

# TERANGA WEST AFRICA: BUILDING BUSINESS CONTROLS IN A DEVELOPING COUNTRY ENVIRONMENT

## CASE STUDY<sup>1</sup>

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### ABSTRACT

Teranga West Africa presents a subsidiary of a European company located in a region of the world that presents some unique opportunities and challenges for conducting business. This case can be used as an introduction to a discussion of differences in doing business in a developing country environment from those of a typical Western setting. It can also be used to develop a spreadsheet that tracks actual versus estimated planned and unplanned costs and their impact on rate of return. Ideally, this case can be used for both. The case is appropriate for any accounting or finance course that deals with Managerial and Cost Accounting concepts, in addition to International Accounting issues.

**Key words:** International Accounting, Cost Accounting, West Africa

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<sup>1</sup>This case study is based on an actual company. However the company name, the names of employees, financial data, and locations have been changed at the request of the company. The authors thank the executives of the company for their cooperation in preparing the case, and for their permission to modify and publish it.

Monsieur Pierre Boulanger, Director of Finance and Administration of Teranga West Africa, was engrossed in the subsidiary's accounts, attempting to understand where things had gone astray and seeking areas where costs might be trimmed back. After six months (January through June) of fiscal year 2007, Teranga West Africa results were below budget by about 10%. This had occasioned a sharp admonishment from divisional headquarters in Paris. Part of a fax to Monsieur Boulanger from Paris said, "...while we appreciate that political instability in some of your markets has affected revenue, we do of course expect you to take appropriate action to recoup any budget shortfall. Attaining budgeted profit this year will support our investment plans for West African market growth. By the end of next week please fax us an explanation of the corrective actions you are initiating."

As he continued to study the numbers on his spreadsheets, Pierre wished he had a competent assistant and understudy. The position was provided for in the budget, but despite having interviewed several candidates Pierre had yet to find a suitable person. This was one cost he certainly could not afford to eliminate. In light of his having interviewed several candidates, Pierre was considering revising the job description (see Exhibit 1) he had prepared the year before to support inclusion of the position in his budget. He was responsible, in accordance with Teranga's multinational policy, for appointing and developing a local national as his replacement. Pierre's tenure in his current position was not expected to extend longer than the next two years, by which time he should have developed a team of local nationals to run the treasury and accounting functions for Teranga West Africa.

#### **A Telephone Call - The News Doesn't Improve!**

The air conditioning in Pierre's office was clicking on and off intermittently as the power in Dakar suffered rolling "brown outs." A fly buzzed lazily around the office, a distracting annoyance. Then the phone on Pierre's desk rang, arousing him abruptly from his reverie. He immediately recognized the voice on the line. It was his Sales Service Manager, Bernard Brown, calling from the field location of one of their major service clients. He said, "I'm afraid I have a situation, Pierre. The heat and dust have caused our filters to fail. I have to break our cost budget big time to put this right before our reputation hits the skids. Just need your authorization before going ahead, but I know you will go along with what we have to do."

"Fill me in," said Pierre resignedly. Bernard went on, "We have no spare filters in stock. Our supplies have been held up on board ship in Dakar Harbor for two weeks now. I need to make a "special payment" to send someone out there on a skiff to get the filters off the ship, bring them ashore and past customs. Then I need to get a crew to work over the weekend to get the old filters out and the new ones installed. You know how difficult it is to get things done over weekends here;

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### **Exhibit 1**

#### **Job Requirements for Head Office Accountant**

1. Sound ability in financial reporting, general ledger and cost accounting.
  2. A good understanding of the construction of operating, capital and cash budgets.
  3. Ability to use spreadsheets, including constructing simple spreadsheet logics.
  4. Ability to communicate well in French and English.
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they all want to be with their families. But this weekend is worse than usual because there is a big football (soccer) match on and all my possible crew members want to be there to cheer on their team. I will have to pay them big time to get them to show up for work.”

“So how much are we talking about?” asked Pierre. Bernard responded, “North of €10,000; but I really need a blank check to be sure to get this done ASAP. You know how hidden costs can arise... you never know when payments have to be made to move things along.”

