Public Expenditure Analysis
A Case Study of Lafrasia

Vinaya Swaroop and Holley Ulbrich
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EDI Case Studies
The World Bank
Washington, D.C.
Acknowledgments

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Acknowledgments

The case study of Lafrasia represents a group effort. It was prepared by Vinaya Swaroop, of the Policy Research Department of the World Bank, and Holley Ulbrich, of Clemson University. The contributions of Shanta Devarajan and Sanjay Pradham, of the Policy Research Department of the World Bank, are gratefully acknowledged.
The case of Lafrasia, a fictitious country, synthesizes the problems faced by a number of developing countries in public expenditure analysis. The two main objectives of the case are:

- To create awareness among participants of the public sector problems faced by a typical developing country
- To help participants conceive and develop potential solutions to these problems.

The case is set in 1989. After the participants have read the case, they should be able to discuss the issues that might arise in the public expenditure decisionmaking process in a country that faces problems similar to those of Lafrasia.
1

Introduction

History and Geography

The nation of Lafrasia is a former colony that became independent after World War II. During the colonial period, the country had a well-trained civil service, adequate infrastructure, and a fairly well-developed system of public education. Thirty years of military dictatorship, however, have destroyed these achievements. The system has collapsed: the civil service is overstaffed and inefficient, infrastructure has deteriorated from lack of maintenance, and the public education system is plagued with problems. A democratic government has been in place for the past decade, and it has been attempting to rebuild the infrastructure and to refocus the priorities of the Lafrasian government.

Lafrasia is a tropical country. About 25 percent of the country is mountainous; the rest is a mixture of forest and farmland. Cocoa is grown in the mountains. Lafrasia has about 300 miles of seacoast and a good deepwater port. Offshore islands near the coastal city of Bahia Linda attract a moderate amount of tourism. Hydropower is the primary domestic energy resource, along with some fuelwood; all petroleum and natural gas are imported.

Population

The population of Lafrasia is 40 million. Seven million people live in the nation's capital city of Lafrasia, which is in the largest of the five provinces, with nearly 40 percent of the nation's population. Another 8 million live in ten smaller cities. The rest live in villages with populations ranging from a few hundred to several thousand people. The mountain province is the most thinly populated, with only 250,000 people spread over a land area of almost 7,000 square miles. About 23 percent of the population of Lafrasia lives below the poverty line. Many people still live in rural villages, but an increasing number are migrating to urban areas, where they live in shantytowns and support themselves with intermittent, unskilled work, usually in the informal sector.

Social Indicators

Lafrasia is in the lower-middle tier of countries in per capita income, but some of the social indicators suggest a failure to meet basic needs in health, education, and other services. Table 1-1 lists the basic social indicators for Lafrasia and a group of peer nations, countries in the same region with about the same level of income.
Table 1-1. Socioeconomic Indicators for Lafrasia and Peer Countries, 1988-89

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Lafrasia</th>
<th>Average, peer countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita GDP</td>
<td>US$750</td>
<td>US$825</td>
</tr>
<tr>
<td>Infant mortality rate</td>
<td>8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Maternal mortality rate</td>
<td>3/1,000</td>
<td>1.2/1,000</td>
</tr>
<tr>
<td>Infants ages 1-3 immunized</td>
<td>58%</td>
<td>87%</td>
</tr>
<tr>
<td>HIV infection rate (adults)</td>
<td>10%</td>
<td>11%</td>
</tr>
<tr>
<td>Life expectancy at birth (years)</td>
<td>55</td>
<td>59</td>
</tr>
<tr>
<td>Primary school enrollment</td>
<td>92%</td>
<td>93%</td>
</tr>
<tr>
<td>Primary school completion</td>
<td>40%</td>
<td>72%</td>
</tr>
<tr>
<td>Adult illiteracy rate</td>
<td>27%</td>
<td>22%</td>
</tr>
<tr>
<td>Households with electricity</td>
<td>35%</td>
<td>25%</td>
</tr>
<tr>
<td>Households with telephones</td>
<td>6.4%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

Security Considerations

The former dictator of Lafrasia used the army to control internal as well as external enemies. At least one of Lafrasia's neighbors, Andaria, has territorial designs on the adjacent southern province of Lafrasia because of a large Andarian ethnic minority there. Religious and ethnic tensions are a constant source of concern. Although the government is democratic, with a system of multiple parties, some of the minority parties would not be averse to a coup attempt. The government would like to maintain a strong military force as a defense against both Andaria and possible internal threats.

Macroeconomic Conditions

Lafrasia's currency, the peso, was reformed in 1985; the value of the new peso (equals 100 old pesos) was set at 3 pesos per U.S. dollar. As a result of continued inflation, the exchange rate fell steadily, and in 1989 the exchange rate was 7.5 pesos per U.S. dollar. Per capita income in 1989 was about US$750, which at the exchange rate of the time equaled 5,625 pesos. Real GDP grew at an average rate of 3 to 4 percent a year for most of the 1980s, but the birthrate was high, especially in the villages. Therefore, real per capita income grew at an annual rate of only about 1 percent during the late 1980s. Inflation was officially estimated to be about 22 percent in 1988, down substantially from the 41 percent rate of 1985. National income accounts data for 1985 to 1989 are given in table 1-2.

