beneficial programmes of support for small farmers and pursue low-cost agricultural operations that exploit the comparatively rich lowland soils with which the southern region is blessed.

2.1.2 Fisheries

Compared to the situation in the agricultural sector, the social forces affecting the fisheries industry in Senegal do not appear that complicated. Senegalese government-led promotional measures in this industry, together with the establishment of distribution networks in regions of heavy fish-product consumption and the existence of fishery cooperatives, have helped Japan provide effective assistance. The Japanese aid record in the fisheries field to date has been chiefly weighted in grant-based assistance, but also includes

group-training programmes and the dispatch of experts. In particular, it comprises material support for the activities of small fishing operations, the improvement of wholesale fish markets, the provision of refrigeration equipment, training programmes for fishermen, and technical cooperation in fish-product processing operations. These forms of aid have proven consistent with the general drive to address Senegal's development challenges, and should be continued, albeit with parallel attention to changing local circumstances.

(1) Steps to Cultivate Fish-Product Processing Trades and Markets for Their Merchandise

Though Senegal is now almost completely self-sufficient in fish products, it still faces the challenge of effectively preserving and processing them, given their susceptibility to deterioration in the distribution and preservation stages. What is more, translating such improvements into increased consumption will count as an additional challenge in its own right. Two new markets seem conceivable: exports primarily to the countries of the EU, and domestically, the expanded inland market that would likely emerge as a result of work to improve distribution infrastructure. There is no guarantee, however, that exports will maintain their strong, devaluation-powered uptrend. Whatever the case, drawing on its record of providing aid to the Centre de Peche de Missirah, Japan should continue to assist in a broad array of undertakings aimed at cultivating the sector's human resources and disseminating new technologies. Nonetheless, it should be borne in mind that Senegal's needs in terms of processing technologies and human resources development could change, depending on the market ultimately given priority.

(2) Management of Fishery Resources

Addressing the issue of fishery resource depletion will demand work to identify the actual extent of resource reserves and the scope and scale of fishery activity. To improve the precision of fishery statistics, Japanese aid could consist of support in the form of both personnel and equipment for work such as building computer-driven databases.

(3) Support for Small-Scale Fishing Operations

To date, Japanese aid to small-scale fishing enterprises in Senegal has centred on efforts to motorize "pirogue" fishing vessels and run seminars aimed

at providing instruction in advanced fishing techniques and technologies. Future undertakings in aid, moreover, should essentially follow in the footsteps of these past efforts. Further, Japan should actively support the shift from gasoline- to diesel-powered outboard motors, now that small outfits are demonstrating a clear need. Replacing wooden pirogues with models that have fiber-reinforced plastic (FRP) hulls would help to improve the durability and useful life of such vessels while contributing to the preservation of forest resources in turn. Aid to that end, however, should also adequately consider the question of properly disposing of old FRP-hull vessels once they are scrapped.

Another factor related to the already-mentioned issue of resource depletion is the impact stemming from small-scale coastal fishing operations. Though that impact is currently considered to be insignificant, it is not too early to begin contemplating the pressures likely to arise with growth in the fishing population, the spread of outboard-propelled fishing craft, and the expansion in fish catches that can be expected to accrue with the shift to diesel power. Indeed, it would be worthwhile to begin exploring the potential for management of fishing grounds by fishers, together with efforts to popularize improved fishing techniques and equipment that prevent excessive harvests or other detrimental practices. For its part, Japan should first promote an active dialogue with Senegal on these issues and with attention to its own experiences in the field.

2.2 Infrastructure, Mining and Manufacturing, and Energy

2.2.1 Infrastructure

Senegal seems unlikely to demonstrate strong new advances in its manufacturing sector any time soon. Accordingly, during this transitional phase of inertia, it will likely move to power its flagging economy through a reliance on groundnuts, fish and shellfish, and other farm and fishery products, phosphate ore and other mineral resources, and certain textile products.

Given its circumstances, rather than foster growth in the manufacturing sector with projects in communications and electric-power infrastructure, for now it would seem more realistic that Senegal lay emphasis on bolstering the competitiveness of the above-cited primary commodities and light industrial goods. Furthermore, it will be capable of dealing with the social pressures of

unemployment by promoting labour-intensive industrial activities. As one element of that drive, steps could be taken first to reduce transportation-sector costs, which count as one of the development issues discussed earlier in this paper. Japan, too, should focus its aid resources in work to restore and modernize Senegal's transportation infrastructure, an area that the World Bank and other donors have given priority.

In particular, within the limits of its aid funding for Senegal, it would seem appropriate that Japan allocate a portion of its grant assistance to road maintenance and repair. Further, in the interest of establishing a permanent operation and maintenance system, there would also be value in assisting Senegal with work to develop its human resources and in other ways strengthen its organizational structures by dispatching experts in the Ministry of Equipment and Land Transport and other agencies responsible for road project implementation or supervision.

In tandem with such soft support for master plans and other development programmes, and for the implementing agencies, Japan will also find it essential over the intermediate term to assist communications infrastructure projects driven by the goal of redressing the regional disparities that have surfaced with the over-concentration of such infrastructure in and around the capital of Dakar. Also, for the same reason, it will ultimately prove necessary to push ahead with energy-development projects as well, especially in the electric power sector.

As for loans, Japan has not extended any to Senegal since those it committed under the fourth structural adjustment programme, which was launched in 1990. Nonetheless, it does need to explore tangible options for assistance within the context of the World Bank's Special Program of Assistance for Low-Income Debt-Distressed Countries in Sub-Sahara Africa (SPA III; 1994-1996), to which it has pledged its support.

