IAE 41 and Latex Harvest in Cambodia

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ABSTRACT

IFRS is increasingly required in developing economies. Among these countries, agriculture is typically a key component of the economy.

This study investigates how the International Financial Reporting Standard (IFRS) on agriculture, International Accounting Standard (IAS) 41, is applied to the primary agricultural produce in the rubber industry, latex. The scope of the study was limited to rubber producers that also conduct post-harvest processing in a developing economy, Cambodia. Cambodia is a country in Southeast Asia that requires compliance with either International Financial Reporting Standards (IFRS) or IFRS for SMEs. For this study, accounting practices were learned through interviews and phone surveys with accountants, finance directors and other representatives of 45 rubber producers in Cambodia. It was found that despite legal requirements to apply either IFRS or IFRS for SMEs, none of the Cambodian industrial rubber producers with processing facilities complied with either set of standards. Instead, Cambodian rubber producers continue to account for their agricultural produce, latex, at historical cost.

This paper begins with an overview of the rubber industry in Cambodia and the accounting regulatory framework that applies in Cambodia. Next, the requirements of IAS 41 Agriculture as applied to latex harvest are reviewed. Following this, the findings are briefly discussed. This paper ends with a review of how the rubber producers might present agricultural produce the fair value gains and losses related to agricultural produce in their financial statements in accordance with IFRS.
INTRODUCTION

IFRS are increasingly being adopted by countries throughout the world. As of 2016, there were 119 countries that required IFRS for most or all listed companies and financial institutions (Pacter, 2016). However, this widespread formal adoption of an international standard belies a diversity in the application of IFRS in practice (Pacter, 2014). Moreover, a number of studies show that for developing countries, even though the jurisdiction adopts IFRS, there is widespread non-compliance and difficulty in applying IFRS (Barnett, 2016; Uyar, A., M. Kilic, B. Gokcen, 2016; Albu, 2012; Trabelsi, 2016; Kihuma Ndung’u, 2012; Maina, 2010). This study seeks to take a closer look at IFRS compliance in one jurisdiction, Cambodia, for a major agricultural product, natural rubber, at the point of harvest.

The rubber industry has been identified by the government of Cambodia as an industry for promotion and development. Key national development plans, the 2013 Rectangular Strategy Phase III and the National Development Plan 2014-2018, give explicit support to development of the rubber industry (Royal Government of Cambodia, 2015; Royal Government of Cambodia, 2014). However, the government strategy to develop the rubber industry is at risk in the face of dramatic price declines. Rubber prices dropped from $2.50 per pound in January 2011 to $0.99 per pound in May 2017 (Singapore Commodity Exchange, 2017).

In order for local rubber producers to survive and increase profitability and in order for the government to reevaluate its strategy of promoting the rubber industry, it is necessary to have data on the financial performance of the industry. Accurate measures of financial performance such as those provided by IFRS should help investors and stakeholders determine whether the returns justify the resources invested. Moreover, accurate financial data will assist investors and management in identifying means of improving efficiency and profits. Compliance with International Accounting Standard 41 Agriculture is expected to improve the relevance of financial data (International Accounting Standards Board, 2017d; Huffman, 2014). Unfortunately, previous research has shown widespread non-compliance with the international financial reporting standards required in Cambodia (Barnett, 2016). This study looks at how rubber companies in Cambodia comply with one aspect of financial reporting, accounting for its agricultural produce, latex.
METHODOLOGY

This study targeted the entire population of rubber producers in Cambodia that conduct post-harvest processing; that is, the study targeted rubber producers that both harvest latex and also process the latex in a factory. 105 such producers were identified through reference to both a 2017 directory compiled by the General Directorate of Rubber of the Cambodian Ministry of Agriculture and also the online Yellow Pages business directory. While the directory of the General Directorate listed 115 factories, 15 were found to be not operating. An additional 5 factories were identified in the Yellow Pages listing, bringing the total factories in Cambodia identified to 105.

