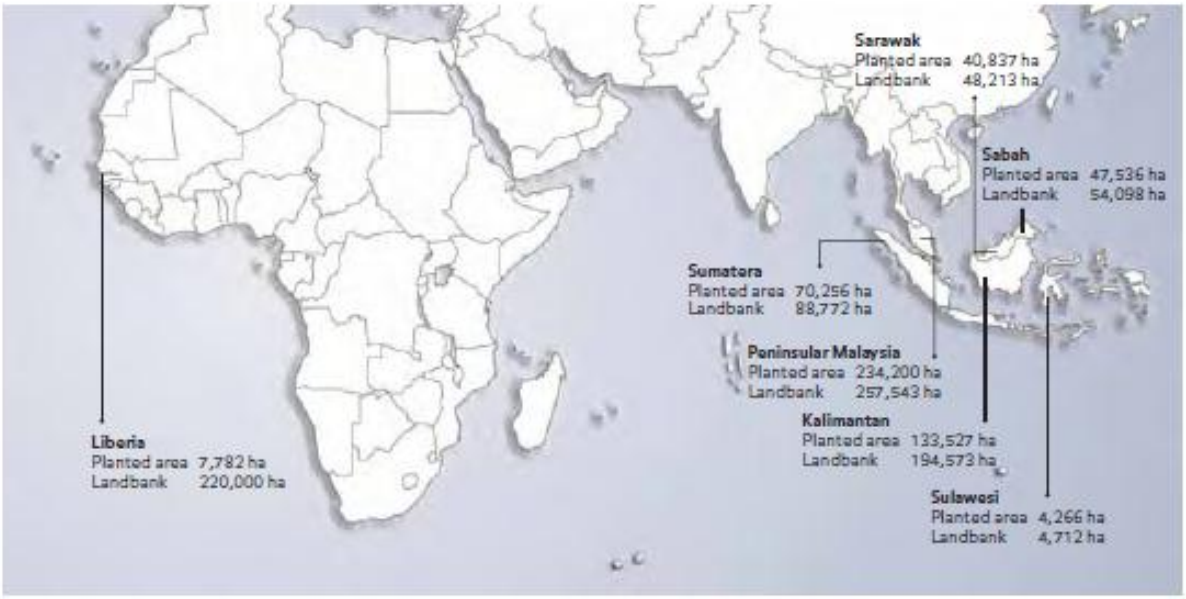
The Appendices are split into four parts for easy transmission, namely:

	Appendix	*Details*
Part 1	***A***	***Sime Darby Berhad Plantation Statistic as at 30 June 2010 (listed in Bursa Malaysia Securities Berhad)***
	B	***Extract of MASB letter to IASB dated 29 January 2010 on Fair Value Measurement Guidance***
	C	***Illustrative Examples***
Part 2	*D*	*Survey of IAS 41 Agriculture*
	E	*Analysis of fair value changes vis-a-vis profit before tax*
	F	*Extract of Audit Report*
Part 3	*G*	*Extract of Annual Reports* - *R.E.A Holdings* - *New Britain Palm Oil Limited* - *MP Evans Group* - *SA SIPEF NV* - *Wilmar International* - *Seeka Kiwifruit Industries Limited* - *Foster's Group Limited*
Part 4	*H*	*AASB's recommendation to IASB to improve paragraph 51 of IAS 41*
	I	*Marked up version of proposed amendments to IAS 41(prepared by MASB)*