Most civil servants received a pay increase of only about 4 percent a year between 1985 and 1989, so the purchasing power of their already low salaries has fallen. Unemployment is estimated to be as high as 20 percent in the cities, although estimates are not reliable. There is considerable disguised unemployment and underemployment in the villages, as evidenced by the steady migration to the urban centers. In an effort to address the problem, the government has hired many of the unskilled workers for lower-level jobs, even though there is little work for them to do.
### Table 1-2. National Income Accounts, 1985–89

(All figures in million pesos)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>71,204</td>
<td>99,762</td>
<td>133,982</td>
<td>177,373</td>
<td>225,132</td>
<td>30,018</td>
</tr>
<tr>
<td>Consumption</td>
<td>3,012</td>
<td>83,095</td>
<td>106,473</td>
<td>136,758</td>
<td>164,997</td>
<td>22,000</td>
</tr>
<tr>
<td>Government expenditure</td>
<td>14,695</td>
<td>21,307</td>
<td>30,257</td>
<td>41,755</td>
<td>57,621</td>
<td>7,683</td>
</tr>
<tr>
<td>Current expenditure</td>
<td>10,906</td>
<td>15,814</td>
<td>22,457</td>
<td>30,990</td>
<td>42,767</td>
<td>5,702</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>3,788</td>
<td>5,493</td>
<td>7,800</td>
<td>10,764</td>
<td>14,854</td>
<td>1,980</td>
</tr>
<tr>
<td>Private investment</td>
<td>2,422</td>
<td>3,817</td>
<td>5,649</td>
<td>6,597</td>
<td>9,903</td>
<td>1,320</td>
</tr>
<tr>
<td>Exports</td>
<td>9,991</td>
<td>15,186</td>
<td>21,688</td>
<td>30,396</td>
<td>39,516</td>
<td>5,269</td>
</tr>
<tr>
<td>Imports</td>
<td>-18,916</td>
<td>-23,645</td>
<td>-30,266</td>
<td>-38,135</td>
<td>-46,906</td>
<td>-6,254</td>
</tr>
<tr>
<td>Per capita GDP</td>
<td>1,959</td>
<td>2,691</td>
<td>3,509</td>
<td>4,545</td>
<td>5,625</td>
<td>750</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>36.3</td>
<td>37.1</td>
<td>38.2</td>
<td>39</td>
<td>40</td>
<td>n.a.</td>
</tr>
<tr>
<td>Inflation rate (%)</td>
<td>41</td>
<td>36</td>
<td>30</td>
<td>28</td>
<td>22</td>
<td>n.a.</td>
</tr>
<tr>
<td>Growth of real per capita GDP (%)</td>
<td>0.5</td>
<td>1.0</td>
<td>0.3</td>
<td>1.2</td>
<td>1.5</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

n.a. Not available.
2
The Public Sector

Central Government

The central government consists of a parliament, with a prime minister and a cabinet, and an elected president who combines administrative and ceremonial duties. The central government is responsible for education at all levels (except for primary-school buildings); defense; hospitals and health centers; the medical school; most highways; police and the legal system; international relations; public parks and museums; the central bank; the social insurance system; supervision of the banking and trading systems; agricultural research and extension; and the regulation of agriculture, industry, and the financial system.

The five public universities, one in each province, are also funded by the central government. There are also technical institutes in each of the provincial capitals. All other postsecondary schools are privately funded. The central government manages a number of state-owned enterprises (SOEs), including the airport and air transport system, the port authority, the electric power system, the water treatment and distribution system, the post office, the bus system, and several cement factories. As the primary taxing authority, the central government oversees the tax administration of the local governments.

Local Government

The provinces have no independent authority; they function as administrative divisions of the central government. Local governments in the cities and villages are responsible for water storage and distribution, sewers and sewage treatment facilities (where available), trash removal, street cleaning, local law enforcement, public markets, and construction and maintenance of the buildings for primary education. Where the funds provided for local health centers by the central government are inadequate, local governments often step in to close the gap, as well as funding other basic services. These local councils receive the bulk of their funding (roughly 85 percent) from the central government; this sum is supplemented by limited local taxes and some fees and charges (15 percent). Larger cities provide public transportation (primarily buses) and the upkeep of some of the city parks.

Operating Expenditures

The combined operating expenditures of the central and local governments account for about 19 percent of GDP. The central government spends 42.8 billion pesos an-
nually, including transfers to local governments. Although data for local revenues and spending are sketchy, estimates suggest that locally rated revenues total about 77 million pesos yearly. This combined expenditure level is a little low by regional standards—combined government operating expenditures are closer to 20 percent of GDP regionwide. The approximate distribution of the central government’s operating budget among program categories is detailed in table 2-1.

Because government accountants often fail to assign an employee’s wages or purchase of supplies to the correct program area, the accuracy of the figures is somewhat questionable. Local expenditure data are even less reliable, so only central government data are presented here.

**Capital Expenditures**

Public investment in Lafrasia, including donor-financed projects, is about 7 percent of GDP and accounts for 60 percent of all investment (public and private) in the country. Although this total sounds reasonable, there has been considerable debate over the merits of the present allocation of funds among sectors and the proper balance between public and private investment. Rehabilitation has been neglected, particularly in public buildings (including schools), roads, and irrigation. Hydro-power receives a very large share (almost 43 percent) of investment because the prime minister is committed to making electricity available to every Lafrasian household. In other areas there is a substantial backlog of investment needs. There are no data on local government investments, but it is believed that most local funds are directed toward rehabilitation rather than new investments. Of great urgency among investment priorities is aid to local governments to build schools and health centers, rehabilitate roads, plant coffee, expand rail lines, expand the electric and wa-
Table 2-2. Public Sector Capital Spending, 1988–89