As noted earlier, since devaluating the CFA franc, Senegal has moved ahead with actions under its structural adjustment programme with assistance from the IMF and the World Bank. In particular, it is pushing forward with privatisation measures and other steps aimed at stimulating its private sector. In pursuing that course, though, the government must remain careful not to inhibit private-sector undertakings in communications and other fields where the private sector is capable of leading the development process.

2.2.2 Mining and Manufacturing

Senegal's mineral resources, phosphate ore in particular, deserve continued development as key sources of economic growth and foreign exchange. Given the inherent earnings potential, though, it seems advisable that this undertaking be left essentially to the private business sector. It would then be suitable to extend Japanese assistance in indirect form, i.e., in railway and port construction and other peripheral areas of infrastructure development.

In the manufacturing sector, Senegal faces a need to cultivate its still-expanding chemical, petroleum, and machinery industries, yet while maintaining supportive measures for its food-processing and textile industries. In this context, the recent devaluation of the CFA franc has been a favourable influence on export growth. Though this sector, too, counts as another field that should essentially be left up to the initiative of companies in the private sector, streamlining investment frameworks and strengthening the sector's abilities in such areas as quality control and marketing would rate as objectives in which Japan has amassed expertise, and from the standpoint of improving the business environment they would be good targets for Japanese aid.

In fact, these goals could be suitably addressed within the traditional context of technical assistance, e.g., through the dispatch of Japanese experts in government agencies to provide background support for policy revisions and institutional improvements, and through accepting Senegalese participants in training on quality control and marketing techniques. Though cofinancing arrangements would be an indirect means of support, another possibility would be to encourage private-sector development measures under the above-cited SPA framework.

2.2.3 Energy

Senegal currently relies on imports for most of its energy resources. Accordingly, in view of the potential bottlenecks to economic growth posed by its energy sector, and its electric-power infrastructure in particular, action to diversify its energy mix and stabilize its energy supply has assumed paramount importance.

As steps toward those goals, the state oil monopoly, Petrosen, is pushing ahead with oil-field exploration and the acquisition of oil concessions. Though these efforts deserve to be pursued for some time to come, it bears noting that

energy is yet another field amenable to development on a largely commercial basis. It seems appropriate, then, that Japan consider extending assistance on several fronts, as described below.

For instance, in the interest of bolstering supplies of electricity, steps could be taken to restore Senegal's power generation and transmission infrastructure, which has reached an advanced state of decay and inefficiency attributable to deficiencies in maintenance and management. This would help to cut wasteful transmission losses and power outages. Another step would be to pursue rural electrification projects, which would likely ease regional disparities and help to alleviate urbanization pressures on Dakar. In addition, Japan could support the Programme d'Economie d'Energie, an energy-conservation and consumer-education programme the Senegalese government is currently pushing. Also, it could cooperate with the development of alternative energies that still remain questionable in terms of their technical and economic feasibility.

In particular, one potential option would be to provide loan assistance in areas where demand for funding is heavy: namely, in projects for the restoration of existing generating and transmission facilities, rural electrification, and the construction of new power plants. In responding to the need for assistance, it seems vital that Japan also consider, in advance, the possibility of private-sector funding as a means of aiding such undertakings.

Grant assistance would in certain instances be a convenient form of aid for small-scale restoration projects. Additionally, Japan could provide technical cooperation aimed at improving electricity supply efficiency and power conservation. As regards new-energy development, too, it would seem appropriate in the medium and longer term for Japan to carry out aid through concessional forms of funding. In the process, though, it will be necessary to give consideration to particulate and greenhouse-gas emissions and other environmental problems inevitably posed by ventures in electric-power generation.

Japan has already registered some initial success with alternative-energy projects in Senegal: namely, in the arena of solar-powered electrical generation. Though numerous obstacles still thwart their full-fledged adoption, at the global level industrial output of silicon cells for electrical generation has been climbing steeply, doubling in scale every five years. What is more, Japan currently accounts for one-third of the global total. Indeed, this trend suggests

the time has arrived to begin considering solar-cell-based power as a viable alternative whose current drawbacks in terms of price and applications development are close to solution. Until alternative energies reach the feasibility threshold, however, it would seem worthwhile to consider introducing solar-powered electrical equipment as a form of emergency aid for displaced refugees. This would include solar-battery-equipped lighting units as well as solar pumps (for water wells), which have already proven themselves to be maintenance-free for at least five years of operation. These devices would have immense value as tools for refugee relief. Putting them to work locally on a trial basis and in such emergency situations would be one effective step toward the eventual, widespread popularization of solar-powered electrical generation.

2.3 Human Resources Development

2.3.1 General Perspectives on Aid in the Education Field

Given conditions characterizing education in Senegal now, attention should be given to the following points in preparing to assist development undertakings in that field.

- (1) First, in striving to develop its education system, Senegal has placed top priority on primary education (with a gross enrollment rate of 65 percent by 1998 tentatively its initial target). As to the secondary and higher educational levels, the government has plans to curb the number of students in absolute terms while pushing for improved quality in educational content.
- (2) Though the growing student population has placed heavy pressure on the school system, it appears unlikely that Senegal will expand its education budget significantly in the years ahead. That prospect has prompted a number of concerns, as listed below:
 - Teacher salaries and student scholarships absorb a substantial portion of Senegal's education budget. Little or no improvement, though, is expected in the funding shortfall for investments or coverage of school operating expenses other than salaries.
 - Lifting budgetary effectiveness through gains in internal efficiency will

become an increasingly important challenge in coming years.