Of the 105 producers, the accountants or representatives of 45 companies agreed to disclose their method of accounting for rubber inventories. Of the 45 companies, five were interviewed in person and 40 were surveyed by telephone. Additional interviews were also conducted with a government official from the General Directorate of Rubber, two factory managers, a factory owner, and the accountant of a non-processing plantation.

For purposes of discussion as to how rubber producers may present fair value gains in the financial statements in accordance with IAS 41, this study refers to the requirements of IAS 41 and published financial statements of agricultural companies listed in Australia, South Africa, and Canada.

CAMBODIAN RUBBER INDUSTRY

Rubber production in Cambodia is dominated by private companies which acquired or received concessions to what were formerly government owned plantations. These private companies enjoyed a boom from 2009 to 2012 when the price of rubber and other commodities rose dramatically. During that time, there was significant expansion of plantation coverage (Royal Government of Cambodia, 2014). However, since 2012, the price of rubber has dropped dramatically and some rubber companies are questioning their ability to continue operating. The drop in prices is due to a variety of factors including the economic slowdown in China (General Directorate of Rubber, 2016).

Despite lower returns on investment in rubber, the rubber industry has remained a priority for development by the government. As of 2016, there were approximately 347,000 hectares under cultivation compared to 2006 when there was only 63,000 hectares (General Directorate of Rubber, 2016; Dararath, Y., N. Top, L. Vuthy, 2011). Consequently, export value of rubber has increased from $40.7 million in 2007 to $150 million in 2015 (Royal Government of Cambodia, 2014; Sothear, K., 2016). Nevertheless, Cambodian rubber still remains a small fraction of natural rubber production, accounting for only 0.4% of global output (Ministry of Commerce, 2012).
Nearly 100% of rubber produced in Cambodia is exported, with 60% to Vietnam, 20% to China, 10% to Malaysia, and the remaining amount to various other countries (General Directorate of Rubber, 2016). Because of its small supply, Cambodia is a price taker, forced to accept prices determined by global markets. Furthermore, Cambodian rubber is considered of lower quality and the international market pays 10-20% less for Cambodian rubber (Hang, 2009).

Rubber production in Cambodia not only suffers from low international rubber prices, but is also a high cost of operating in Cambodia. Rubber producers in Cambodia are paying 2-5 times more for electricity than rubber producers in other countries (Hang, 2009). Thus, facing relatively higher production cost and lower prices, the Cambodian rubber industry is under pressure to improve efficiency to be competitive. For efficient management, accurate and meaningful financial information is essential.

CAMBODIAN FINANCIAL REPORTING STANDARDS

In Cambodia, the current Law on Accounting and its predecessor the Law on Corporate Accounts, Their Audit and the Accounting Professions designate the National Accounting Council of Cambodia as the accounting standard setter (Law on Accounting and Auditing, 2016). As determined by these laws, accounting standards are set by the National Accounting Council, but only become effective with a ministerial decree issued by the Minister of the Ministry of Economy and Finance (Law on Accounting and Auditing, 2016).

From its inception in 2002, the National Accounting Council of Cambodia has encouraged use of IFRS. The National Accounting Council initially implemented only a selection of IFRS, but a 2009 ministerial decree required full compliance with IFRS, with a compliance date determined by the National Accounting Council (Ministry of Economy and Finance, 2009). The ministerial decree adopted full IFRS, but for reasons of sovereignty, renamed the standards Cambodian International Financial Reporting Standards (CIFRS). The National Accounting Council, subsequently issued an notification in August 2009, requiring full compliance with either CIFRS (IFRS) or CIFRS for SMEs (IFRS for SMEs) for periods beginning 1 January 2012 (National Accounting Council, 2009).

However, these standards only apply to companies that meet certain thresholds as set out in an earlier 2007 ministerial decree, Ministerial Decree on Obligation of Submission of Financial Statements. The standards apply to companies meeting two out of the following three criteria:

1. Annual turnover of 3,000,000,000 riels (approximately USD 750,000)
2. Assets of 2,000,000,000 riels (approximately USD 500,000)
3. An annual average of 100 or more employees

(Ministry of Economy and Finance, Article 2, 2007)
Additionally, all companies that are a qualified investment project registered with the government Council for the Development of Cambodia are required to follow CIFRS or CIFRS for SMEs regardless of the criteria above (Ministry of Economy and Finance, 2007).