“OK,” said Pierre, “But this is the third year of a five year service contract, Bernard. Can we recover these costs over the last two years of the contract?”

“Not a problem,” replied Bernard. “In fact I am sure we will bring the costs for the last two years in well under budget because of the new filter technology we plan to introduce. This has worked well in Beta Sites in Scandinavia. I think you can count on costs during the last two years of the contract being at least €35,000 under the contract budget. So even if we break the bank this year we can count on costs being about €25,000 under budget, that is to say 35,000 minus the 10,000 overrun this year.”

“Dubious,” thought Pierre. But he replied, “OK, Bernard, but please, I must have a memo from you about the savings we expect over the next two years. Otherwise I can’t use the estimate in our accounts, and our year-end bonuses will depend on meeting this year’s budget. And you know Paris is keeping a keen eye on our profitability in terms of justifying our capital expansion plans.”

### **West Africa**

West Africa is a huge area with a considerable variety of bioregions and cultures and a hot, humid climate. Bordered to the West and South by the Atlantic Ocean, the northern border is the Sahara Desert. The eastern border is not precise, but is generally thought of as a line running roughly from Mount Cameroon to Lake Chad. The UN definition of West Africa includes 16 countries: Benin, Burkina Faso, Cape Verde, Ivory Coast, Gambia, Ghana (home country of Kofi Anan, the former Secretary General of the United Nations), Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. The Maghreb, an Arabic word meaning “the setting of the sun” (i.e. the west), is a region considered Northwestern Africa, comprising Morocco, Western Sahara, Algeria, Tunisia, and Libya. However, Mauritania is sometimes considered part of the Maghreb rather than part of West Africa, and its people are culturally more akin to those of the Maghreb. Oddly perhaps, Madagascar, a large island off the southeast coast of Africa, is usually considered part of West Africa’s political and economic confluence because of its long connection with France.

West Africa during its earlier history was subject to numerous conquests from the north, bringing with them Islam. The Arab conquest was ultimately halted in Nigeria, ironically by the tsetse fly. The bite of this fly is fatal to horses, and bereft of their fearsome cavalry the Arab armies of the Sokoto Caliphate, the last of the Arab conquerors, were stopped, literally, dead in their tracks. To this day, northern Nigeria is Muslim and the rest of the country is predominantly Christian.

In the fifteenth century Europeans began to settle West Africa. As early as 1445, the Portuguese began establishing trading posts on the coast, trading firearms for slaves, and introducing Christianity to the region. The slave trade flourished into the nineteenth century, by which time most European and North and South American countries passed legislation abolishing slavery (Great Britain began the process and Brazil, in 1888, was the last country to do so). During this period

Exhibit 2



France colonized a large part of West Africa (Senegal, Guinea, Mali, Burkina Faso, Benin, Ivory Coast, and Niger), while Britain controlled Gambia, Sierra Leone, Ghana, and Nigeria. Portugal founded Guinea-Bissau, and Germany controlled Togo until 1918, when that territory was divided between Britain and France. Only Liberia, founded by former slaves who returned from the United States to Africa, maintained its status as an independent country; and Liberia is also the only African country to have been led by a woman, Ellen Johnson-Sirleaf, elected to office in 2006, and affectionately known to her people as “Ma Ellen.” She is intent on building the country back to normalcy, with women playing an equal role, after ten years of civil war.

Following the Second World War, nationalist sentiments surged throughout West Africa. In 1957 Ghana, led by Kwame Nkrumah, became the first sub-Saharan colony to achieve independence, and by 1974 all the West African nations were independent. However, most have since been plagued by instability and corruption. Devastating civil wars, most notably in Nigeria, Ivory Coast, Sierra Leone, and Liberia, and recurring famine in Mali and Niger, have created tension and human misery in the area.

The various eras of West Africa’s history, overlaid on complex indigenous ethnic structures, have resulted in a profusion of cultures, and an ongoing tension between the Muslim and Christian

faiths. The countries are shaped by colonial boundaries rather than natural geographical or ethnic boundaries, and democratic institutions are at best fragile. Senegal prided itself on having the most robust functioning democracy; even so, as the country approached an election in early 2007, there had been strains on the democracy as reported in the Western press (see, for example, *The Washington Post*, February 25, 2007). One unifying passion throughout the region, however, was football (soccer), by far the most popular sport in West Africa. Indeed, the success of African national teams in World Cup competition was a source of considerable pride among the peoples of West Africa.