- The above-noted emphasis on primary education can be expected to draw budget appropriations away from the secondary and higher educational levels.
 - Senegal is studying ways to trim scholarships and other allowances for students in the higher educational levels. If ultimately translated into action, however, such plans would likely face student opposition and threaten to develop into a serious political issue.
 - To offset its budget shortfall, Senegal now faces a need to diversify its sources of revenue by placing more responsibility on local communities, households, and the business sector.
- (3) Recent years' uncontrolled expansion of enrollments and delays in compiling educational statistics at the secondary and higher educational levels have effectively highlighted certain administrative shortcomings of the education system. Also, in putting aid to work, Senegalese institutions have demonstrated inadequacy in their administrative structures and project-implementation capabilities.
- (4) A World Bank human resources development undertaking, the *Projet de Développement des Ressources Humaines 2 (PDRH2)*, accounts for fully 69 percent of the total in investment funding allocated under Senegal's 1995-97 three-year public investment programme. As that statistic suggests, the World Bank has led assistance efforts aimed at the country's education sector. For that reason, Japan will need to adequately coordinate its own assistance programmes with the World Bank and other aid agencies.

2.3.2 Aid Challenges at Each Educational Level

(1) Primary Education

Senegalese education policy places top priority on primary education as the segment of the education system most in need of expansion. Accordingly, Japan should set its sights on that level of education first and foremost. Senegal's medium-term target for the primary gross enrollment rate in 1991 stood

at 58 percent. Though it has plans to lift the target to 65 percent for 1998, certain factors will demand attention. For one, huge disparities characterize primary enrollment in urban and rural areas, and between girls and boys. This situation suggests special emphasis should be placed on lifting enrollment rates for children in rural areas and girls in general. Further, operating expenses stemming from growth in the student population should be held down as much as possible by readily duplicating classes in urban schools and, in rural areas, running integrated classes for students of mixed grade levels. For essentially the same objective, steps should be taken to reduce repetition and dropout rates and lift internal efficiency accordingly (e.g., through full implementation of a framework for automatic grade promotions). In addition, given that the World Bank will be providing all-out support under the earlier-noted PRDH2 for Senegal's primary education needs between 1994 and 1999, Japan should strive to coordinate its own aid packages with that programme.

The following section explores Japanese aid for the primary education field in terms of three dimensions: school facilities, textbooks, and teaching personnel.

First, to achieve an enrollment rate of 65 percent by 1998, Senegal will have to add 3,500 new classrooms to the school system. Of that total, 1,310 are planned for construction under the PDRH2. Also, OPEC, the AfDB, and Japan are either planning or have initiated construction work on an additional 200, 300, and 200 classrooms, respectively. However, as of 1993, sources of funding for the remaining 40 percent (1,490 classrooms) had not been finalized. Japan is already assisting in some school construction projects, but will have to address various other challenges in the future.

Japanese schoolhouse construction projects financed with grant assistance typically require that Japanese consulting firms prepare the bidding documents and oversee all stages of the construction process. The World Bank by contrast has adopted an approach whereby it basically provides only the construction materials while members of the local community set up public-interest corporations to carry out the actual school construction work. This not only helps to keep unit construction costs extremely low,¹ but it also provides local citizens employment opportunities as construction workers and nurtures a gen-

¹ Under the PDRH2, unit construction cost averages about \$27,000 per classroom. For comparison, it averages about \$98,000 per classroom under Japanese primary school construction programmes.

eral participatory spirit in the community from the earliest construction stages. These features in turn ultimately appear effective in ensuring that facility maintenance, repair, and operational management will be thoroughgoing.

Working closely with the World Bank and other aid donors, Japan has for certain projects begun to apply a similar participatory approach on a trial basis and within its current ceilings on grant assistance. In any event, the World Bank itself has noted problems with the participatory approach (including the flow of supplied construction materials onto the black market) as well as advantages in the conventional Japanese approach (for instance, in terms of the sturdiness and extended useful life of completed structures). It thus seems advisable that aid schemes be modified in a manner that enables classroom construction projects to effectively exploit the benefits of both approaches.

Developing and supplying textbooks and other instructional materials will have a vital influence on the quality of education and educators alike. The PDRH2 addresses this area, as well. It incorporates plans to have private-sector publishing firms print 1.18 million copies of new textbooks covering 14 subjects, reprint 260,000 copies of existing textbooks, as well as produce various teaching materials for instructors.

As it happens, efforts of this kind were launched under Senegal's Education IV Project (1987-1995) by the World Bank. Under the PDRH2, the World Bank has decided to expand technical cooperation and other forms of aid in this area. Senegal's needs do not conform that well with Japanese aid strategy.² What is more, Japan does not have that much expertise in producing textbooks suited to the educational needs of Senegalese society. Given these factors, it would be difficult at this time for Japan to begin any large-scale drive aimed at helping Senegal acquire supplies of appropriate textbooks and instructional materials. What it could do, however, is run small-scale training programmes designed to share insights on the Japanese state of the art in science-oriented textbook production. Were there interest in that, it would conceivably have inherent value.