<table>
<thead>
<tr>
<th>Category</th>
<th>Pesos (millions)</th>
<th>Percentage share</th>
</tr>
</thead>
<tbody>
<tr>
<td>General public services</td>
<td>609</td>
<td>4.1</td>
</tr>
<tr>
<td>Defense</td>
<td>1,857</td>
<td>12.5</td>
</tr>
<tr>
<td>Social sector</td>
<td>2,629</td>
<td>17.7</td>
</tr>
<tr>
<td>Education</td>
<td>1,129</td>
<td>7.6</td>
</tr>
<tr>
<td>Health</td>
<td>921</td>
<td>6.2</td>
</tr>
<tr>
<td>Culture</td>
<td>82</td>
<td>1.9</td>
</tr>
<tr>
<td>Other</td>
<td>297</td>
<td>2.0</td>
</tr>
<tr>
<td>Economic sector</td>
<td>9,760</td>
<td>65.7</td>
</tr>
<tr>
<td>Agriculture</td>
<td>59</td>
<td>0.4</td>
</tr>
<tr>
<td>Water</td>
<td>1,322</td>
<td>8.9</td>
</tr>
<tr>
<td>Electricity</td>
<td>6,299</td>
<td>42.4</td>
</tr>
<tr>
<td>Transportation and communication</td>
<td>2,080</td>
<td>14.0</td>
</tr>
<tr>
<td>Air transport</td>
<td>520</td>
<td>3.5</td>
</tr>
<tr>
<td>Port</td>
<td>327</td>
<td>2.2</td>
</tr>
<tr>
<td>Rail and bus</td>
<td>297</td>
<td>2.0</td>
</tr>
<tr>
<td>Road maintenance</td>
<td>787</td>
<td>5.3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>149</td>
<td>1.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14,854</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As new projects—secondary roads, electric power projects, rural health centers, and water supply systems—come on line, Lafrasia will have to assume the burden of maintenance and operating expenditures, including staff, equipment, and supplies. The Ministry of Finance (based on a study done by a nongovernmental organization) estimates that every 100 pesos of donor funds invested in a project lead to a recurring annual budget expenditure of 25 pesos a year (at constant prices) for operations and maintenance. Awareness of these future financial burdens has led to a reluctance to take on additional domestically financed projects.

### Recurring Costs of Projects

Budget Management

The management of public resources is a highly technical process that requires an institutional structure that functions well and a rich mix of worker skills. At the center of this process is the planning and budgeting system, which incorporates three main elements:
Planning and budgeting must apportion scarce resources among competing programs in a manner consistent with overall objectives and macroeconomic policies.

The amount appropriated by policymakers must be budgeted and spent on the intended program.

The money spent must be recorded so that the use of public resources can be accounted for in a timely and transparent manner.

In Lafrasia, no proper planning and budgeting mechanism exists. The country has been struggling to put together a three-year, rolling public investment program, but major conflicts have taken place between the Planning Agency, which is in charge of preparing the annual capital expenditure program, and the Ministry of Finance, which carries out recurrent budget planning. None of the medium- or long-term recurrent cost implications of the public investment programs—such as the estimate that for every 100 pesos of donor funding of a project, a recurring annual budget expenditure of 25 pesos a year (at constant prices) will be required for operations and maintenance—are now taken into account when new projects are begun.

The budgeting exercise for the last several years has largely been a bargaining process between the Ministry of Finance and donors to determine expenditure allocations. The link between policy formulation and budgeting has been weakened by the ministry’s preoccupation with reducing expenditures and the donors’ efforts to increase their control over the investment budget. The annual budget is prepared on an incremental basis, and frequent mid-year, across-the-board cuts are made if the projected revenue does not materialize. As a result, execution of the planned expenditure (for example, project implementation) is frequently delayed. Moreover, public investment projects often experience implementation difficulties because of the shortage of technical and management skills.

Urban Infrastructure

Lafrasia has seen a great migration to its cities, particularly the capital. Public transport is inadequate and in disrepair. Only about 60 percent of the urban population (and an even lower percentage in the villages) has access to a convenient, safe water supply, and water delivery systems are badly in need of repair. There is a chronic shortage of housing nationwide, and shantytowns have emerged around all the major cities. One consequence of the overcrowding and the lack of water and sanitation services has been a higher than usual rate of contagious disease, a problem compounded by the absence of adequate urban public health facilities. Public buildings, museums, and libraries are also in need of maintenance and rehabilitation.

Highways and Feeder Roads

The nation has 2,600 miles of major highways; 8,600 miles of secondary roads; and about 11,000 miles of feeder roads, which are usually unpaved. The capital budget has earmarked funds for new construction and major rehabilitation, but mainte-
nance and minor rehabilitation must come out of the operating fund of 342 million pesos—at the current exchange rate, US$45.6 million—to maintain 11,200 miles of hard-surface roads and 11,000 miles of feeder roads. Funds must be allocated for labor, materials (mostly imported), and roadwork vehicles and equipment. Because of a backlog of minor rehabilitation projects, this level of spending means that the average road will receive attention about every ten years; major highways, every five years; and feeder roads and secondary highways, every six to eight years.

Feeder roads are usually unpaved, but they can be kept passable for all but the heaviest trucks with regular scraping. The neglect of these feeder roads, however, means that during most seasons of the year, three-fourths of these roads are impassable for anything heavier than a bicycle. Major roads are also badly in need of resurfacing; some need greater rehabilitation. Two major roads, one connecting the capital to the port city of Bahia Linda and the other leading to the sugarcane and cocoa farming regions, have several detours, and each of these is in poor condition. Some of the bridges have very limited carrying capacity and need to be rebuilt, or at least heavily reinforced, in order to permit truck traffic. According to an estimate by the Ministry of Finance, the cost of rehabilitating all the roads would be ten times the cost of supplying all textbooks for all students in the eight primary grades over the next ten years. The heavy rains that arrive relatively late in the budget cycle further complicate the road program by shortening the period available for planning and spending on road maintenance and repair.

Asset Registry

A major problem in the road sector is the absence of an adequate road inventory, but the sector is not alone in this deficiency. Lack of asset registries, particularly registries that review the condition of facilities and schedule maintenance work, is a problem in all sectors. With the exception of government buildings in the capital and hospitals, where good records are kept, most public sector assets are not subject to a program of regular inspection and planned maintenance.