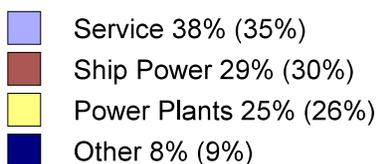
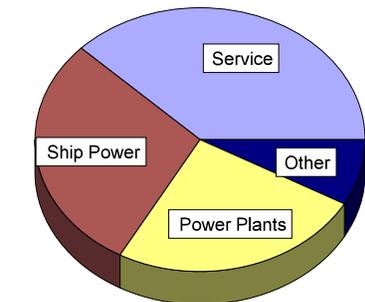
Despite cultural, religious, and ethnic complexity, the 1975 Treaty of Lagos created the Economic Community of West African States (ECOWAS) with the aim of cooperation and regional economic development, and the West African Monetary Union created a common currency - the CFA (franc de la Communauté Financière d’Afrique, or franc of the African Financial Community), linked to the Euro - among the seven francophone countries of West Africa and Madagascar. Entering the 21<sup>st</sup> century West Africa, despite its social and political challenges, was considered by many to be poised for economic growth, led by the development of natural resources, including oil, natural gas, and minerals. Teranga, in its corporate strategy, had singled out West Africa as one of its growth points, and had outlined a commitment in principle to invest in developing the West African market.

**Teranga**

Teranga Corporation was a global firm based in Northern Europe. The company was founded in the mid-1800’s, initially in the lumber and metal working industries. In the early 1900’s, the company produced its first diesel engine. By 1985, Teranga was listed on a major European stock exchange, and had subsidiaries operating in 60 countries. Its core business segments were marine engines and electric generating power plants (see Exhibit 3). As with companies in many other

**Exhibit 3**

Net Sales by Business Segment 2006 (2005)



industries, although the core products of marine engines and power plants were profitable, Teranga aimed to distinguish itself by providing long-term, total-solution service of existing installations. Service, comprising 38% of the parent company's global business, was the most profitable of the firm's business segments.

Africa had been identified as a potential market as early as the 1950's by Teranga's French subsidiary. From then until recently, Teranga had been represented by a local trading company, which sold Teranga's products throughout West Africa and Madagascar. In 1980 a subsidiary was established in Abidjan, capital of the Ivory Coast. By the mid-1990's Teranga had taken over the local trading company, and by the turn of the current century had expanded into Gabon (technically a Central African country bordering West Africa). Currently, Teranga West Africa operated power plants in 28 countries throughout Western and Central Africa and on the island of Madagascar. Its West African operations were headquartered in Dakar, the capital of Senegal.

Conducting business in sub-Saharan Africa provided a plethora of challenges. Many of the contracts Teranga negotiated were with governments which had limited funds, exhibited significant levels of corruption, and had immense bureaucracies. Further, finding management personnel in the region who were both reliable and trained in Western business practices was very challenging. Opportunities for training in the area of accounting were limited, and access to technology was not always available.

Despite this, in early 2007 Africa was identified by many of the world's development agencies as having the potential to be a major growth area for power plants, ship installations, and service. Several new power plant installations had been completed or were in construction in the region. There was an increase in the amount of technology involved in virtually all installations in both sectors, increasing the installed cost and thus the monetary value of the markets.

The intense heat, humidity, and dust typical of the region exacted their toll on machinery and electronic equipment, requiring additional maintenance and repair costs. West Africa had a reputation for poor maintenance procedures. Teranga saw this as an opportunity, believing that in order to ensure the proper continued efficiency of operations it had to mandate that all its power plant contracts include the provision for long-term maintenance as part of the deal. Service after installation was the key to continued customer satisfaction; and besides it provided superior profit margins compared with original installation contracts, where tough competition had driven down the margins.