**IFRS REQUIREMENTS FOR ACCOUNTING FOR LATEX**

In IFRS, IAS 41 *Agriculture* is the standard that applies to biological assets and agricultural produce related to agricultural activity. IFRS defines a biological asset as “a living animal or plant” and defines agricultural produce as the harvested product of the biological asset (International Accounting Standards Board, paragraph 5, 2017c).

For rubber plantations, the living trees are the biological asset and the non-processed latex is the agricultural produce. IAS 41 even provides a specific reference to rubber trees as a biological asset and harvested latex as the agricultural produce (International Accounting Standards Board, paragraph 4, 2017c). However, IAS 41 exempts the trees from fair value accounting as bearer plants. IAS 41 paragraph 2 specifically says that IAS 41 does not apply to bearer plants, plants such as rubber trees that provide produce over more than one period. Instead, the rubber trees are accounted for under IAS 16 Property, Plant and Equipment (International Accounting Standards Board, paragraphs 2, 5, 2017c).

In IFRS, agricultural produce such as latex is measured at fair value when harvested, “Agricultural produce harvested from an entity’s biological assets shall be measured at its fair value less costs to sell at the point of harvest” (International Accounting Standards Board, paragraph 13, 2017c). Fair value in IFRS is “the price that would be received to sell an asset… in an orderly transaction between market participants” (International Accounting Standards Board, paragraph 9, 2017b).

When measuring the agricultural produce to fair value at the point of harvest, there will be a measurement gain or loss. However, unharvested latex will not have been previously recognized due to the inability to reliably measure the latex as it sits in the bark of the tree (Fletcher, P., 2015; Malaysian Accounting Standards Board, 2013). This means that there is a gain on initial recognition of latex at the point of harvest. Under IFRS, the gain on recognizing the harvested latex is recorded as income. As IAS 41 requires, “A gain or loss arising on initial recognition of agricultural produce at fair value less costs to sell shall be included in profit or loss for the period in which it arises” (International Accounting Standards Board, paragraph 28, 2017c).

After being harvested and measured at fair value less cost to sell, IFRS accounts for latex as inventory under IAS 2 Inventories (International Accounting Standards Board, paragraph 3, 2017c). The latex’s fair value less cost to sell becomes the initial cost of the inventory. This cost will rise as processing costs are added to the inventory cost. IAS 2 requires that inventory be recorded at cost, with cost including all costs to get inventory to the present location and condition (International Accounting Standards Board, paragraph 10,
2017a). For rubber plantations, this means all normal processing costs, including labor, chemicals, fuel, and depreciation, will be added to cost. However, in IFRS, the cost of inventory cannot be greater than its net realizable value (International Accounting Standards Board, paragraph 9, 2017a).

**FINDINGS: CAMBODIAN RUBBER COMPANY ACCOUNTING FOR LATEX**

Through in-person interviews and telephone surveys, it was found that none of the 45 rubber producers participating in this study applied IAS 41 Agriculture. It should be noted that since only 105 rubber companies with processing activities were identified in the entire country, 45 represents a significant proportion.

Most companies used their own legacy accounting policies and practices, accounting for their rubber at cost. 37 companies used a measure of historical cost, but 8 companies, mainly smaller family run producers, reported not attempting to calculate the historical cost.

For producers recording the cost of inventory, the inventory accounting unit is the factory output, which is a variety of processed rubber such as crepe, rubber smoked sheets or technically specified rubber. There are no accounting entries for harvested raw latex or work-in-progress. However, there is a purchase record for latex purchased from other growers. For inventories, the companies only record a value for their respective salable final product.