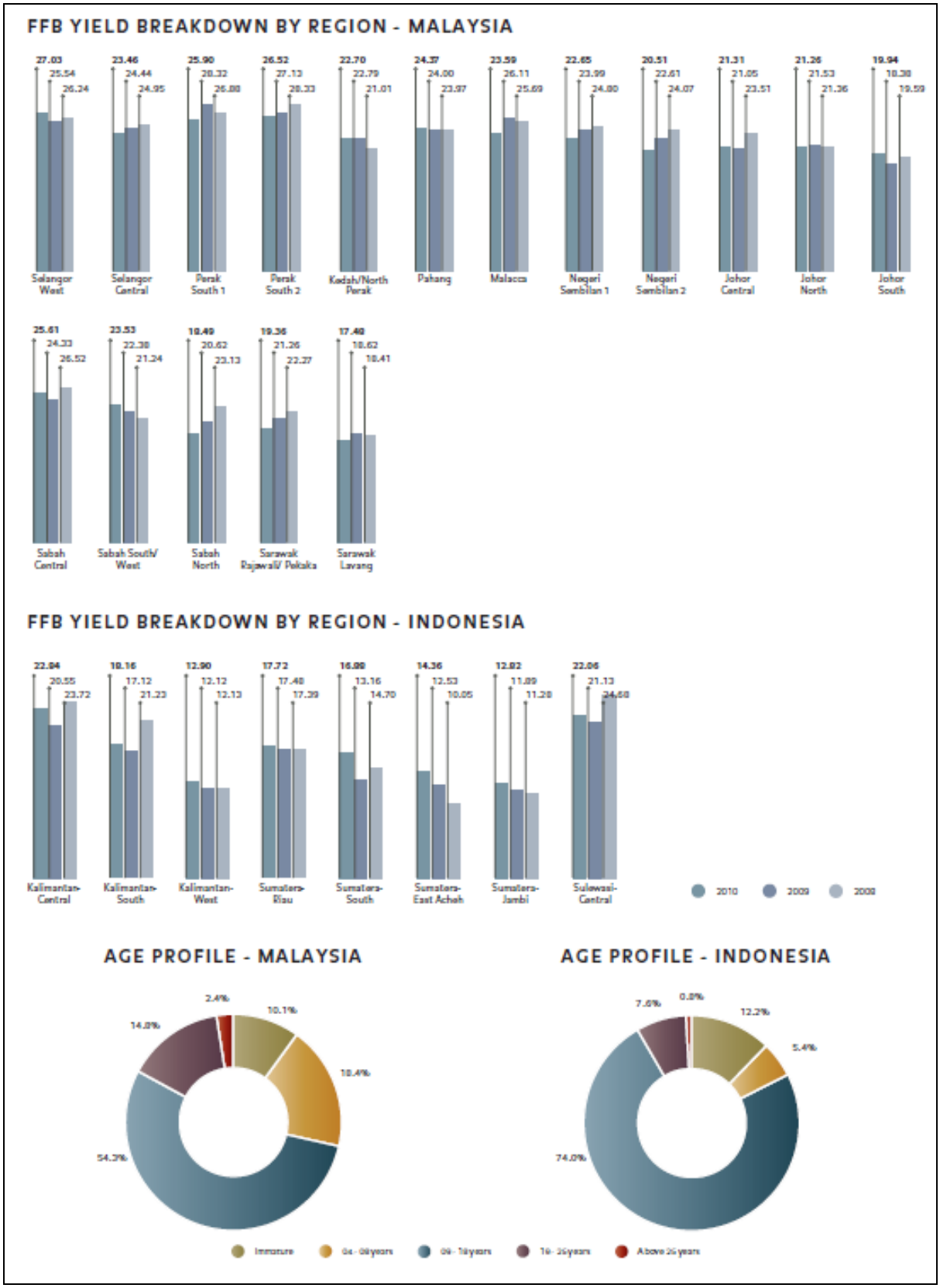
Appendix A
Sime Darby Berhad Plantation Statistics as at 30 June 2010
(listed in Bursa Malaysia Securities Berhad)