Japan has been called on to step up its assistance in the field of primary education. Therefore, to improve its capabilities in the supply of textbooks and

² Japan is unable under its aid scheme to provide funds to private-sector publishers or to shoulder the recurrent expenses of printing and distributing. The PDRH2 will primarily supply startup capital for the printing and sale of textbooks.

instructional aids, it should initiate long-term study into the prospect of harnessing the expertise of third-country or local experts and financing school recurrent expenditures. Furthermore, it should consider revising its existing aid frameworks.

As with textbooks and instructional aids, pre-service and in-service teacher training counts as yet another factor with a strong bearing on educational quality. Plans to provide assistance in this area, too, have been set forth under the PDRH2 and by the French government. Several initiatives have already been launched under the Education IV Project to boost efficiency. They include actions to reorganize teacher colleges and lift their teacher-to-student ratios as well as pursue refinements in teacher course programmes and teacher qualifications. The PDRH2 is aimed at following in the footsteps of the preceding project and as such, incorporates plans to renovate teacher-training facilities and supply instructional aids. The French government, for its part, has established plans to provide technical cooperation chiefly in the fields of mathematics and French language and furnish instructional aids to the Inspections d'Académie, regional inspectorates involved in teacher retraining programmes.

Should Japan elect to offer assistance in this area itself, it will need to effectively coordinate its plans with those of the World Bank and France, which are also providing assistance to Senegal in the arena of education system reform. The World Bank has plans to assist in work aimed at improving the facilities and instructional materials of teacher colleges, while France is gearing up to provide assistance for essentially the same goals at the Inspections d'Académie. For that reason, Japanese assistance would likely be of more value if aimed at areas other donors have essentially left untouched: namely, qualitative improvements in teacher training courses and retraining programmes for qualification in specific educational subjects (e.g., in which Japan is relatively strong, such as science education). Realistic undertakings would likely include the dispatch of senior JOCV personnel and other experts in Senegalese teacher-training institutions, as well as training programmes conducted in Japan (although finding French-capable instructors in Japan would present some problem). Over the longer term, though, Japan should also consider utilizing the talents of local or third-country experts and implementing in-country or third-country training programmes.

Senegal is striving to establish education programmes conducted in indigenous languages, and is already running pilot schools on that basis. Al-

though relatively marginal in its importance, financial aid for instructional materials and teacher training in this area might deserve study. (In fact, it appears UNICEF is already providing cooperation to that effect in certain forms.)

(2) Secondary Education

In the field of secondary education, Senegal plans to emphasize improvements in quality, not increased student numbers. Japan will be called on to assist it in achieving that goal. The drive for quality will consist of actions in several areas: heightened internal efficiency through reductions in dropout and repetition rates, effective placements of teachers and administrative staff together with steps to hone their skills and competence, strengthened control of student numbers and exhaustive career counselling, as well as the regional decentralization of education administration.

The PDRH2 calls for the formulation of long-term programmes for improved secondary education, and incorporates plans for work to renovate six lower secondary schools (collèges) and modernize libraries at 15 upper secondary schools (lycées). In addition, Saudi Arabia is scheduled to assist Senegal in new lycée construction work. France has set out plans for technical cooperation, including measures to strengthen teacher training in French, mathematics, and science fields. Rather than striving to build new facilities, though, Japan should instead consider assisting facility renovation work, the provision of educational equipment and materials (including books), and other actions that would effectively contribute to educational quality improvements. Needless to say, though, in selecting materials for provision as aid, it should adequately take into account local requirements, thoroughly examine the need for additional school operating allowances in advance, and avoid overlap with other aid projects.

Senegal currently has 264 collèges and 67 lycées. Positioning Japanese Overseas Cooperation Volunteers (JOCVs) in these schools as instructors in such subjects as science, industrial arts, and physical education would be one useful means of assistance. The parallel provision of educational equipment and materials financed by small-scale grant assistance would heighten the effectiveness of this approach as a form of technology transfer.

(3) Higher Education

As with the secondary levels of schooling, higher education will also be subject to an emphasis on curbing growth in enrollment and improving the quality of educational content. This segment of the education system is also strongly in need of administrative refinements, e.g., in educational budgeting and planning. In particular, Senegal needs to place stronger controls on student numbers, lift internal efficiency by lowering the repetition and dropout rates, improve education finances through cutbacks in student scholarships and allowances, improve the functions and capabilities of university libraries, strengthen course offerings in science and engineering, and foster closer links between institutions of higher learning and the business sector.

In preparing assistance for higher education in Senegal, Japan should keep in mind that various systemic changes are expected due to the pressing need for administrative improvements (e.g., in budgetary planning and management). What is more, scholarship cutbacks will demand political resolve and likely face student opposition. Given these factors, it would not appear wise at this time to rush ahead with large-scale grant assistance for facility enhancements, or with project-type technical cooperation in specific academic fields. On the other hand, the University of Dakar is the most distinguished institution of higher learning in West Africa, and is equipped with a relatively large and able faculty. These features therefore suggest that field-specific research-oriented assistance would be worthwhile. Indeed, it would be of mutual benefit to provide such assistance in areas in which Japan still lacks expertise but that will likely become increasingly relevant to Japanese aid efforts in the years ahead: e.g., desertification countermeasures, arid-land agriculture, alternative energies (solar-powered electric generation), and instruction in indigenous languages. It would be advisable to begin assistance to such areas with isolated dispatches of experts and eventually elevate it to the mini-project level.