These rubber companies calculate the inventory cost of a ton of final product following variations of the following formula:

\[
\text{Cost of one ton of processed rubber} = \frac{\text{All costs for the month excluding capitalised costs related to new trees}}{\text{Tons of output in the month}}
\]

In using the formula above, the companies did not report any distinction between normal costs and abnormal costs. All costs, except for capitalised costs, are included in inventory. This means that during months of high output and high efficiency, the cost per ton is low, while in months of low output, the cost per ton is high, even more than $1,000,000 in the case of one company.

The inventory cost as determined by a variation of the formula above is recorded in inventory, which is carried forward from month to month until it is sold. Once the inventory is sold, it is recorded as an expense. Sales are periodic and opportunistic, with companies commonly reporting sales 2-5 times per year when agreements with buyers are made.
While the inventory is in stock awaiting sale, companies do not practice write-downs of inventory value, even though the market price may have declined. Thus, the cost of inventory remains the same until sold. Despite the emphasis on cost for accounting purposes, the managers and business owners reported actively monitoring and making decisions based on the market value of their inventory.

**POTENTIAL ADVANTAGES OF SWITCHING TO IFRS**

Inventory values and measures of profit or loss are meant to help management and investors make decisions about use of resources, budgeting, and pricing. Unfortunately, the historical cost approach has a number of weaknesses that can be addressed by applying the fair value measurement in IAS 41. Three such weaknesses are:

2. **Historical cost inventory value does not reflect the true value:** The current practice of Cambodian rubber producers records inventory significantly above or below the fair market value. Inventory can be extremely over-valued in periods of low production. Because of this, the accounting value of inventory is not useful in forecasting cash flows or decision making; managers and investors instead make their cash flow projections and decisions using market prices and disregard the accounting information.

3. **Historical cost accounting does not distinguish between gains earned by changes in market values and gains earned by value-added production:** With the current historical cost approach used by Cambodian producers, profit is reported as the difference between the selling price and the total amount of costs, excluding planting costs. This profit combines the gain of the agricultural production of latex and the additional value-added gain from processing the latex. Therefore, it may not be clear to investors or managers how much value is being added by the production process. This may adversely affect the timeliness or effectiveness of decision regarding processing or investment in processing.

4. **Historical cost accounting does not comply with law:** Cambodia law requires companies to follow either CIFRS or CIFRS for SMEs. The current accounting practice does not follow either of these standards.

**POTENTIAL DISADVANTAGES OF IFRS**

There are disadvantages to switching to IFRS. First, there is the risk that the benefits of management efficiency from the additional information do not outweigh the time and cost of changing existing accounting methods. As the cost method used by rubber producers provides a verifiable standard for recording transactions and presents a measure of profitability, investors may feel that this is sufficient for their purposes. Second, there may be a loss of comparability with previous years’ financial information. Third, if company financial accountants are not familiar with IFRS, they may need to incur the cost of advisors and consultants to help establish the procedures of recording and presenting IFRS compliant information.
APPLYING IAS 41 TO LATEX HARVEST

Fair value of harvested latex

In accordance with IAS 41, agricultural produce such as latex is recorded at fair value less estimated costs to sell at the point of harvest. Any fair value gain is recorded as income in the statement of profit or loss. The fair value less estimated costs to sell is measured immediately after harvest. IAS 41 states that increases in fair value due to the act of harvesting are captured by fair value at the point of harvest. IAS 41 paragraph 29 states “A gain or loss may arise on initial recognition of agricultural produce as a result of harvesting” (International Accounting Standards Board, paragraph 29, 2017c). Thus, harvesting costs may be expensed as incurred.

IFRS allows fair value gains of agricultural produce to be measured gross or net of growing costs. If a rubber producer choose to present gains gross of growing costs, the journal entries for expenses related to depreciation of capitalised bearer plant costs, tending of trees, and harvesting would be recorded as follows:

$'000 $'000
Dr Expense 500
Cr Accumulated Depreciation/Cash/Payables 500

A journal entry for the recognition of harvested latex would be recorded as follows:

$'000 $'000
Dr Inventory 500
Cr Fair Value Gain on Recognition of Agricultural Produce 500

To assist in determining the fair value less costs to sell of the harvested latex, Cambodian rubber companies may consider market prices reported in the monthly market price bulletin posted online by the General Directorate of Rubber. The monthly bulletin shows monthly and weekly prices in Cambodia for both dry and liquid latex by province.