Maintenance of Capital Facilities

Continually deferred maintenance has resulted in a substantial deterioration in infrastructure, particularly roads, irrigation networks, and government buildings. Neglect of maintenance spending in earlier years has produced an accumulated backlog, which is estimated at 2.5 percent of GDP, or 9 percent of consolidated annual government expenditures. As required maintenance falls behind schedule, rehabilitation needs increase sharply. The problem of catching up and eliminating the backlog is not merely a funding issue, but also a management concern. Technical and management personnel are inadequately trained, and planning and budgeting procedures receive no input from project or SOE managers, nor do they provide ex-post evaluation of operation and maintenance needs. Oversight of maintenance is further complicated by a built-in conflict—most of the funding comes
from the central government, but the responsibility for carrying out the maintenance work rests at the provincial and local levels.

**Comparative Expenditure Patterns**

Compared with the other nations in the region, Lafrasia's spending in the combined operating and capital budgets for health and primary education appears to be quite low. Despite ten years of democratic rule and relatively stable relations with its neighbors, including Andaria, defense spending remains high. Subsidies for SOEs are another major drain on the budget, as are excessive numbers of public employees. Comparative spending data—using as comparators the same neighboring countries utilized in table 1-1—are presented in table 2-3.

**Revenues**

Domestic revenues have increased about 10 percent in the last few years as a result of improved tax administration. Together with external grants and loans, primarily earmarked for capital projects, the budget deficit has fallen in five years from 40 percent to about 16 percent of combined operating and capital spending (roughly 3.7 percent of GDP). This figure represents a considerable improvement over the figures of five years ago, when the struggling democratic government, still picking up the pieces of thirty years of misrule, looked to the multilateral institutions for external advice and technical support, as well as for funding to aid in the painful process of reallocating resources and reducing the deficit. Nevertheless, much remains to be done in both the tax and spending areas. Table 2-4 provides a broad overview of the revenue side of the budget for 1989.

**Cost Recovery and Subsidies**

An important subsidiary issue of intersectoral allocation is that of cost recovery, especially for roads, social sector activities, and SOEs. Charges for services in some of the SOEs are quite low, but still represent a burden for the very poor. Charges for

| Table 2-3. Comparative per Capita Spending, Selected Sectors, 1989 (US$) |
|-----------------|---------|---------|
| Category         | Lafrasia | Peer countries |
| Road sector      | 3.76    | 7.5     |
| Maintenance      | 1.14    | 3.15    |
| Rehabilitation/new construction | 2.62 | 4.35 |
| Education sector | 26.60   | 32.67   |
| Construction     | 3.76    | 10.25   |
| Operating expenditures | 22.81 | 21.92 |
| Health sector    | 13.76   | 15.79   |
Table 2.4. Central Government Revenues, 1988–89

<table>
<thead>
<tr>
<th>Category</th>
<th>Pesos (million)</th>
<th>Percentage share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax revenues</td>
<td>27,305</td>
<td>55.3</td>
</tr>
<tr>
<td>Export taxes</td>
<td>9,370</td>
<td>19.0</td>
</tr>
<tr>
<td>Import duties</td>
<td>6,625</td>
<td>13.4</td>
</tr>
<tr>
<td>Income taxes</td>
<td>5,687</td>
<td>11.5</td>
</tr>
<tr>
<td>Other taxes</td>
<td>5,623</td>
<td>11.4</td>
</tr>
<tr>
<td>Fees and charges</td>
<td>8,904</td>
<td>18.0</td>
</tr>
<tr>
<td>Transport</td>
<td>672</td>
<td>1.4</td>
</tr>
<tr>
<td>Electricity</td>
<td>1,042</td>
<td>2.1</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1,946</td>
<td>3.9</td>
</tr>
<tr>
<td>Water</td>
<td>1,762</td>
<td>3.6</td>
</tr>
<tr>
<td>Education</td>
<td>322</td>
<td>0.7</td>
</tr>
<tr>
<td>Health</td>
<td>389</td>
<td>0.8</td>
</tr>
<tr>
<td>Other</td>
<td>2,771</td>
<td>5.6</td>
</tr>
<tr>
<td>Grants and loans</td>
<td>12,150</td>
<td>24.6</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1,023</td>
<td>2.1</td>
</tr>
<tr>
<td>Total revenue</td>
<td>49,383</td>
<td>100.00</td>
</tr>
<tr>
<td>Total expenditures</td>
<td>57,622</td>
<td>116.7</td>
</tr>
<tr>
<td>Budget deficit</td>
<td>-8,239</td>
<td></td>
</tr>
</tbody>
</table>

most health care services are also low (particularly for curative services for government employees), and often there is no charge. The Ministry of Education has been looking more closely at the allocation of the cost of education at all levels among the central government, local governments, private providers, and students and their families, but has not yet made any recommendations. In the road sector, the diesel fuel tax and the motor vehicle license fee are currently earmarked for road maintenance, but revenue from these sources covers only about 60 percent of current maintenance expenditures, which is not enough to keep the roads from deteriorating. Sugarcane subsidies and subsidies for public transit are other issues on the table. Some of the subsidies to the SOEs are the result of overstaffing—these agencies have been a convenient place to warehouse unemployed persons with limited skills.

Public Employment and Wages

It is difficult to determine the precise number of public sector employees in Lafrasia because of the large number of temporary employees and the lack of adequate control over payroll and staff registries. Nevertheless, rough estimates suggest that the number is close to 1 million, excluding defense, education, and SOEs. This figure is about 2.5 percent of the entire population and 6 percent of those of working age. Inclusion of defense, education, and SOEs raises the number to about 1.8 million, or almost 11 percent of the working-age population. This figure is nearly 3 percentage points higher than the peer-country average. Much of the growth in public employment occurred in the period immediately following the shift to a democratic government in 1978, in an effort to build popular support for the new regime. For a
relatively poor country that is still largely rural and agricultural, the number of public employees is very high. Overstaffing is particularly great at the lower levels. Many public employees serve as part of the civil service perks given in lieu of wages—as drivers and household servants for high-ranking public officials, for example.