### **Organization Structure**

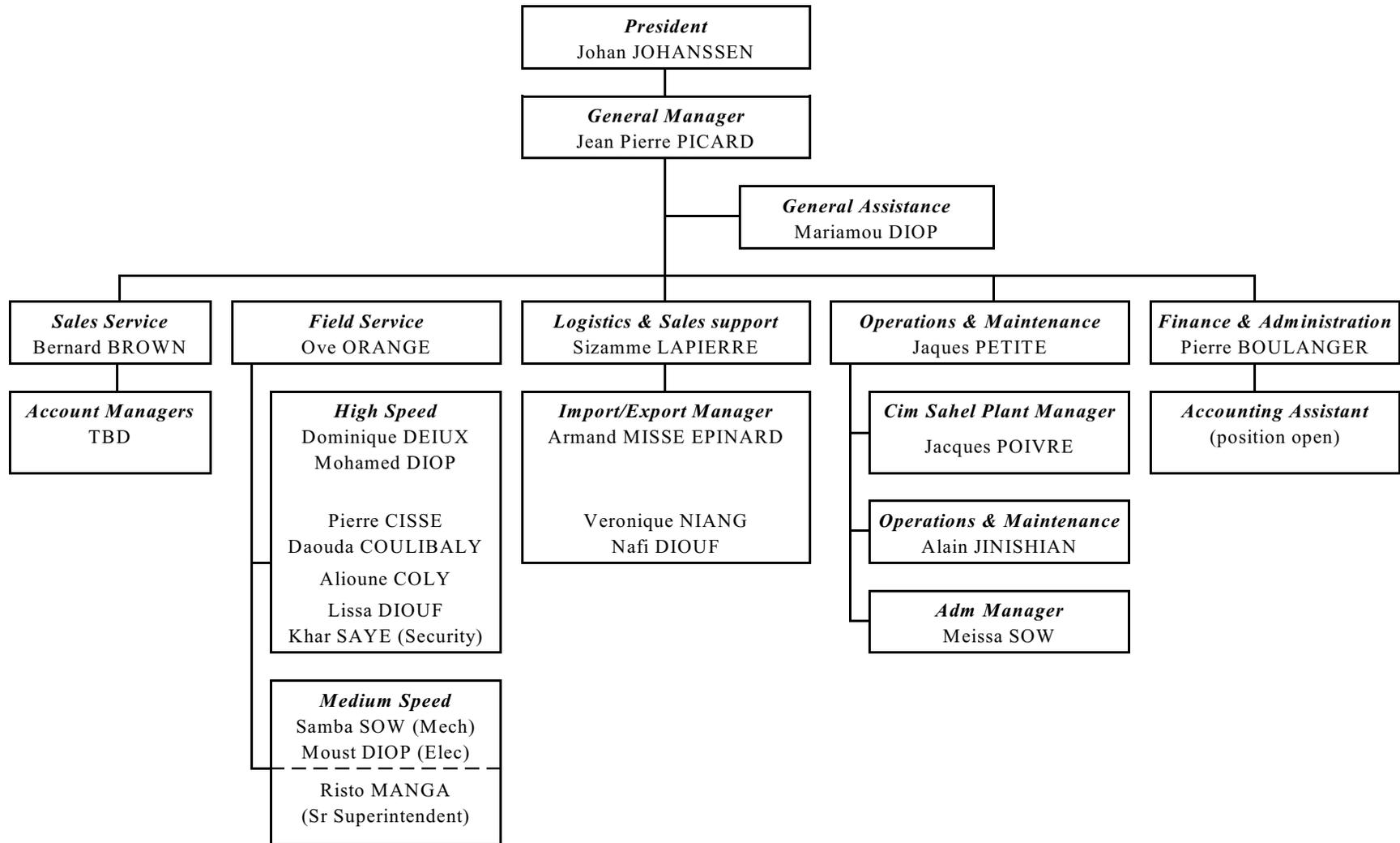
Teranga West Africa had its main office in Dakar, Senegal. It had two other key administrative centers, in Abidjan, Ivory Coast, and Libreville, Gabon. President Johan Johannsen, a Scandinavian national, had been in management with Teranga for twelve years, with previous experience in Asia and Europe. He had an MBA, was fluent in several languages, and had a firm grasp of the strategies necessary to operate on the African continent. Most of the other upper management was comprised of either Scandinavian or French nationals with experience in the Teranga organization or its subsidiaries. Exhibit 4 outlines the organizational structure of Teranga West Africa's administrative staff.