OPERATIONS REVIEW - PLANTATION



	FY 2009/10			FY 2008/09			FY 2007/08		
	Malaysia	Indonesia	Total	Malaysia	Indonesia	Total	Malaysia	Indonesia	Total
Oil Palm									
Crop Production – FFB (in MT)	6,560,033	3,281,095	9,841,128	6,888,596	2,976,158	9,864,754	7,063,844	3,315,776	10,379,620
FFB Processed (in MT)									
- Own	6,471,566	3,206,959	9,678,525	6,644,780	2,942,651	9,587,431	6,789,906	3,236,416	10,026,322
- Outside	537,717	588,962	1,126,679	616,000	541,539	1,157,539	809,014	555,658	1,364,672
Total FFB Processed	**7,009,283**	**3,795,921**	**10,805,204**	**7,260,780**	**3,484,190**	**10,744,970**	**7,598,920**	**3,792,074**	**11,390,994**
Hectarage (in Hectares)									
- Mature	282,417	182,684	465,101	297,471	178,840	476,311	299,272	177,560	476,832
- Immature	31,737	25,365	57,102	29,279	25,397	54,676	29,831	24,636	54,467
Total planted hectares	**314,154**	**208,049**	**522,203**	**326,750**	**204,237**	**530,987**	**329,103**	**202,196**	**531,299**
FFB Yield per mature hectare	22.32	18.00	20.65	22.87	16.64	20.59	23.60	18.67	21.77
Mill Production (in MT)									
- Palm Oil (CPO)	1,488,515	872,716	2,361,231	1,531,216	782,219	2,313,435	1,569,393	843,853	2,413,246
- Palm Kernel (PK)	352,473	179,082	531,555	373,275	160,732	534,007	384,053	165,928	549,981
CPO Extraction Rate (%)	21.24	23.00	21.85	21.09	22.45	21.53	20.65	22.25	21.19
PK Extraction Rate (%)	5.03	4.72	4.92	5.14	4.61	4.97	5.05	4.38	4.83
Average selling prices (RM/tonne)									
- Palm Oil (before sales tax)	2,342	2,260	2,311	2,264	2,013	2,177	3,014	2,648	2,885
- Palm Kernel (before sales tax)	1,252	958	1,150	1,164	848	1,069	1,682	1,385	1,592
Cost of Production (per MT of Palm Products)									
- Estate Cost	745	879	790	796	877	821	633	650	641
- Mill Cost	191	166	181	195	152	181	188	134	170
Total	**936**	**1,045**	**971**	**991**	**1,029**	**1,002**	**821**	**784**	**811**
Rubber									
Planted area	8,419	-	8,419	8,649	-	8,649	9,050	427	9,477
Rubber production ('000kg)	10,646	-	10,646	11,084	88	11,172	12,600	294	12,894
Yield per mature hectare (kg)	1,554	-	1,554	1,481	234	1,421	1,631	690	1,582
Average selling price (RM / kg)	9.07	-	9.07	7.39	4.02	7.36	8.10	5.17	8.02

Appendix A
Sime Darby Berhad Plantation Statistics as at 30 June 2010
(listed in Bursa Malaysia Securities Berhad)



Appendix B

Extract of MASB letter to IASB dated 29 January 2010 on Fair Value Measurement Guidance: Request for Input on Application in Emerging and Transition Economies

B. IAS 41 *Agriculture*

The Board has announced its plan to converge with IFRS in 2012 as we are persuaded by IASB mission, that is, to develop a single set of high quality understandable, enforceable and globally accepted financial reporting standards. In pursuit of the convergence plan, the Board has adopted most IFRSs, except one major standard, IAS 41 *Agriculture*.

As you may be aware, Malaysia is one of the top exporters of palm oil and natural rubber. We are also active exporters for other agricultural produce, including sawn logs and sawn timber, cocoa, pepper, sago. Therefore, agriculture activity plays a significant role in our economy and the companies in Malaysia have vast experience in this industry.

However, we received strong rejections (which we have communicated to the IASB previously) from the industry on the accounting standard for agriculture, IAS 41, particularly on the measurement of plantation bearer biological assets at fair value. There is no market for the plantation bearer biological assets except for prices of some of the products produced by the bearer biological assets, for example, there is no market for the oil palm or rubber trees but there is commodity price for crude palm oil, CPO, and rubber.

In our view bearer biological assets are essentially the basis which allows an entity to produce profits, in the same way as a factory with its associated plant and equipment allows a manufacturing operation to produce profits. Hence, we believe bearer biological asset should be treated similarly as other capital assets used in the production or generation of income. Under the IFRS literature, factories, plant and equipment are allowed to be carried at cost less depreciation less impairment. It is hard to see why a different principle should be applied to bearer biological assets whose objective is similar to other capital assets used in the production of income.

Notwithstanding our objection of IAS 41 and on the premise that IAS 41 will not be reviewed by the IASB in the very near future, we would like to provide our views about the guidance required in the Fair Value Measurement Standard on the application of fair valuation of bearer biological assets.

Guidance for Fair Valuing Bearer Biological Asset

We note that the objective of the Fair Value Measurement project is to establish a single source of guidance for all fair value measurements and to specify how entities should measure fair value. We also note that it would not introduce new fair value measurements, nor would they eliminate practicability exceptions to fair value measurements.

By this given objective, paragraphs 9, 17–21 and 23 of IAS 41 will be deleted when the Fair Value Measurement standard is finalised. However in our view, the deletion would render the Fair Value Measurement Standard 'incomplete' as eventually there will be no specific guidance for assets within the scope of IAS 41 albeit the measurement basis is strictly based on fair value (unless an entity rebuts the presumption that fair value can be measured reliably on initial recognition of the biological asset).

In this regard, we believe it is critical for the Fair Value Measurement Standard to include guidance for biological assets because:

a) the measurement basis of IAS 41 is fair value and if no guidance is provided, the standard would inadvertently cause injustice to entities applying IAS 41.

b) fair values of biological assets in many cases are determined based on valuation techniques.