**Proposals for Reform**

There has been considerable pressure from the multilateral institutions and donor countries to reduce the wage bill, and it has fallen as a share of the budget, but most of the decline has been in wages rather than in number of employees. A 10 percent, across-the-board reduction in staff has been proposed, but opponents argue that this would leave some vital services (such as primary education, health centers, and agricultural extension) severely understaffed, while other sectors would still have redundant workers. A more selective reduction in staff would require better personnel records than are presently available.

**Skills and Training**

Many of the temporary employees are unskilled workers who were hired to reduce unemployment, but most of them have little productive work to do. They treat their low government salaries as a transfer payment, moonlight in the private sector, and are absent much of the time. The lack of supervision also makes it easy for government workers to hold a second job. There is a shortage of both managerial (accountants, economists, and public administrators) and technical skills (engineers, health sector workers, extension staff, and qualified teachers), coupled with a shortage of training facilities and programs within the country to help develop these skills. Many well-educated persons left the country during the period of military dictatorship, and conditions are not yet attractive enough to bring them back. In addition, the lack of adequate supplies and equipment (such as computers, typewriters, word processors, telecommunication equipment, and photocopiers) limits the effectiveness of even well-trained employees.

**Remuneration**

The problems of the civil service are exacerbated by a pay scale that has not been thoroughly overhauled since independence. Real wages have declined as nominal wages have failed to keep pace with inflation, and there has been an increase in the use of perks (such as housing, cars and drivers, and travel abroad) as a substitute for wage payments in higher-level appointments. Even allowing for perks, well-trained and educated individuals find opportunities in the private sector to be more attractive, which has led to high turnover and low employee morale. The average annual salary of a high-ranking public official is only 18,000 pesos (US$200 a month). Additional perks such as housing, cars, and drivers mitigate this problem somewhat, but salaries are still much too low to keep a bright, capable, educated person in public employment for any length of time. For lower-level employees,
the average salary is only about 3,000–9,000 pesos a year (about US$33–$100 a month), with few of the benefits enjoyed by high-level employees. Many of these lower-level public employees must supplement their salaries with other jobs in order to support their families. Under these circumstances, it is understandable that many civil servants treat their primary employment as a part-time job.

**Management Problems**

Public sector workers who deal with the general public have a reputation for indifference and ignorance in addressing all but the simplest concerns of the citizenry. One exception is the postal system, where a woman trained abroad has taken the initiative to train, encourage, and reward workers in a systematic fashion. Her success has been constrained by limited salary resources, but promotional efforts in selling commemorative stamps and special services have allowed her to generate and retain additional funds that have been used for bonuses to reward particularly productive and conscientious workers. As a result, her operation has much lower absenteeism and turnover rates than other government agencies, although it still suffers from a lack of adequate training facilities and resources. In general, it is difficult to bring the civil service under effective control because there is no centralized registry of employees that lists job descriptions and defines pay grades, no clear chain of command that would permit adequate supervision, and no evaluation system that would tie raises to performance. The government has been attempting to obtain a complete list of employees and the duties they perform; in the process, it has managed to reduce the public sector labor force by about 3 percent in the past two years. Clearly, much more work needs to be done to bring about an effective public sector system in Lafrasia.
In Lafrasia, 46 percent of GDP originates in agriculture, forestry, and fishing; 26 percent in industry (including mining); and 18 percent in services. The principal resource-based export products are cocoa, sugar, and tropical hardwoods. The overall structure of exports and imports is detailed in table 3-1.

### Agriculture

The economy of Lafrasia remains primarily based in agriculture. Agriculture, forestry, and fishing account for 46 percent of GDP and about 60 percent of total employment.

### Cocoa

Cocoa provides about 48 percent of total export earnings, and the export tax on cocoa is about 30 percent of central government tax revenue. Production costs for Lafrasian cocoa are among the lowest in the world. The export tax, however, cancels out this advantage for some of the marginal producers. An excellent export crop with relatively high profit margins, cocoa is nevertheless vulnerable to world

<table>
<thead>
<tr>
<th>Category</th>
<th>1988</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>30,397</td>
<td>39,516</td>
</tr>
<tr>
<td>Merchandise</td>
<td>28,386</td>
<td>37,429</td>
</tr>
<tr>
<td>Cocoa</td>
<td>13,533</td>
<td>18,796</td>
</tr>
<tr>
<td>Sugar</td>
<td>4,040</td>
<td>4,589</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>4,792</td>
<td>5,860</td>
</tr>
<tr>
<td>Tropical hardwoods</td>
<td>2,859</td>
<td>3,386</td>
</tr>
<tr>
<td>Other</td>
<td>3,163</td>
<td>4,798</td>
</tr>
<tr>
<td>Services</td>
<td>2,010</td>
<td>2,087</td>
</tr>
<tr>
<td>Imports</td>
<td>38,135</td>
<td>46,906</td>
</tr>
<tr>
<td>Merchandise</td>
<td>31,395</td>
<td>38,441</td>
</tr>
<tr>
<td>Food grains</td>
<td>9,295</td>
<td>10,380</td>
</tr>
<tr>
<td>Consumer goods</td>
<td>9,649</td>
<td>13,084</td>
</tr>
<tr>
<td>Capital goods</td>
<td>10,216</td>
<td>12,195</td>
</tr>
<tr>
<td>Other</td>
<td>2,235</td>
<td>2,782</td>
</tr>
<tr>
<td>Services</td>
<td>6,740</td>
<td>8,465</td>
</tr>
<tr>
<td>Current balance</td>
<td>-7,738</td>
<td>-7,390</td>
</tr>
<tr>
<td>Current balance as percentage of GDP</td>
<td>4.4</td>
<td>3.3</td>
</tr>
</tbody>
</table>
market conditions and unfavorable weather. Because it does not require a level
terrain, cocoa is also one of the few crops that can be grown in significant quantities
in the highlands, and there is adequate rainfall and groundwater to service the
crop. The production of cocoa for export, compared with many other agricultural
crops, does not require a significant amount of investment in agricultural technol-
ogy, irrigation, or electrification. Feeder roads and railway beds are in poor condi-
tion, however, and there is a need for both a better transport system to get the cocoa
to market and improved storage facilities near the port. There is also a need to plant
more trees and to provide better extension services, but because of the Agricultural
Ministry’s limited budget, it can neither fund much investment nor offer support
services for cocoa farmers.