(4) Vocational Training

Efforts in vocational training will probably involve the reorganization of facilities that in many cases have been set up without adequate planning. In addition, pressure will grow for closer links to industry and self-sufficiency in financing. Given the expected organizational changes, it appears many facilities will face public funding cutbacks, increased responsibility for their own

operational affairs, and, consequently, shaky management for the time being. Accordingly, as with higher education, large-scale undertakings in Japanese aid could be expected to meet with difficulty. Be that as it may, Japan should nevertheless consider dispatching experts and supporting work to upgrade training facilities and equipment, albeit with due attention to the general direction of the above-mentioned reforms and certainty regarding the future of each facility. (Currently, one Japanese expert in vocational training has been placed on assignment in Senegal.)

(5) Other Education-Related Fields

Several other fields of education also warrant attention, including education administration, nonformal education, and audio-visual education techniques.

As noted earlier in the analysis of conditions characterizing Senegal's education system, administration counts as an area with many problems and as such, appears to be in serious need of assistance. National and regional administrative structures require organizational enhancements as well as programmes of personnel training at all levels, from primary to higher education. However, in view of its lack of aid personnel specialized in this field and the differences distinguishing its system of education administration from Senegal's, Japan would be best advised to focus its assistance in selected areas alone: for instance, in the transfer of technologies for the compilation of educational statistics and the supply of tools and equipment to that end, or in studies aimed at identifying demand for engineering personnel or improving the management of selected universities. Further, considering that Senegal's administrative system is patterned along French lines, there would also be value in inviting Senegalese administrators to Japan for exposure to the differences highlighting the Japanese administrative framework.

In the arena of nonformal education, the Senegalese government has set a target national literacy rate of around 70 percent for the year 2004. (Official programmes call for lifting the rate in annual 5 percent increments from its 1991 level of 27 percent.) To meet that goal, it has embarked on a campaign of functional literacy training that places priority on women and the rural population. Along with primary education, literacy training counts as a vital means of fostering the spread of basic education, yet it is also in serious need of assistance. Nonetheless, given that NGOs, local citizens' groups, and other grass-roots organizations are now leading activity in this area, it does not

easily bear description as a special target for large-scale undertakings in Japanese aid. Accordingly, it would seem more desirable to begin providing aid in the form of Japanese small-scale grant assistance and the dispatch of JOCV rural project teams.

Audio-visual training techniques are another area worth consideration and an area where Japan commands advanced expertise. For this reason, it would be worthwhile to study audiovisual technology transfers and the supply of equipment for such ends. For instance, audiovisual aids would be of extreme importance in fostering mass-communications-based literacy training and campaigns aimed at promoting the education of young girls. In addition, it would be effective as well in other sectors, including educational programmes in AIDS prevention and environmental protection.

2.4 Health Care

2.4.1 General Perspectives on Aid in the Health-Care Sector

Improvements in health care are vital to the alleviation of poverty. Aid to that end, though, should be supplied not on its own, but in coordination with aid undertakings in education, the environment, and other areas that also have a bearing on poverty alleviation. Further, in dealing with population issues, it will be important to give ample attention to the impact population growth has on other fields.

Senegal's budget for health care is meager; worse, population pressures in the years ahead can be expected to maintain if not exacerbate this situation of fiscal austerity. The private sector and foreign aid donors now account for most of the funding spent on health care in Senegal; what is more, in the recent past (1987-1990) as much as 63 percent of total public health-care expenditures were covered by foreign aid. To minimize the impact of CFA franc devaluation on its most impoverished classes, the government has been working to establish a full set of basic public services in the health-care and education fields. Despite the need for poverty alleviation, the country lacks financial resources. To offset that funding shortfall, the government has adopted policies that require recipients of health-care services to share the burden of associated cost. This has led to a state of affairs that makes aid essentially mandatory. Therefore, Japan should put together health-care aid programmes based

on the constructive strategy of encouraging Senegal to shift from its chronic dependence on aid to self-reliant forms of health-care funding.

In terms of content, many of the aid programmes foreign countries and international organizations are now pursuing in Senegal constitute systematic efforts to deal with the root causes behind the country's health-care problems.

In addition to indicating preparedness to enact specific health-care programmes, they also comprise noteworthy actions in a number of related areas. For instance:

- efforts in personnel training and studies or guidance in administrative reform aimed at addressing problems with Senegal's centralized health-care system and its weak funding base;
- family-planning programmes that integrate studies and research with mass-education campaigns, all aimed at stemming the pressures of population growth; and
- primary health care-oriented promotional campaigns and personnel training as measures to compensate for inadequate health-care services.

By contrast, Japanese aid to Senegal in this field appears to have been largely constrained by such factors as the French language barrier and Japan's own aid frameworks. Dispatching JOCV personnel in Senegal, yet in the absence of comprehensive or region- or facility-specific health-care plans, is one manifestation of that reality. Nonetheless, expectations are that Japan will continue to make significant contributions as one of Senegal's leading donor nations in this field. One factor that should be borne in mind is that Japan itself has been called on to provide aid that systematically deals with the root causes of health care-related problems. This is reflected by Japanese cooperation with the U.S. in exploring issues concerned with population growth, AIDS, and Women in Development. Forms of aid for specific goals are further examined in this context below.

2.4.2 Aid for Specific Goals

(1) Improved Health-Care Levels through the Pursuit of Primary Health Care

Improving basic health care for the general public will demand action on

several fronts. Namely, the challenge will be to achieve these goals by pursuing training programmes for health-care professionals, educational campaigns aimed at bolstering the public's awareness of health and sanitation issues, and measures to raise the standard of health care and medicine (particularly maternal and child health care) by improving the living environment.