Several of the upper managers at the central offices in Dakar had added responsibility for management at Teranga West Africa's other centers at Abidjan and Libreville. For example, Bernard

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Exhibit 4

Organizational Chart



Brown, as well as being Sales Service Manager for the entire subsidiary based in Dakar, was also President of the Abidjan, Ivory Coast location (see Exhibit 5).

Due to the high cost of maintaining a management team comprised primarily of ex-patriot Europeans in West Africa, the company was eager to recruit qualified local management personnel. Besides reducing costs, this was seen as a strategy for solidifying and supporting the development of the countries in which the company did business.

### **The Finance and Administration Functions**

Pierre Boulanger had quite recently assumed the position of head of the finance and administration functions for West Africa, centralized in Dakar. The accounting system was still primarily paper-driven, with the requisite journals, ledgers, paper checks, and slow, non-integrated processes. This had proven to be a problem in terms of the ability to generate timely reports to management in West Africa and beyond. Efforts were being made to modernize and automate the finance function, albeit not at great speed. In addition, the local employees had limited knowledge of Western business or accounting practices, making coordination with parent company management in Paris difficult.

Teranga West Africa's external financial reporting was in the standard subsidiary format, based on International Financial Reporting Standards (IFRS). The reports prepared included an Income Statement, Statement of Financial Position, Statement of Cash Flows, and Equity Report, all denominated in Euros. Exhibit 6 summarizes the financial results for 2005 and 2006.

In order for Teranga West Africa to expand, especially in the key area of service, it was considered necessary that more sophisticated internal reporting systems be developed. With the amortization of long-term service contract costs needing to be tracked on a monthly basis against actual expenditures and progress, paper-based systems were too cumbersome to be effective. Competent employees in the finance function had to be found who could track these costs and provide timely reporting to upper management internally, to the central office in Dakar, and to the parent company in Paris. It was essential to find local employees with the training and skills to be able to develop and support systems that tracked costs of maintenance contracts in progress in order to manage and monitor the firm's profitability and growth. For example, someone was needed to

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### **EXHIBIT 6**

#### **Key Financial Ratios**

In 000's of Euros	<u>2005</u>	<u>2006</u>
Net sales	3,257.5	3466.0
Operational EBITA <sup>1</sup>	117	125.6
Operational EBIT	81.1	87.8
EBIT	184.6	177.9
Result before extraordinary items	178.4	170.4
Earnings per share, EUR	3.31	2.05

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<sup>1</sup> EBITA is the pre-tax operating profit before amortization of goodwill on consolidation. The figures for 2005 include a one-time profit on the sale of subsidiary shares.

manage what was internally described as the “business control” function. The responsibilities of such an individual would include the functions described briefly in Exhibit 7. However, as mentioned previously, Monsieur Boulanger was considering refining these descriptions to create a job description useful for recruiting finance personnel.

### **Internal Reporting for Service**

Internal reporting in Teranga West Africa, especially for management and control over service activities, was geared to planning and monitoring multi-year construction and service contracts. Service contracts for huge marine and electricity-generating engines involved a rigorous schedule of maintenance tasks (both planned and unplanned), as well as various repair activities. In most instances the timing of the maintenance activity involved amortization of these costs over several years. Upper management was constantly concerned with revisions of projected rates of return on these contracts, which could change significantly due to unscheduled maintenance and repair costs.