Sugarcane

Sugarcane is the dominant crop in the central plains, but demand for this product
has faltered, and there is interest in developing other, more profitable, crops. Last
year refined sugar accounted for about 12 percent of export earnings. Growing cane
sugar for the world market has required substantial public investment in irrigation,
mechanized equipment, storage facilities, and transportation to the port city for
export. Years ago, the central government invested heavily in developing irrigation
systems for sugarcane; many are now badly in need of repair. With a glut in the
world sugar market, Lafrasia has been forced not only to exempt sugar from export
taxes, but also to subsidize sugar exports in order to dispose of surpluses.

Other Products

The relatively small but profitable tropical hardwoods industry contributes about 9
percent of export earnings. The industry is a heavy user of electricity, water, and
transport, and the heavy trucks are hard on the roads, especially the unpaved feeder
roads that run from the forest areas to the main highway that leads to the port.

The country is currently importing considerable amounts of food, including
maize, rice, oils, and processed foods. The Agricultural Ministry would like to en-
courage farmers to shift from sugarcane to grain production, especially to some of
the newer high-yield varieties, but it lacks the extension resources and agricultural
credit system needed to facilitate such a shift. The lack of technical staff and travel
funds for the extension services makes it very difficult to service farmers who are
interested in experimenting with new varieties and methods.

Priorities in Agriculture

Along with increased grain production, the Agricultural Ministry sees potentially
high returns on investment in the existing export-oriented industries. The cocoa
industry has the potential to develop additional processing and final product indus-
tries that would offer better-paying jobs and greater export earnings. Such de-
velopment, however, would require additional public spending on maintenance
and rehabilitation of roads and railway beds, as well as increased operating expen-
ditures for technical support. The cocoa industry also requires a program of immediate tree planting to sustain earnings in the future.

At present, the central government allocates only 828 million pesos, or about 2 percent of its budget, for all agricultural programs, despite agriculture's major role in GDP, exports, and employment. Principal expenditures in this sector are for subsidies for sugarcane, expansion of the irrigation network, agricultural research and extension, the cocoa tree planting program, and storage facilities. In operations and maintenance, agricultural extension and research workers have almost no supplies or travel funds, and the poor condition of feeder roads makes it difficult to get crops to market.

Industry

Two multinational firms have set up electronics assembly plants in Lafrasia in the past five years. Other large industries include textiles, automotive subassembly, chemicals, paper, bottled beverages, and cement (an SOE). The cement industry is losing money; subsidies cost the government about 150 million pesos a year. The cost of domestically produced cement is above the world price, and the subsidy, combined with a partially protected market, ensures the survival of the industry. There is a small and heavily protected bicycle manufacturing industry that primarily serves domestic needs. A foreign manufacturer recently established an electronics assembly plant in a newly created free-trade zone. Several small firms, mostly foreign-owned or joint ventures, process tropical hardwoods for sale in the industrial countries for use in upscale construction. The principal export industries are textiles, automobile parts, chemicals, and electronics (assembled locally from imported components).
4
The Social Sectors: Education and Health

Education

Public education receives about 16 percent of the central government operating budget and an unknown additional amount at the local level. Most local spending is for primary-school buildings or to supplement inadequate central government funding for supplies. The private sector plays a significant role in education at all levels. Table 4-1 shows the distribution of students among levels and between public and private institutions. In comparison, per pupil spending in the group of peer countries is US$2,218 for higher education, US$327 for secondary education, and US$243 for primary education. The share of private school students has increased, particularly at the primary and secondary levels. Ten years ago, private schools enrolled only about 17 percent of primary students and 25 percent of secondary students. The Education Ministry sees this shift to private schools as a response to overcrowding, unqualified teachers, and inadequate books and supplies in many public schools.

Education Spending

Overall spending on education in Lafrasia is low compared with other nations. Table 4-2 provides some basic data on central government spending for education by educational level. Local government figures for spending on school buildings and primary-school supplies are not included because of the lack of data.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of students ('000)</th>
<th>Percentage of enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postsecondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>115</td>
<td>2.0</td>
</tr>
<tr>
<td>Private</td>
<td>77</td>
<td>67</td>
</tr>
<tr>
<td>Secondary</td>
<td>687</td>
<td>14</td>
</tr>
<tr>
<td>Public</td>
<td>458</td>
<td>57</td>
</tr>
<tr>
<td>Private</td>
<td>229</td>
<td>43</td>
</tr>
<tr>
<td>Primary</td>
<td>4,800</td>
<td>81.8</td>
</tr>
<tr>
<td>Public</td>
<td>2,894</td>
<td>73</td>
</tr>
<tr>
<td>Private</td>
<td>1,106</td>
<td>27</td>
</tr>
<tr>
<td>Adult</td>
<td>126</td>
<td>2.2</td>
</tr>
<tr>
<td>All levels</td>
<td>5,728</td>
<td>100</td>
</tr>
<tr>
<td>Public</td>
<td>3,426</td>
<td>71</td>
</tr>
<tr>
<td>Private</td>
<td>1,376</td>
<td>29</td>
</tr>
</tbody>
</table>
Table 4-2. Distribution of Per Pupil Spending, 1988 Operating Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Per pupil spending (US$)</th>
<th>Percentage share of total spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postsecondary</td>
<td>3,287</td>
<td>27.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>525</td>
<td>26.3</td>
</tr>
<tr>
<td>Primary</td>
<td>143</td>
<td>45.1</td>
</tr>
<tr>
<td>Adult</td>
<td>43</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Higher Education

Only one secondary school graduate in six attends postsecondary school, yet higher education receives a disproportionate share of the budget. Admission tests are quite selective, and only students from the private schools and better public schools are likely to be admitted. Tuition is very low (75 pesos each quarter), and students receive boarding allowances that absorb a large share of the total budget. There is a great need for nurses, teachers, and trained managers in both the public and private sectors, but places in the universities are too limited to accommodate all the students who are academically qualified and would like to attend. Higher education lacks equipment and materials, particularly for scientific and technical programs.