   In reality, unlike consumable biological assets, there is no active market for bearer biological assets. In fact market only exists for the bearer plantation as a whole (ie land, buildings, vehicles, equipments, trees and produce attached) or the agricultural produce of the bearer biological asset. In the absence of a market, extensive judgement is required to establish the price to be used to determine the fair value of the asset.

c) valuation technique is a complex process bearing in mind different market participants would have different assumptions. It is even more complex for valuation of biological assets when compared to the valuation of financial instruments.

   This is because other than *price* there are many more inputs that need to be applied to the valuation technique of biological assets and it is extremely subjective to do because of the uncertainty of the *output* (ie yield) which are dependent on numerous factors such as *cost of production* as well as *factors beyond management control* such as weather conditions. In fact none of the inputs to the valuation of biological assets are contractually binding and hence the parameters used to determine fair values could be very wide. In other words the margin of error for valuation of biological assets could be significantly higher than valuations of financial instruments.

d) for long life bearer biological assets such as perennial tropical tree crops (eg palm oil and rubber whose estimated economic useful lives are about 25 and 30–33 years respectively), the valuation complexity will be further compounded and hence increases the margin of error because of the pro-cyclicality of prices and uncertainty in the future. This we are certain will raise doubt about the reliability of the biological asset fair value presented in the financial statements.

Therefore, we strongly believe the IASB should provide guidance for valuations of biological assets to mitigate, at least some if not all, subjectivity inherent in the fair value of biological asset determined based on valuation techniques.

Specifically, we request guidance for *plantation bearer biological assets* in the following areas.

Valuation techniques of plantation bearer biological assets

For IAS 41 purposes, either of the following may be used to arrive at the fair value of biological assets:

a) present value the expected cash flows of the life of the biological assets (as prescribed in IAS 41 paragraph 20); or
b) fair valuation of the entire plantation and deduct the fair value of the raw land from the plantation fair value accordingly (as prescribed in IAS 41 paragraph 25).

However, we find the guidance in IAS 41 to be overly simplistic. We append in Appendix 2 a valuer's perspective of how oil palm plantations valuations are conducted in Malaysia. We request the IASB to consider the principles in Appendix 2 and incorporate a comprehensive guidance for plantation bearer biological assets in the Fair Value Measurement Standard.

Although, it appears the valuation of plantations is similar to valuations of other assets and hence "doable" as in any other valuation process, we wish to highlight that the resources and time required are immense especially for entities that hold large plantations with varying maturity, yield profile, locality, etc. This concern is even more pressing for the purpose of interim reporting as entities may not have the resource and time to update the valuation on a timely basis. For example, Sime Darby Plantation* in Malaysia holds a total landbank of 633,607 hectares of which 530,987 hectares are planted with palm oil and the operations involve the management of 208 plantations.

We believe the Fair Value Measurement Standard should provide further explanation to clarify how an entity could strike a balance in providing meaningful information vis-à-vis limited resources and time.

Selection and application of the appropriate valuation technique

As illustrated in Appendix 2 there are essentially two methods used by valuers in the valuations of plantations ie the comparison method or the discounted cash flow method. We request the IASB to consider:

a) whether there should be a preferred method to determine the fair value of biological assets.

   In addition when fair values are measured using the present value techniques, whether the discount rate adjustment technique or the expected present value technique is the preferred technique for the valuation of biological assets.

   This is to avoid an 'accounting choice' so as to achieve comparability across the industry in view of the subjectivity surrounding the valuations of biological assets.

b) providing additional explanation to help preparers select the valuation technique appropriate for the measurement of plantation bearer biological assets if the IASB decides not to prescribe a preferred technique. This is also to sustain comparability of financial statements within the industry.

c) for interim reporting, whether a simplified valuation model can be applied for practical expedient purposes in arriving at the fair value of biological assets. This is to ensure the quality of fair value information reported is not compromised at the expense of resource and time.

We reiterate due to the many subjective inputs to the valuation technique to determine a plantation's fair value, it is extremely hard to conceive the parameters of the valuation inputs accurately which mainly are based management's estimates.

As a result there are significant concerns that the use of fair value may inadvertently adversely affect the quality of financial information due to either manipulation of the inputs to

* Source: http://plantation.simedarby.com/Sime_Darby_Plantation_Overview.aspx

the model or lack of understanding regarding the principles governing the valuation techniques.