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### **Exhibit 7:**

#### **Teranga West Africa’s Business Control Functions**

- 1 To develop the activities within the Business Control function, hence maintenance and development of the same according to law, generally accepted bookkeeping practices, and total quality principles,
  - 2 To support and develop the unit and its main processes and personnel in financial and administrative matters,
  - 3 To give a true and fair view of Teranga’s financial situation to all interest groups,
  - 4 To coordinate the budgets of Teranga’s business segments,
  - 5 To coordinate the finance department of Teranga and the Business Control functions of other business areas within the parent company,
  - 6 To coordinate the Business Control functions within Business Area Service,
  - 7 To maintain and develop the cost accounting system,
  - 8 To reconcile internal accounting with external accounting,
  - 9 To develop and consolidate the budgets and reports to support the main processes of the parent company,
  - 10 To provide business analysis with adequate presentation material,
  - 11 To coach the organization to work in co-operative ways by utilizing Teranga’s knowledge, systems, and resources,
  - 12 To develop and maintain adequate internal controls.
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Teranga had developed a set of spreadsheets to track service activities on its installations and other contract service locations (see Exhibit 8). Regular maintenance (planned and unplanned) and other costs were recorded and tracked by various levels of management monthly. Large, long-term maintenance tasks were planned and their cost amortized over the length of the contract and actual costs were tracked against estimates, often requiring annual readjustment of projected rates of return. Without this amortization, it would be difficult to track progress and accrued costs of the contract and to project profitability. And from a financial reporting perspective, without proper amortization, financial information would not be in conformity with IFRS and the parent company's stock exchange regulations.

It had been difficult to recruit and retain local accounting professionals who had adequate training and technological proficiency to be able to design and implement such internal reporting mechanisms or to be able to track monthly costs, accruals, and adjustments to projected rates of return. Even the ability to create spreadsheets to track costs was not something that a locally trained accountant was typically capable of doing. Business and accounting education in Africa was well behind that of Europe and the United States, especially in the area of computer-based applications.

Suffolk University, whose main campus was situated on Beacon Hill in Boston, Massachusetts, had established a campus in Dakar during the 1990s (see [www.suffolk.edu/dakar](http://www.suffolk.edu/dakar)). Teranga West Africa's management had approached Suffolk's Dakar campus seeking help in finding entry-level accountants with professional training and computer skills sufficient to understanding its reporting system. Recruiting and training such individuals had been identified as a key to having the ability to manage the complex service commitments in the power plant industry throughout its customer base in Africa and provide management with the information needed to make strategic decisions. Professors at the Dakar campus were certain that recent graduates, originating from throughout the African continent, would have the training, skills, and aptitude to be able to handle these tasks.

As a test, Teranga West Africa presented Suffolk's upper level accounting students with a sample of its internal reporting spreadsheet and some sample transactions, following the circumstances described at the beginning of this case, to see if the students were able to conceptualize and complete the spreadsheet. While the example is considerably simplified compared with an actual spreadsheet developed and used by the company (see Exhibit 8), it nevertheless provided in outline form the general idea of the issues involved.

### **Accounting Assignment:**

Use the example below to create a simplified spreadsheet similar to that in Exhibit 7 (using years rather than months). Then follow the year-by-year activities to complete the assignment. Note that all amounts in the spreadsheet are in thousands of Euros.

Bernard Brown had negotiated the five-year service contract referred to in the case. Based on past experience with a type of electricity generating facility such as this one, he had estimated the various components of costs associated with providing adequate planned and unplanned maintenance and supporting costs. The utility company agreed to pay 500 Euros over five years, as per the simplified example:

<b>Exhibit 8</b>					
<b>Sample Format of Teranga Internal Reporting Worksheet</b>					
<b>INCOME STATEMENT</b>	<u>Jan 2006</u>	<u>Feb 2006</u>	<u>Mar 2006</u>	<u>Apr 2006</u>	<u>May 2006</u>
21500 GENERATED TRADE VOLUME	0	0	0	0	0
<b>NET SALES</b>					
21800 External	0	0	0	0	0
21801 Bonuses, external	0	0	0	0	0
21821 Teranga Group Companies	0	0	0	0	0
<b>21900 TOTAL NET SALES</b>	0	0	0	0	0
<b>COST OF SALES</b>					
<b><u>Planned Maintenance</u></b>					
22701 Engine (Spare Parts)	0	0	0	0	0
22704 General Maintenance	0	0	0	0	0
22705 Maintenance salaries	0	0	0	0	0
22707 Subcontractors external	0	0	0	0	0
22708 Travel	0	0	0	0	0
<b>Total Planned Maintenance</b>	0	0	0	0	0
<b><u>Unplanned/forced Maintenance</u></b>					
22801 Engine (Spare Parts)	0	0	0	0	0
22805 Maintenance salaries	0	0	0	0	0
22806 Subcontractors intragroup	0	0	0	0	0
22807 Subcontractors external	0	0	0	0	0
22808 Travel	0	0	0	0	0
22812 Warranty related costs	0	0	0	0	0
<b>Total Unplanned/forced Maintenance</b>	0	0	0	0	0
<b><u>Operation related costs</u></b>					
22901 Lube Oil Engine	0	0	0	0	0
22902 Chemicals	0	0	0	0	0
22903 Operation salaries and wages	0	0	0	0	0
22904 Other operation related costs	0	0	0	0	0
<b>Total Operation related costs</b>	0	0	0	0	0
<b><u>Administrative Costs</u></b>					
22910 Mgmt and admin. Salaries	0	0	0	0	0
22911 Training costs	0	0	0	0	0
22914 Other administrative costs	0	0	0	0	0
<b>Total Administrative Costs</b>	0	0	0	0	0
<b>COST OF SALES</b>	0	0	0	0	0
<b>22760 MARGIN BEFORE ACCRUAL AND PENALTIES</b>	0	0	0	0	0
22990 Change in Accrual Balance	0	0	0	0	0
<b>TOTAL COST OF SALES</b>	0	0	0	0	0
<b>23950 MARGIN AFTER ACCRUALS AND PENALTIES</b>	0	0	0	0	0
22995 OM other costs	0	0	0	0	0
22996 Depreciation and Fixed Assets	0	0	0	0	0
22997 Net Financial Items	0	0	0	0	0
<b>OPERATING PROFIT</b>	0	0	0	0	0

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**Contract calculation made by Bernard Brown**

	<u>Year</u>					<b>CONTRACT TOTAL</b>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Sales	20	120	120	120	120	500
Planned maintenance	0	-7	-70	-15	-45	-137
Unplanned maintenance	0	-2	-2	-2	-2	-8
Operation cost	-1	-55	-55	-55	-55	-221
Administration cost	-10	-25	-25	-25	-25	-110
Result	9	31	-32	23	-7	24
<i>Return %</i>	<i>45.0%</i>	<i>25.8%</i>	<i>-26.7%</i>	<i>19.2%</i>	<i>-5.8%</i>	<i>4.8%</i>

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The 4.8% net income rate from this contract was considered an acceptable rate of return for Teranga. You are first asked to set up the annualized budget for the duration of the five year contract.<sup>2</sup> In order to account for large planned maintenance costs in future years and show consistency of profitability for this contract throughout its life, you must either accrue or defer costs each year to maintain the annual returns of 4.8%. To assist you in this task the first year of the five year contract is entered below:

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**Contract five year budget**

	<u>Year</u>					<b>CONTRACT TOTAL</b>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Sales	20	120	120	120	120	500
Planned maintenance	0	-7	-70	-15	-45	-137
Unplanned maintenance	0	-2	-2	-2	-2	-8
Operation cost	-1	-55	-55	-55	-55	-221
Administration cost	-10	-25	-25	-25	-25	-110
Preliminary result	9	31	-32	23	-7	24
<i>Result %</i>	<i>45.0%</i>	<i>25.8%</i>	<i>-26.7%</i>	<i>19.2%</i>	<i>-5.8%</i>	<i>4.8%</i>
Accrued/deferred	-8					
Adjusted result	1					
<i>Return after adjustment %</i>	<i>4.8%</i>					

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During the first two years of the contract the actual results were as follows:

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<sup>2</sup> Round numbers to one decimal place.

**1<sup>st</sup> and 2<sup>nd</sup> Year Results**

	<u>Year 1</u>	<u>Year 2</u>
Sales	20	120
Planned Maintenance	0	8
Unplanned Maintenance	0	3
Operating Cost	1	56
Administration Cost	10	25

You are required to show the results that would be reported for the first two years, and the revised projections to the end of the contract. The first year has been entered into the spreadsheet below. (Note that for the first year, actual results are the same as those on the budget.) Be clear as to your assumptions as you complete the spreadsheet.