Inventory Value After Harvest

After the point of harvest, the accounting for latex falls under IAS 2 Inventories. Thus, all costs related to processing such as chemicals, worker wages, fuel, and depreciation, will be added to the cost of the inventory. However, Cambodian rubber producers will need to keep in mind that abnormal costs and costs not related to production will need to be expensed and not added to the cost of inventory. For example, if in a given
month the factory is working at 20% of its normal full capacity, it may be appropriate to only include 20% of factory costs in the value of inventory; the excess 80% would be expensed.

**Presentation in the Statement of Profit or Loss**

The fair value gains on initial recognition of the agricultural produce are recognized as income, but are not revenue. Revenue is presented separately. Also, as per IAS 1, the statement of profit or loss can be presented with expenses categorized by function or nature. A functional presentation of gross fair value gains is as follows:

<table>
<thead>
<tr>
<th>$'000</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>X</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(X)</td>
</tr>
<tr>
<td>FV gain on harvest of latex</td>
<td>X</td>
</tr>
<tr>
<td>Plantation and harvest costs</td>
<td>(X)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>X</td>
</tr>
<tr>
<td>Administrative expenses</td>
<td>(X)</td>
</tr>
<tr>
<td>Finance costs</td>
<td>(X)</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>X</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>(X)</td>
</tr>
<tr>
<td>Profit for the year</td>
<td>X</td>
</tr>
</tbody>
</table>

In this way, the value added from processing is shown as gross profit and the gain from harvest of latex is shown as a fair value gain. This presentation follows the expense by function approach. This presentation is used by a number of publicly listed agricultural companies, including Australian Agricultural Company, New Zealand King Salmon, and Canopy Growth Corporation of Canada. In such a presentation, rubber companies may present additional lines of expense or income as relevant and useful in making decisions. Also, companies may omit the gross profit line and divide the presentation simply between income and expense.
As an alternative to the expense by function approach, an expense by nature approach can also be used. Using this approach, the statement of profit or loss could be presented as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>$'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>X</td>
</tr>
<tr>
<td>FV gain on harvest of latex</td>
<td>X</td>
</tr>
<tr>
<td>Change in inventories</td>
<td>X</td>
</tr>
<tr>
<td>Work performed by the company and capitalized</td>
<td>X</td>
</tr>
<tr>
<td>Raw materials and consumables used</td>
<td>(X)</td>
</tr>
<tr>
<td>Employee benefits</td>
<td>(X)</td>
</tr>
<tr>
<td>Depreciation and Amortisation</td>
<td>(X)</td>
</tr>
<tr>
<td>Other expenses</td>
<td>(X)</td>
</tr>
<tr>
<td>Finance costs</td>
<td>(X)</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>X</td>
</tr>
<tr>
<td>Income tax expense</td>
<td>(X)</td>
</tr>
<tr>
<td>Profit for the year</td>
<td>X</td>
</tr>
</tbody>
</table>

This presentation is widely used by publicly listed Australian agricultural companies, including Sterling Plantations Limited, Costa Group Holdings, Huon Aquaculture Group Limited, and Tasfoods Limited.
CONCLUSION

While the current accounting used by rubber companies provides a measure of overall profitability, complying with IFRS by accounting for latex at fair value at the point of harvest can better highlight to managers and investors the value added and inefficiencies to be addressed from the processing side of its business compared to the agricultural activities and harvest. Moreover, compliance with IFRS will improve the accuracy of profit and reduce the risk of overvalued inventory. Finally, following IFRS will bring the accounting into compliance with national law and into line with accounting of other companies nationally and internationally.
REFERENCES