For example, we noted that there are differing views whether "current price" or "average market price" should be used in the input to the valuation techniques *(notwithstanding the illustration in Appendix 2 which is based on "projected long term average sales price")*.

The different inputs could provide very different results. To illustrate our point, please see Appendix 3 for the assumptions used by different public listed companies in other jurisdictions in deriving the fair value under IAS 41 requirements.

Those who support the use of "current price" believe their interpretation is consistent with the above IAS 41 requirements. On the other hand, those who support the use of "average market price" argue that a valuation based on "current price", although quoted in an active market eg commodity price of CPO or timber, may be too simplistic without taking into account the fair value definition criteria premised on *the amount an asset could be exchanged between knowledgeable willing parties*. For example, in a business combinations exercise involving oil palm plantation during periods when the CPO commodity price is at its highest peak, the plantation value would not be determined based on that price because realistically there will be no willing buyers. And vice versa, when the commodity price is at its lowest level, a plantation valued at that price would also not be realistic because there will be no willing sellers.

In our view, due to the long life nature of bearer biological assets [which could span over two decades] as well as the pro-cyclicality of commodity prices, "current price" may not be the appropriate price to be used in determining fair value. We believe "average market price" would be a more appropriate basis in such circumstances.

Therefore, due to the differing views in the industry, the Fair Value Measurement Standard should include an example to illustrate how the fair value of plantation bearer biological assets should be computed by making reference to the requirements in Appendix C of the IASB Exposure Draft (ED). In particular, the example should explain:

i) how to determine the starting point of the valuation inputs (eg "current price" vis-à-vis "average market price"); and

ii) how the price, yield and cost of production should be adjusted when using the present value technique to measure fair value.

In this regard, we find the explanation in paragraph C17 of the ED a practical step in determining fair values. We request an example to be included in the Fair Value Measurement Standard to educate preparers how to develop a limited number of discrete scenarios and probabilities that capture the array of possible cash flows for bearer plantation valuations based on relevant past period adjusted for changes in circumstances occurring subsequently giving due considerations to market participants assumptions.

Highest and best use of plantation land

We note that land related to agricultural activity is not within the scope of IAS 41 but covered in IAS 16 *Property, Plant and Equipment* and IAS 40 *Investment Property* whose measurement basis is either cost or fair value. For entities that elect the fair value model for plantation land, we are concerned that confusion might arise with respect to the allocation of the fair value between the land and biological assets when the highest and best use of the plantation land is other than agricultural use.

Naturally as a developing country grows, such as Malaysia, the highest and best use of plantation land will no longer be agricultural use for plantations located close to areas with high commercial or residential development potential. In such cases, the market value of the plantation would be very much higher due to the development potential and there are concerns that confusion might arise as to how the value of the biological assets should be computed to give a meaningful / distorted 'fair value' to the biological assets.

For example, when there is an increase in the land value but simultaneously commodity prices decline, there may be little or no effect to the plantation value as a whole because the increase in land value could very well offset the decline in fair value of the biological assets. In this regard, entities might misconstrue that there is no decline in the fair value of the biological assets by inappropriately allocating part of the increase in land value to the fair value of the biological assets.

Therefore guidance as to how the plantation land incremental value should be derived and allocated will be helpful, not only for preparers of financial statements but also for other interested parties such as valuers involved in plantation valuation exercise, similar to that of paragraphs 20 and 21 and IE5–IE8 of the ED (allocation of incremental value of land).

Appendix B

Extract of **Appendix 2** of MASB letter to IASB dated 29 January 2010 on Fair Value Measurement Guidance: Request for Input on Application in Emerging and Transition Economies

Valuation of Oil Palm Plantation in Malaysia

Valuers, in arriving at the market value of a plantation would usually use:

(a) the direct sales comparison method or
(b) the investment or income or discounted cash flow (DCF) method.

In the direct sales comparison method, sales of similar plantations are analysed and compared with the plantation under valuation, with adjustments made for differences in location, size, planting profile, yields, soil, site improvements, etc.

In the investment or income or DCF method, the net income (ie projected long term average sales price less costs of production) from the sale of the plantation produce eg fresh fruit bunches (FFB is capitalised at an appropriate rate of return over the remaining economic life of the palm trees (usually taken to be 25 years as industry standard) [this is done on a field by field basis, derived from projected yields of the palms]); and to this is added the present value of the basic land value (agricultural basis) discounted at an appropriate rate of return over the remaining economic life of the palm trees (ie biological assets). The projected long term average sales price of the FFB is obtained from an analysis of the historical prices obtained from the plantation (ie sales to palm oil mills) and also the crude palm oil* commodity prices (usually taken to be the simple moving average or weighted moving average of the last 5–10 years). The production costs would be from an analysis of the past 3–5 years record obtained from the plantation. Any fields which are due for replanting / replanted would be considered and valued separately, taking into consideration the costs of replanting, etc.