	<u>ACTUAL</u>		<u>PROJECTED</u>			<u>CONTRACT</u>
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
Sales	20	120				
Planned maintenance	0	-8				
Unplanned maintenance	0	-3				
Operation cost	-1	-56				
Administration cost	-10	-25				
Preliminary result	9	28				
<i>Result %</i>	<i>45.0%</i>					
Accrued/deferred	-8					
Adjusted result	1					
<i>Return after adjustment %</i>	<i>4.8%</i>					

At the end of the third year, the year in progress in which the events described in the case took place, the actual results were as follows:

**3<sup>rd</sup> Year Results**

Sales	120
Planned Maintenance	70
Unplanned Maintenance	14
Operating Cost	55
Administration Cost	25

Complete a projection of the full five years (actual results for years 1-3 and projections for years 4 and 5) of the contract under two scenarios: (a) €35,000 of savings in planned maintenance costs are realized in Year 5, as promised by Bernard Brown; and (b) no savings in planned maintenance costs are realized.

**(a) Assuming savings of € 35,000 in planned maintenance**

	<u>ACTUAL</u>			<u>PROJECTED</u>		<u>CONTRACT</u>
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
Sales	20	120	120			
Planned maintenance	0	-8	-70			
Unplanned	0	-3	-14			
Operation cost	-1	-56	-55			
Administration cost	-10	-25	-25			
Preliminary result	9	28	23			
<i>Result %</i>	<i>45.0%</i>					

**(b) Assuming no savings in planned maintenance**

	<u>ACTUAL</u>			<u>PROJECTED</u>		<u>CONTRACT</u>
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>TOTAL</u>
Sales	20	120	120			
Planned maintenance	0	-8	-70			
Unplanned	0	-3	-14			
Operation cost	-1	-56	-55			
Administration cost	-10	-25	-25			
Preliminary result	9	28	23			
<i>Result %</i>	<i>45.0%</i>					

**Questions:**

- From the case, from outside sources, and from what you know about Africa, describe some of the differences in doing business there compared to your country. Address political, social, cultural, religious, environmental, or any other relevant issues.
- Why are long-term maintenance contracts so integral to Teranga's success in West Africa?
- Review the list of "business control" functions described in Exhibit 7. How do these compare with those of an American or European company?
- Consider the internal control issues entailed in the situations described in the case, and list mechanisms for implementing proper internal control.
- What skills and training would someone who is being considered for the finance department of Teranga West Africa need? Is the job description in Exhibit 7 adequate? If not, what would you add? Write a job description for an entry-level accountant for Teranga. More generally, write a job description for Monsieur Boulanger's replacement.
- Write a draft of the memo that Pierre Boulanger requested from Bernard Brown to support the expected reduction of € 35,000 in future maintenance costs.
- Why is it important to make revised rate of return calculations each period for these maintenance contracts? How would this affect decisions and actions the company might make?

8. If you were in Monsieur Boulanger's position, how would you account for the contract in the case at the end of the third year? Explain the factors you would take into consideration in arriving at your decision.
9. Would this method of accounting for long-term projects be acceptable for financial reporting under IFRS? Or would it only be appropriate for internal reporting purposes?

**Glossary of Terms:**

**Sales:** Sales of produced electricity delivered to Client.

**Planned maintenance:** Costs for scheduled maintenance (spare parts, labor, other) according to maintenance schedule of the power plant. This schedule is predetermined at the engine factory and is engine type specific. In other words, it is the engine manufacturer's recommended maintenance to be done at specific intervals.

**Unplanned maintenance:** Costs for unplanned maintenance (spare parts, labor, other) are costs that occur to remedy any failure that occurs, such as a part is worn or broken before the normal time of replacement. It is costs for unexpected problems or breakdowns.

**Operation cost:** Operation cost is cost for plant operating personnel, salary, and other costs related to the operating personnel of the plant.

**Administration cost:** Costs for the management, bookkeeping, warehousing, security, etc. related to the support functions.

**Result:** Sales minus all above cost categories.

**Return %:** Result divided by Sales.

**TEACHING NOTES**

Teaching notes are available from the editor. Send a request from the "For Contributors" page of the journal website, <http://gpae.bryant.edu>.