In postsecondary vocational education, the situation is even worse. In each of the five provinces, there is a government-owned postsecondary vocational school. All of these schools, however, are understaffed, underfunded, overcrowded, and use inadequate and outdated equipment. Most technical and professional schools, however, are private and fairly expensive. Because most students at the public universities are enrolled in the social sciences rather than the scientific, technical, or management-oriented disciplines, these private institutions dominate the supply of selected specialized skills that are desperately needed in both the private and public sectors. In the five public universities, salaries for professors have been declining, and increasing numbers of administrators have limited funds for maintenance, materials, and laboratory equipment.

Secondary Education

Secondary schools (grades 8–12) are located only in the cities and the larger villages. Tuition is free, and students receive boarding allowances as in higher education, but again, there are not enough places to accommodate many of those who would like to attend. Admission is somewhat competitive, but students of wealthy families usually manage to be admitted. There are a number of secondary schools operated by religious groups and other nongovernmental organizations (NGOs) that provide opportunities for students from the provinces who cannot gain admission to the public secondary schools. Parents and community groups have to provide funds to equip students with learning materials. Many students from poor families drop out after primary school because their families cannot afford to contribute their share of the cost of materials. The data on secondary education are summarized in table 4-3.
Public Expenditure Analysis: A Case Study of Lafrasia

Table 4-3. Secondary Education Statistics, 1988

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of age group enrolled</td>
<td>22%</td>
</tr>
<tr>
<td>Public</td>
<td>12.5%</td>
</tr>
<tr>
<td>Private</td>
<td>9.5%</td>
</tr>
<tr>
<td>Spending on books, supplies, and laboratory equipment</td>
<td>US$3.33/student</td>
</tr>
<tr>
<td>Share of total central government operating expenses</td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td>54%</td>
</tr>
<tr>
<td>Boarding allowances</td>
<td>39%</td>
</tr>
<tr>
<td>Expenditure per pupil</td>
<td>US$525</td>
</tr>
</tbody>
</table>

Primary Education

Primary education is free, and there are primary schools in all but the very smallest villages. Virtually all young children enter primary school at age six, but only 40 percent complete the eight-year program. Many students repeat grades or show low educational attainment upon completion of the program. There are many poorly trained teachers, multiple shifts that give students short days, low reading readiness on the part of many entering students, and a lack of materials and textbooks. More and better qualified teachers, buildings, materials, and expanded preschool programs for disadvantaged children are desperately needed. Primary schools, generally overcrowded, are largely built and maintained by local governments with the assistance of community organizations and parents. These primary schools are chronically short of funds. While NGOs and parent groups have filled in some of the gaps in a number of communities, pressure on parents to provide support for the schools has increased the likelihood that students from poor families will drop out. With fierce competition to get into secondary schools, much effort is devoted to preparing the best students for entrance examinations in the later grades, to the neglect of less able students. Religious schools seem to do a better job of preparing students, including those who drop out at the end of primary school and those going on to higher education, primarily because these schools receive external donor assistance and strong parental support.

Adult Education

There is also a need for adult education programs to teach basic literacy, health, and farming techniques. Twenty-seven percent of the adult population is illiterate. Adult basic education is the responsibility of the central government, but funding for these programs is grossly inadequate. NGOs have filled in this gap in some areas, but a large population of adult illiterates is not being reached by any adult literacy program.

Health Care

In health care, important issues include providing services to the most remote villages and the appropriate allocation of resources between basic care (nutrition, im-
The Sociae Sectors: Education and Health

munization, maternal and child health, and the like) and more specialized secondary and tertiary services, including hospitalization and long-term care. There is also the issue of how to manage cost recovery while protecting access for the poor. Current subsidies tend to benefit the middle- and upper-income groups at the expense of basic services for the poor. The large cities have modern and well-equipped hospitals with limited capacity; hospital care is subsidized, but beds must be rationed. Some clinics provide basic health care, including prenatal and infant care in the villages and poor urban neighborhoods, but most lack supplies (basic medicines, vaccines, and routine emergency care equipment) and are severely understaffed.

Health Care Delivery

Like education, the health care sector has parallel private and public delivery systems. The private sector consists of two separate tracks: a commercial track, with high-quality specialists and general practitioners, that focuses on prosperous, fee-for-service patients; and programs funded by NGOs and external donors that concentrate on making basic preventive health care (nutrition, maternal and child health, birth control, and immunizations) available to people in the rural areas. The public sector provides most of the health care centers and hospitals. (There are two private hospitals, one in the capital city of Lafrasia and the other in Bahia Linda.) Many rural citizens live far from any kind of health center facility, and they must rely on traditional healers or be transported long distances to receive health care. In consequence, they receive little preventive care and are usually seen only in emergency situations.

Health Problems

The evidence of current and emerging health problems is not hard to find in Lafrasia, as indicated in table 1-1. The infant mortality rate is 8 percent, much higher than in most countries at Lafrasia's level of income. Three new mothers in 1,000 die during childbirth. About 10 percent of the adult population carries the HIV virus. Other diseases that can be controlled (such as diarrhea, malaria, and polio) remain endemic because of the lack of preventive care facilities, sanitation, clean water, and access to medicines. Less than 60 percent of infants receive any immunizations at all. Malnutrition, especially among female infants, pregnant women, and the elderly, is prevalent in urban slums and some of the poorer rural regions.