In using either of the method above (most valuers would use both the methods), the figure arrived at is the market value ('equivalent to fair value') of the plantation which includes the palm trees, site improvements (roads, and other infrastructure such as terracing), buildings (office, staff quarters, stores, etc but excluding the palm oil mill if any), equipments and land (assuming continued agricultural use basis).

In other words, the present value of the expected cash flows of the life of the palm trees would include the land value together with all the improvements, buildings equipment, etc as without these, the expected cash flows would not be the same and without land there would not be any palm trees. This is similar to the present value of the net rentals (which is the expected cash flows) from a building for the remaining economic life of the building.

* Crude palm oil (CPO) is oil extracted from harvested FFB and CPO prices are commodity prices quoted daily in the Bursa Malaysia Stock Exchange.

Fair value of biological assets

To arrive at the 'fair value' / market value of the palm trees (ie biological assets), the entity would have to value the plantation using either of the above methods first and then deduct therefrom the fair value of the basic land (which is usually together with site improvements) and the fair values of the buildings, vehicles, equipment, etc. The fair values of the buildings, vehicles, equipment, etc would be valued separately and due consideration is given to the accuracy of the information supplied by the plantation. Thus the fair value of the biological asset would be a "derived" value and it is to be noted that it would not be possible to have a "field by field" fair value of the biological assets, rather the fair value of the biological assets would be on a plantation wide average, as the site improvements, buildings, vehicles, equipment, etc are for the whole plantation.

Appendix B

Extract of **Appendix 3** of MASB letter to IASB dated 29 January 2010 on Fair Value Measurement Guidance: Request for Input on Application in Emerging and Transition Economies

Comparison of Annual Reports – Price and discount rate assumptions

Entity name / Year end	Gains / (Losses) from changes in fair value of biological assets		Significant assumptions made in determining fair value of biological assets
	2008	2007	
First Resources Limited - 31 December - listed in Singapore Exchange Securities Trading Limited (SGX-ST)	Rp377,654 million	Rp156,544 million	(a) no new planting or re-planting activities are assumed; (b) oil palm trees have an average life that ranges from 25 years, with the first three years as immature and the remaining years as mature; (c) yield per hectare of oil palm trees is based on a guideline issued by the Indonesian Oil Palm Research Institute ("Pusat Penelitian Kelapa Sawit"), which varies with the average age of oil palm trees; (d) the discount rate used for the Group's plantation operations which is applied in the discounted future cash flows calculation is 19.33% (2007: 18.1%); and (e) the **projected selling prices** of CPO for the financial years ended 31 December 2008 and 2007 are presented in Note 44(c) and referenced to independent professional valuer's report with the latest update on 24 November 2008.
Wilmar International Limited - 31 December - listed in SGX-ST	Nil	USD123 million	(i) no new planting or replanting activities are assumed; (ii) oil palm trees have an average life of 25 (2007: 25) years, with the first three years as immature and remaining years as immature; (iii) discount rate per annum of 8.1% to 17.4% (2007: 7.5% to 16.7%); (iv) fresh fruit bunches ("FFB") **selling price** of US$101 to US$118 (2007: US$116 to US$128) per metric tonne and (v) yield per hectare is 20.9 (2007: 22.8), based on average historical performance.
Golden Agri-Resources Ltd - 31 December - listed in SGX-ST	US$1,457 million	US$1,284 million	(a) no new planting or re-planting activities are assumed; (b) oil palm trees have an average life of 25 years, with the first three years as immature and remaining years as mature; (c) yield per hectare, based on average historical performance; (d) discount rate of 11.3% (2007: 10.7%) per annum; and (e) **average market price** of CPO of US$670 (2007: US$504) per tonne.