More specifically, it will be imperative to train health-care professionals for medium- and small-scale facilities at levels lower than the health-care centres the Senegalese government is already striving to set up with assistance from other donors. Providing aid in keeping with the goals of educational campaigns based on information, education, and communications (IEC) training will also be vital. Primary health-care policies conditioned on the view that recipients of health-care services should share the burden of cost deserve to be accommodated with forms of aid aimed at bolstering the ability of recipients to carry their own economic weight, and at strengthening the operational and management capabilities of health-care support associations run on the basis of community participation. Aid of this kind would conceivably be aimed chiefly at small health clinics not as yet formally authorized by the Ministry of Public Health and Social Action to function as official health-care organizations.

As it happens, health-care centres are responsible for technically supervising community clinics and supplying them with medical drugs. Technology transfers aimed at qualified health-care professionals manning such centres would likely be an effective means of lifting the quality and content of primary health-care services at the lowest levels of the health-care system, especially in view of the fact that Senegal has put off efforts to increase the numbers of its medical professionals. Health-care programmes specifically targeting mothers and infants are also needed.

(2) Measures to Deal with Population Issues

Senegal faces several challenges in striving to balance its population growth with its social and economic gains. One will be to curb the currently rapid pace of population growth with family-planning programmes shaped by the findings of broad-based surveys and research. In conjunction with that, it must deal effectively with the adverse impact population growth has in other areas. Countermeasures will also be vital against AIDS infection, which threatens to reach epidemic proportions in the years ahead.

During Japan's postwar economic development, the demographic composition of its population shifted from that of a developing country to that of a typical industrialized country in a relatively short time-span. What is more, family systems in Japan resembled the extended-family pattern common across Africa more than they did family systems typical of the industrialized West. In view of that past, it would seem Japan is more capable of expressing a deeper understanding with respect to family planning in Senegal, a country in need of drastic actions yet where birth control has little prospect of winning acceptance beyond its acknowledged benefits to maternal and infant health care. Indeed, Japan could conceivably cooperate in other meaningful ways and on a general level with family-planning programmes already being pursued widely at the community level by other donors. For instance, it could explain the activities of Japanese community nurses, who visited neighbourhoods to promote contraceptive practices during the immediate postwar years. Further, it could sponsor joint research conferences with lower-middle-income Asian countries that have succeeded in cutting their birthrates, or with Tunisia, Morocco, and other Islamic countries where family-planning practices harmoniously coexist with Islamic teachings.

The climbing status of women in society is one factor behind declining birthrates. Gender equality and the liberation of women are attainable goals provided there is an awareness of the social roles of men and women and of matters that concern both genders. This position has drawn attention to aid approaches shaped by the theme, "Gender and Development." Reflecting that trend, family-planning programmes now demand a deeper awareness—by both men and women—of the woman's role in reproduction. Mass-education programmes that discuss gender relations on a level extending beyond the goals of familiarizing the public with contraceptive practices and promoting the use of contraceptive devices, per se, can be expected to encourage women in practically all social classes to become more outspoken and assume a more-active role in making family-planning-related decisions. Needless to say, the family can be considered the smallest unit of social and economic activity. The "Gender and Development" perspective at the family level counts as a modification of the "Women in Development" approach, which is frequently criticized as symbolizing a socially isolated form of women's participation in development. As such, the "Gender and Development" approach can be expected to encourage men and women alike to participate in society according to their mutually

accepted roles.

Most Senegalese AIDS programmes are currently dependent on foreign assistance. However, AIDS is a global problem and accordingly, it seems essential that Senegal be provided continued financial and technical assistance for future undertakings in AIDS research, study, and prevention.

(3) Improved Health-Care Facilities and Administration

Senegal must move to decentralize authority and secure adequate financial reserves if it is to effectively overhaul its centrally controlled health-care system and improve health-care services in general. To assist it in achieving these goals, several donors have proposed programmes in administrative reform, and some are already in effect. Japan therefore needs to pursue its own approaches in close coordination with these undertakings. Other donors, too, are pushing ahead with work to improve health-care facilities at the village level. Therefore, Japanese attention should be focused on remedying regional disparities in the distribution of such facilities.

Though several proposals concerning the Pharmacie Nationale d'Approvisionnement, the public-sector drug procurement and distribution system, have been put forward, no sweeping reforms have as yet been implemented. There would be value in pursuing studies to determine whether Japan can effectively apply its own experience and expertise in helping Senegal restructure the operating framework for the PNA, as well as the drug distribution system, which covers the stages from manufacture to sales and final physical distribution. In the short term, though, it would be worthwhile to support the aims of the Bamako Initiative by supplying Senegalese health-care facilities with essential drugs and assisting dispensaries in their initial bid to generate working capital for the health-care facilities.

Senegalese frameworks for the collection of statistical data on health-care conditions remain underdeveloped. For that reason, the Statistics Office of the Ministry of Public Health and Social Action is now conducting trials under a new system designed to compile statistics on medical examinations. Japan could assist this undertaking through technology transfers and the provision of essential equipment.