Composition of Expenditures

Table 4-4 provides comparative data on the allocation of health care expenditures. Spending on hospitals, primarily in support of curative services, is nearly 55 percent of the public health budget. Cost-effective interventions such as immunizations, prenatal care, and disease prevention are consistently underfunded. This has remained so, despite the presence of a parallel network of private, fee-for-service health care providers, which developed in response to the declining quality of pub-
Table 4-4. Health Care Expenditure Allocation

<table>
<thead>
<tr>
<th>Category</th>
<th>Lafrasia</th>
<th>Peer countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita spending (US$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital spending</td>
<td>3.07</td>
<td>1.88</td>
</tr>
<tr>
<td>Personnel</td>
<td>7.88</td>
<td>14.54</td>
</tr>
<tr>
<td>Supplies</td>
<td>1.69</td>
<td>3.62</td>
</tr>
<tr>
<td>Other</td>
<td>1.12</td>
<td>1.15</td>
</tr>
<tr>
<td>Share of spending (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital care</td>
<td>54</td>
<td>33</td>
</tr>
<tr>
<td>Preventive care</td>
<td>37</td>
<td>59</td>
</tr>
<tr>
<td>Other/unallowable</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

Public health care services. Thus, a system that initially shifted too many resources away from preventive care and low-income needs to curative services and high-income households now serves neither the rich nor the poor very effectively. In the area of capital spending, the health and higher education sectors are under pressure to build new facilities instead of maintaining and making better use of existing facilities.
State-Owned Enterprises

There are a number of public enterprises in Lafrasia. The three that receive the largest subsidies are electricity, water, and cement. (Cost recovery data on all SOEs is listed in table 2-4.)

Electricity

The state electricity enterprise receives a substantial subsidy in the central government budget, mainly for capital spending. Because tariff adjustments have lagged behind inflation, the electricity enterprise has recorded growing deficits in the past three years. While there has been political resistance to higher rates and some genuine concern about further exclusion of the poor from access to electric power, the managers of the electricity enterprise believe that higher rates are needed to slow the growth of consumption and avoid construction of high-cost new capacity. Nearly 35 percent of households, most of them in the major urban centers, have access to electric power. Higher rates would slow the spread of power to a larger share of households, which is a major goal of the current prime minister.

Water

The Lafrasian Water Commission (LWC) is in charge of overall water management and system construction and the management of treatment and large storage facilities. Irrigation for growing sugarcane and a few other crops is provided in two provinces by LWC. Cities and large villages buy treated water from LWC for distribution to the citizens, maintain the distribution system, and collect payments from users. Well and stream water supplies most of the small villages; standpipes connected to treated water are used in large villages and in poor neighborhoods in the cities. The central government gives only a moderate subsidy to wholesale operation, except for inadequate allowances for maintenance and repairs; losses are greater on LWC’s direct retail sales to large users (agricultural and industrial). Water that cannot be accounted for represents about 30 percent of total treated water volume. Losses are incurred by local governments because they cannot charge for communal wells and standpipes. Household water service with treated water costs about 12 pesos a month for an average urban household. The urban water systems are quite old, so water leaks have been increasing, and water pressure is low in many parts of the system. The irrigation system has also suffered from lack of maintenance.
The Cement Industry

The government took over the cement industry from several small and faltering private firms about ten years ago. Cement is an essential ingredient in the development of infrastructure of all kinds, so the government has undertaken to provide cement to its SOEs and private users at a subsidized price. Unlike electricity and water, this industry is not a public utility that may require a government subsidy to provide access for the poor and appropriate pricing. The cement industry employs about 8,000 workers in, or near, the various urban centers, all of whom are considered government employees. The industry is under the general supervision of the Commerce Ministry, which determines prices and attempts to control the total subsidy from the central government budget. The cement industry, however, is now losing about 30 million pesos a year. The financial statements reveal that the losses stem equally from the artificially low price of cement and inefficient management, which has permitted a higher ratio of workers to output than is to be found in private cement manufacturing in neighboring countries. Other SOEs, private contractors, and provincial governments are strongly opposed to reducing the price subsidy to cement.

External Transport Services

The public airport authority is doing quite well, but its accounts do not show a surplus. “Profits” are being reinvested in expansions and improvements at the international airport in the capital city of Lafrasia and the one domestic airport at Bahia Linda. The airport in the capital is relatively new; tourists and business travelers provide a steady flow of customers for its commercial enterprises, which pay a percentage of their gross receipts to the airport authority. Landing fees, parking charges, and license fees from taxi drivers make up the major revenue sources of the two airports, although the fee for each aircraft landing—US$25—is unusually low. There is some political pressure to develop regional airports for travel among the small cities. The port authority is showing a modest surplus from various fees and charges to ships, including a number of cruise ships that use the facility, and from commercial enterprises on the docks that pay a fee for their privileged location. The facilities are operating at close to capacity, however, and they are in need of considerable maintenance as well as expansion.

Internal Public Transport

The bus system charges extremely low rates on second-class buses, only about 2 pesos locally, and 15 pesos for trips as long as 100 miles between cities or provinces. The buses are old and inadequately maintained, and drivers are underpaid, but the system still requires a public subsidy. A rail line connects the capital with the coast and the neighboring country of Andaria; it offers limited passenger service and carries considerable freight. Passenger charges on rail are estimated to recover most
of the cost, although the majority of low-income passengers choose the buses because of the greater subsidy. Freight is heavily subsidized. Because of the limited rail mileage, the total rail subsidy is relatively modest, but much of the rolling stock is old and in need of replacement.

Other Public Enterprises

The postal service is running a modest deficit, mainly as a result of the “free” postal service provided to the central government. The telephone system charges fairly high rates and is only a modest drain on the public sector budget. The bulk of the charges are for capital investment, which is not adequately covered in the budget. Despite the low subsidy, however, the telephone service still receives considerable criticism because the rates are high, the service is poor, and only about 18 percent of the population (mainly upper-income urban households) have telephones in their homes.
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