Comparison of Annual Reports – Price and Discount Rate Assumptions

Entity name / Year end	Gains / (Losses) from changes in fair value of biological assets		Significant assumptions made in determining the fair value of biological assets
	2009 / 2008	2008 / 2007	
Fosters Group Limited - 31 December - listed in Australian Securities Exchange	(AUS$22.9 million)	(AUS$38 million)	Vines and grapes are measured at fair value, less estimated point-of-sale costs, with changes in fair value included in the income statement in the period in which it arises. The fair value of acquired vines is determined with reference to independent valuations of vineyards and the market price of purchased vines (rootlings). Subsequent movements in the fair value of vines is determined through operational reviews of the vineyard portfolio which identify, where applicable, any factors affecting the long term viability and value of the vines. The fair value of harvested grapes is determined with reference to the weighted district average of grape prices for each region for the current vintage. Annual prices for grapes will vary with the grade quality of grapes produced in each particular region.
Turners & Growers Limited - 31 December - listed in New Zealand Stock Exchange	(NZ$33,000)	(NZ$77,000)	The fair value of biological crops (tomatoes, cucumbers, apples, citrus, kiwifruit) at or before the point of harvest is based on the value of the estimated market price of the volumes produced, net of harvesting costs. The fair value of trees and vines is based on the present value of expected net cash flows over the life of the asset discounted at a current market determined pre-tax rate.
Seeka Kiwifruit Industries Limited - 31 March - listed in New Zealand Stock Exchange	NZ$106,000	(NZ$48,000)	The fair value of the kiwifruit orchards (land and vines) has been determined in accordance with an independent valuation performed at each annual reporting date by Logan Stone Registered Valuers. The basis of valuation is Valuation Standard Number 1 – Market Value Basis of Valuation and Practice Standard Number 3 – The Valuation of Rural Properties. In preparing their valuation, Logan Stone have based their assumptions for orchard gate returns ('OGR') on 10 year averages for each variety. During the year to 31 March 2009, the Company harvested 1,114,666 trays of kiwifruit (2008: 1,016,861) from long term leased orchards. The fair value of the crop at balance date has been assessed at $4.657 million (2008: $3.083 million) based on the following assumptions: …

Comparison of Annual Reports – Price and Discount Rate Assumptions

Entity name / Year end	Gains / (Losses) from changes in fair value of biological assets		Significant assumptions made in determining the fair value of biological assets
	2008	2007	
Samling Global Limited - 30 June - listed in The Stock Exchange of Hong Kong Stock Limited	(USD2 million)	(USD3 million)	The Group's plantation assets in Malaysia and the PRC were independently valued by Pöyry Forest Industry Pte Ltd ("Pöyry") while the plantation assets in New Zealand were independently valued by Chandler Fraser Keating Limited ("CFK"). In view of the non-availability of market value for tree plantations in New Zealand, Malaysia and the PRC, both Pöyry and CFK have applied the net present value approach whereby projected future net cash flows, based on their assessments of **current timber log prices**, were discounted at the rate of 10.2% (2008: 10.2%) for plantation assets in Malaysia, 10% (2008: 10%) for plantation assets in China and 7.25% (2008: 7.25%) for plantation assets in New Zealand for the year applied to pre-tax cash flows to provide a current market value of the plantation assets.
Holmen Aktiebolag - 31 December - listed in Nasdaq OMX Nordic, Large Cap	(MSEK16)	MSEK2,189	At Group level, forest assets are classified as growing forest, which is stated as a biological asset at fair value, and land, which is stated at acquisition cost. Holmen's assessment is that no relevant market prices are available that can be used to value forest holdings as extensive as Holmen's. The valuation is therefore made by calculating the present value of expected cash flows from the growing forests. This calculation of cash flows is made for the coming 100 years, which is regarded as the harvesting cycle of the forests. The cash flows are calculated on the basis of harvesting volumes according to Holmen's current harvesting plan and assessments of **future price** and cost changes. The cost of re-planting has been taken into account as re-planting after harvesting is a statutory obligation.
Great Southern Limited - 30 September	AUS$3 million	AUS$5 million	***Standing timber*** The major assumptions used in the valuation model to determine the fair value less point of sale costs of the standing timber are as follows: (a) The eucalypt trees are harvested in year 10-11 (b) Inflation rate of 3% (c) A nominal pre-tax discount rate of 15% (d) Current woodchip FOB price $207.40 per bdmt

Entity name / Year end	Gains / (Losses) from changes in fair value of biological assets		Significant assumptions made in determining the fair value of biological assets
	2008	2007	
			Horticulture The major assumptions used in the valuation model to determine the fair value less point of sale costs of the vineyards and olive groves are as follows: (a) Newly established vineyards reach maturity in 6 years but start producing in year 3 (b) Newly established olive groves reach maturity in 7 years but start producing in year 3 (c) Nominal pre-tax discount rate 12.0% – 12.3% (d) Inflation rate 3.0% (e) Estimated trading prices and harvest yields are based upon management expectations with regard to current market information. ***Beef cattle*** Cattle are carried at fair value less point of sale costs which is determined after assessing a number of key market indicators to ensure the values determined are representative of the herd. The fair value of breeder cattle and trading cattle reflect the market price for both classification's in the market place.