Facilities at the lowest hierarchical level of the health-care system will play an increasingly instrumental role in promoting primary health care in the

years ahead. Those facilities will need aid particularly to improve their obstetrics services, which are in strong demand. As noted earlier, technology transfers aimed at qualified medical professionals staffing health centres will be crucial to the goal of training the personnel who will run these small-scale clinics. As to assisting in work to improve facilities, Japan could contribute to the training of authorities in the Senegalese medical field by providing aid to the Institut de Santé et de Développement, the institution that educates qualified West African health-care professionals to serve as experts in the public health field. As it happens, the Institut already receives aid from other donors partly because it is still so young, having only been founded in 1987. For this reason, it seems advisable that Japan give it aid based on a long-term view and conditioned on coordination with other donors.

2.5 The Environment and Water Resources

(1) Basic Perspectives on the Provision of Aid

Urbanization

Today, urbanization is widely considered to be but one of several general trends characterizing the developing world. However, the rapid pace of urbanization in Senegal and other arid and semiarid regions of the world has been especially pronounced. Consequently, it should be understood that measures aimed at dealing with the forces and pressures of urbanization will have immense value in these regions.

Desertification

Japan still lacks sufficient technical expertise and project experience in the fight against desertification. Furthermore, it does not as yet have that many experts active in that field. This situation suggests Japan will have to develop its own technologies, apply them and build on their record of effectiveness, and train experts on-the-job if it is to participate in anti-desertification projects. Desertification countermeasures have clearly earned status as one of the global environmental challenges all countries must equally pursue. Japan should itself act on that awareness.

Environmental Modification

Life in arid and semiarid zones will not get better in the absence of steps of some kind to artificially improve the environment. Accordingly, another challenge will be to move a step beyond the goal of environmental protection itself and strive to create a better environment for human sustenance. Nonetheless, it would be wise to avoid the large-scale programmes in environmental modification that were once a focus of heated controversy in Japan. Arid zones have long been thinly populated and characterized by widely dispersed villages. Efforts in environmental modification, then, should be explored in terms of small undertakings compatible with the scale of the local communities they are intended to serve.

Water-Resources Development

Water-resources development must be understood as an undertaking that will expose Senegal's arid and semiarid zones to extensive, artificial water-flow modifications. For that reason, adequate steps should be taken to gauge the likely environmental impact at the project formulation stage. In addition, it is essential that development plans from the outset incorporate provisions for regular monitoring of water resources and other aspects of the environment following project completion.

Senegal is heavily dependent on rainfall-based agriculture. Work to develop and expand its irrigation infrastructure commands a level of importance comparable to that of resolving the salinization problem. What is more, irrigation-based farming bears strong potential, especially in the country's northern districts. In pursuing such efforts, though, Senegal will face the necessity of negotiating a settlement (through the OMVS, i.e., the institution responsible for Senegal River development) with other countries whose water-resource rights and interests stand to be affected. Furthermore, it should also devote attention to the potential impact farming projects in its northern reaches could have on the environment and on farm-product markets and modes of farming in neighbouring countries.

(2) Measures to Deal with the Pressures of Urbanization

Though many aid agencies have been working in an effort to address urbanization-inflicted problems in solid waste disposal, their actions have con-

sistently proven too late to have any seriously beneficial effect. This section focuses more closely on some of the problems.

Wastewater-treatment technologies as applied in Japan tend to be expensive, intensive, and conditioned on sophisticated forms of management. In fact, many commentators currently contend that Japan should develop more-appropriate technologies for use in Senegal. Calcutta's wastewater treatment plants, which are integrated with fish-breeding ponds, are a good example of an alternative and viable approach; they are low-cost and their agricultural and fishery operations are beneficial to the lives of residents in surrounding districts. Due to changes in social structure, some wastewater treatment methods no longer find use in Japan. Systematizing those techniques would be another approach conceivably capable of assisting the drive to establish appropriate and effective technologies for the developing world.

Garbage has taken on significance in Japan as yet another untapped resource in human-populated habitats. On that understanding, work to develop new recycling technologies has gained strong momentum. Efforts are also under way in the solid-waste field to process livestock manure into compost and fertilizer and boost its productive efficiency. To that end, researchers are striving to improve on and re-engineer traditional Japanese composting techniques by applying a more scientific approach. One pilot plant currently in operation produces as much compost in 25 days as the average farm household produces in a full year.

In certain respects, these development efforts do not reflect the realities currently characterizing sanitation and waste-treatment issues inside Japan. On the other side of the coin, it is possible they will actively assist the establishment of appropriate new technologies and encourage their eventual application in countries of the developing world.

Urbanization has already progressed too far in Senegal. Accordingly, sanitation and wastewater treatment can be expected to assume growing importance as the volume of water utilized by urban areas expands in the years ahead. Not only are the problems stemming from urbanization diverse, but they are also elaborately intertwined, and therefore more difficult to deal with. To ensure, however, that countermeasures in waste disposal amount to more than the treatment of a few symptoms of selected problems in selected regions, it is imperative that action be taken first to conduct in-depth social surveys in

advance, establish needed organizational structures at the local level, and tie the whole process to undertakings in personnel training and the development of useful technologies. To that end, it would be advisable also to establish a comprehensive framework for assistance within Japan.

(3) Desertification Countermeasures and Afforestation Projects

Senegal is situated in the Sahelian zone, a region of West Africa marked by protracted drought conditions extending back more than 20 years. Several developments have combined with this trend in climatic deterioration leading to a widespread pattern of desertification. These include soil depletion due to heavy groundnut cultivation and forest depletion due to the excessive logging of once-protected forest reserves (carelessly sold off by the government to private interests) and growth in the firewood-dependent human population.