Appendix C – Illustrative Examples

Example – bearer biological assets: oil palm trees
OilpalmCo maintains an oil palm plantation and a rubber plantation. OilpalmCo's palm trees and rubber trees mature within 3 years and have an approximate life expectancy of 25 years. Fresh Fruit Bunches ("FFB") are periodically harvested from the palm trees for sale or for processing into Crude Palm Oil ("CPO") for sale. Latex is periodically drained from the bark of the trees for processing into rubber.

In the OilpalmCo example, the palm trees are bearer biological assets and attached to the trees are FFB which are consumable biological assets (or agricultural produce). The FFB would be harvested upon maturity and would be inventory input for CPO, the product obtained from processing of the FFB.

The rubber trees are bearer biological assets whilst the latex from the bark is consumable biological assets.

Throughout the useful life of the oil palm and rubber plantation, management is required to manage the plantation to ensure the palm and rubber trees achieve the expected yield within an acceptable level of cost the management is allowed to spend to meet those expectations. Direct costs include fertilisers, labour, etc.

The operations of OilpalmCo are similar to a manufacturing operation in that the palm and rubber trees are being used to produce goods for sale for a period of 25 years. Matured palm and rubber trees are no longer subject to biological transformation. It will wear out, as does a machine. The productivity of the oil palm and rubber plantation is dependent on the amount of FFB the palm trees is able to produce or the amount of tappable bark left on the rubber trees. Residual value of palm and rubber trees at the end of their useful lives is minimal, similar to a machine. In this regard the palm and rubber trees are analogous to property, plant and equipment and therefore the appropriate measurement basis ought to be similar to property, plant and equipment.

Example – consumable biological assets: trees in a timber plantation
PlantationCo maintains its own plantation of pine trees. The pine trees will take 15 years to reach maturity at which time they will be harvested and are processed into logs for sale to the wood products industry.

In the PlantationCo example, it will take 15 years to grow the pine trees to a stage where they can be harvested. The pine trees are consumable biological assets and after harvest they are essentially input inventories to be processed. Minimal direct cost is incurred by management for the growth of the pine trees over the 15 years period.

Appendix C – Illustrative Examples

Biological transformation, a concept of growth toward maturity, becomes an important and direct attribute of the pine trees. Information of biological transformation would enable users in assessing cash flows of the pine trees plantation because it provides information of the expected future economic benefits the pine trees is able to generate at a particular reporting date as well as a future date. As little direct cost is incurred, cost measurement gives a weak relationship about the biological transformation and therefore fair value measurement would be more relevant than other measurement basis for consumable biological assets.

Example – consumable biological assets: dairy cattle
LivestockCo is a cow-calf operation. The bulls and calf bearing cows have an approximate life expectancy of 7-12 years. On average it takes 15-18 months to raise a calf to an appropriate stage for harvesting. The bulls and calf bearing cows represent LivestockCo breeding herd. For each newly born calf the farmer will decide to either: • keep the calf to replenish the breeding herd; • raise the calf and slaughter it when they reach an appropriate stage for harvesting; or • sell the calf to another farmer, who may choose to use the calf to replenish their own breeding herd, or to fatten the calf for harvesting.

LivestockCo's bulls and calf bearing cows that form the breeding program are capable of bearing agricultural produce and capable to be harvested as agricultural produce. The calves may be retained to replenish the breeding program or raised for slaughter or sale as store animals.

Below is a numerical illustration of the impact to the income statement of a cow if it is sold at the end of 5 years for $1,675 based on the requirements of IAS 41 and IAS 16.

Year	**0**	**1**	**2**	**3**	**4**	**5**
IAS 41						
Cow with calf fair value	1400	1500	1650	1800	1625	1675
Income statement						
Revaluation		100	150	150	(175)	50
Sale of calf		600	620	720	650	670
Profit on sale of cow						0
IAS 16 cost model						
Income statement						
Sale of calf		600	620	720	650	670
Depreciation*****		-	-	-	-	-
Profit on sale of cow						275

***** The residual value is estimated to be greater than cost every year. Because of this fact the asset is not required to be depreciated per IAS 16.52-54.