Though arguments as to whether desertification is fuelling a drying trend of global proportions have yet to gain much public attention, desertification has destroyed surface vegetative cover on a vast scale, and that in itself still counts as a serious global environmental issue. Desertification has had a direct impact on Senegalese life, as manifest in soil deterioration in groundnut-growing regions and the shrinkage of forest tracts that serve as a precious source of fuel. Therefore, the challenge amounts to one that Senegalese citizens can easily understand in terms of protecting forests and the quality of the soil, both of which have a direct bearing on their own sustenance. JICA has listed seven basic priorities Japan should give attention in exploring its options for the provision of aid in this area:

- direct aid to inhabitants of affected regions
- the alleviation of pressures on natural resources
- the creation of a drought-resilient economy
- an emphasis on multiplier effects (projects should serve as models for neighbouring areas)
- the parallel pursuit of improved land productivity, sustainable land-resource management, and heightened standards of living for inhabitants of affected regions
- a focus on the Sudanian region

- developing a track record of experience and success.

The reason for emphasizing these priorities is to underscore our position that Japan should follow a comprehensive approach in addressing Senegal's desertification issues in their totality rather than providing aid designed to treat isolated symptoms of any specific problem.

Japan is currently pursuing "Coopération pour la Promotion de la Verdure au Senegal" or "projects to promote greenery"—undertakings that involve the dispatch of JOCV teams. In terms of their team composition and project goals, they can be considered one suitable approach to the fight against desertification. It thus seems desirable that JICA-led desertification countermeasures in Senegal be built around these projects and systematically coordinated with other aid projects.

Given its relative inexperience in this field, though, at the project-formulation stage Japan should also explore the possibility of arranging to take over or form tie-ups with pilot projects initiated by other donor nations or aid agencies.

(4) Water-Resources Development

As noted earlier, the Senegal River system has become a focus of efforts to develop Senegal's surface-water resources. However, the OMVS, in which Senegal and three other countries are represented, has set up a permanent donor-country consultative committee. That fact should make it clear that this is a field for multilateral aid. As it happens, Japan would find it difficult to pursue aid projects directly in this context, for it has formally conditioned its involvement on bilateral arrangements. Nevertheless, Japan has been called on to assist in certain elements of an agricultural irrigation project covering some 375,000 ha of farmland over a 200 km stretch along the left bank of the Senegal River.

The Canal du Cayor waterway construction project, which is aimed at supplying drinking water to the Dakar Region, counts as another water-resources development undertaking connected with efforts along the Senegal River. Though construction was slated to start in 1995, it has been postponed due to a shortage of funds. The project also incorporates plans for the development of farm-irrigation networks along the canal's course. In this regard it illustrates the diversified path OMVS-led undertakings in water-resource development

will likely follow in the years ahead.

All these projects essentially target the fragile natural environment of the Sahelian zone. Therefore, should it become involved in them, Japan needs to adequately consider their development impact before moving ahead with project implementation. The reason is that farmland areas newly opened by irrigation development projects already face a number of ills: e.g., soil contamination by salt in irrigation water, the spread of irrigation water-borne endemic diseases, and outbreaks of malarial mosquitoes in swampland or lowland areas flooded by irrigation-water seepage and excess irrigation-water runoff.

Regarding underground water, the "Plan National d'Actions pour l'Environnement" (1989) assumes that approximately 1.878 million cubic meters per day of cyclical underground water are open to sustainable development. That translates into over 250 litres per day per capita. Given that the Senegalese government has set a drinking-water supply target of 35 litres per day per capita in rural areas, it would appear the country still has ample underground-water reserves. In reality, though, problems with those reserves have surfaced in certain areas due to such factors as overdevelopment in specific regions or uneven population distribution attributable to patterns of urbanization.

According to a 1993 JICA study of underground-water resource development and utilization in Africa, Senegalese requests for Japanese aid had to do primarily with the formulation of projects to explore and develop new underground-water reserves. However, considering the conditions of excess pumping in selected districts around the Dakar Region and the underground-water salinization trend along the coastal belt in the country's northern reaches and in delta areas where rivers open into the ocean, the study reached a different conclusion. In effect, it advised that quick action be taken to help Senegal better manage its underground water resources, e.g., through the collection of useful data and the establishment of underground-water monitoring systems.

At present, observation wells exist in about 200 locations nationwide, including some that have been in operation since the colonial era. Even so, Senegal does not as yet fully utilize these facilities for regular monitoring or analysis of underground-water conditions, nor does it have any plans or frameworks for the monitoring of specific problems such as contamination by salt water. Emergency water-supply programmes drawn up as countermeasures to

deal with the pressures of urbanization will likely continue to tout underground-water resource development as a fast and highly effective solution for some time to come. It thus seems all the more important that Senegal develop its capabilities in underground-water monitoring.

In pursuing civil engineering projects aimed at containing and reinforcing sandy embankments along its northern coastline, Senegal also sought to open up the niayes (sandy lowlands in those areas) to agricultural activity. It has been reported that the fruit and vegetables grown by such farming ventures are now shipped to urban markets and even exported abroad. Still, it must not be forgotten that these new agricultural settlements depend on extremely shallow subterranean fresh-water reserves. Indeed, sustained agricultural output in the niayes will be possible only if steps are taken to carefully monitor water quality and volume and pursue practical, water-conserving forms of crop cultivation. In assisting efforts to tap into Senegal's underground-water resources, Japan should make it clear that its contributions will be management-oriented in the sense outlined above. Further, it should also strive in earnest to put together clearly defined projects for water-resource utilization.