DEPARTMENT OF AGRARIAN REFORM – LAND BANK OF THE PHILIPPINES

JOINT DAR- LBP MEMORANDUM CIRCULAR NO. 11
Series of 2003

TO   : ALL CONCERNED OFFICIALS AND EMPLOYEES OF DAR AND LBP

SUBJECT :   GUIDELINES ON THE VALUATION OF STANDING COMMERCIAL TREES THAT ARE CONSIDERED AS IMPROVEMENT ON THE LAND

I.   PREFATORY STATEMENT

The Capitalized Net Income (CNI) approach to land valuation assumes that there would be uniform streams of future income that would be realized in perpetuity from the seasonal/permanent crops planted to the land. In the case of commercial trees (hardwood and soft wood species), however, only a one-time income is realized when the trees are due for harvest. The regular CNI approach in the valuation of lands planted to commercial trees would therefore not apply.

Since commercial trees are considered as improvement/s on the land, they shall be valued using standard appraisal approach. The standing trees that are considered as "not yet harvestable" shall be valued using the "Cost Approach" while the "harvestable" trees shall be valued using the "Income Approach".

On the basis of the abovecited observations, the Department of Agrarian Reform (DAR) and the Land Bank of the Philippines (LBP), in collaboration with the Forest Management Bureau (FMB) of the Department of Environment and Natural Resources (DENR) conducted a study on the agronomic and economic aspects of commercial tree growing. This is in line with Item II.B.2 of DAR Administrative Order (A.O.) No. 05, Series of 1998, which provides that "DAR and LBP may conduct an industry study on specific crop which will be used in determining the production, cost and net income of the subject landholding.

In view of the foregoing, these valuation guidelines for lands planted to commercial trees are hereby issued.

II.   COVERAGE

These guidelines shall cover all land transfer claims involving lands planted to commercial trees whose Memorandum of Valuation have not yet been forwarded to DAR as of the date of effectivity of this Joint Memorandum Circular (JMC).

III. DEFINITION OF TERMS

For the purpose of the these JMC, the following definitions shall be adopted:

A. **COMMERCIAL TREES** – trees that are naturally grown or planted which possess economic value.

B. **"COST APPROACH"** – is a valuation approach based on the Principle of Reimbursement where all the expenses incurred by the landowner (LO)/LESSEE in developing and maintaining commercial tree plantation is returned as compensation for the standing trees treated as improvement on the land.

C. **CUMULATIVE DEVELOPMENT COST (CDC)** – the total cost of development, maintenance and protection incurred by the LO/lessee reckoned from land preparation up to the date of Claim Folder (CF) receipt by LBP for processing.

D. **DIPTEROCARP TREES** – refers to those hardwood species such as apitong, tanguile, lauan, etc. belonging to family dipterocarpaceae.

E. **ESTIMATED MERCHANTABLE HEIGHT (EMH)** - refers to the length of the log reckoned from 0.5 meter above the ground up to the first major branch of the tree.

F. **"HARVESTABLE TREES"** - those trees that have reached their harvestable age for specific end use (e.g., sawlog, pole, fuel wood, etc.).

G. **"INCOME APPROACH"** – is a valuation approach where a value of a given commercial tree plantation is determined by the present worth of the anticipated net income that would be derived from the "harvestable trees".

H. **LAND** - refers to private agricultural lands voluntarily offered for sale or compulsorily acquired under Republic Act (R.A.) No. 6657

I. **LESSEE** – refers to a person, whether juridical or natural, other than the agrarian reform beneficiary, who leases the agricultural land belonging to or possessed by another with the latter's consent for purposes of establishing a commercial tree plantation for a certain amount of money or in produce, or both.

J. **NATURALLY GROWN TREE** – any naturally occurring or growing tree with woody stem, regardless of size and economic utility or

end-use, including the parts thereof such as stumps, tops and branches.

K. **NON-DIPTEROCARP TREES** – those trees not belonging to the family dipterocarpaceae.

L. **"NOT YET HARVESTABLE TREES"** – those trees that have not yet reached their harvestable age for specific end use (e.g., sawlog, pole, fuel wood, etc.).

M. **PLANTED TREE** – any artificially grown/planted tree with a woody stem, regardless of age, size and economic utility or end-use.

N. **PREVAILING SELLING PRICE (PSP)** – the available prevailing farm gate selling prices of round and square logs, pole and fuel wood in the specific area where the property is located as of the date of CF receipt by LBP for processing.

O. **ROUND LOG** – a piece of wood produced after felling and bucking with an average diameter of at least 15 centimeters and a length of at least 1.5 meters.

P. **SQUARE LOG** – a piece of wood produced from one round log using any mechanical tools, the conversion of which was done without the benefit of scaling the said round timber.

Q. **STUMPAGE VALUE** - appraisal of timber in unprocessed form as it is found in the forest.

R. **VALUE OF STANDING TREES (VST)** – value of standing commercial trees arrived at using the standard "Income Approach" to valuation.

IV. VALUATION PROCEDURES

A. VALUATION OF "NOT YET HARVESTABLE" TREES

1. The value of land with "not yet harvestable" commercial trees shall be computed in accordance with the formula prescribed under Item II.A.4 of DAR Administrative Order No. 5, Series of 1998, attached as appendix herein and shown below:

$$LV = (MV \times 2) + CDC$$

Where:

3

LV = Land Value

MV = Market Value of the land which shall be based on the applicable Unit Market Value (UMV) classification of idle land

CDC = Cumulative Development Cost of "not yet harvestable" trees incurred by the LO from land preparation up to the date of receipt of CF by LBP for processing.

The MV is computed using the formula:

MV = UMV x LAF x RCPI

Where:

UMV = Unit Market Value

LAF = Location Adjustment Factor

RCPI = applicable Regional Consumer Price Index

The CDC of "not yet harvestable" commercial trees is determined using the following formula:

CDC = CDC per Tree x Number of Not Yet Harvestable Trees

2.   The field personnel of the DAR and the LBP shall jointly secure the development, maintenance and protection records of the LO. The development cost data submitted by the LO shall be validated against his/her accounting records, (i.e., ledgers, receipts, etc.) and interview with farmworkers/laborers.

If the LO's records are not available or if they are available but could not be validated by the DARMO within fifteen (15) days upon receipt of notice thereof, the DAR and LBP shall secure the development, maintenance and protection cost data of each tree species from the Community Environment and Natural Resources Office (CENRO) or the Provincial Environment and Natural Resources Office (PENRO) of the Department Of Environment And Natural Resources (DENR).

3. In the absence of LO and CENRO/PENRO data in Item IV.A.2 above, the schedule of development, maintenance and protection cost for each tree species (for planted trees) provided in Annex "A" shall be used in the determination of CDC.

In cases where the actual tree spacing (row and plant distances) or tree density per hectare of the property under consideration differs with that of the plant spacing and tree density per hectare provided in Annex "A", a schedule of development, maintenance and protection cost per hectare could be generated by following the procedures in Annex "B".

If the LO's actual number of trees per hectare exceeds that of the standard tree density of 1,667 trees/hectare (2m x 3m), the LO's CDC shall be computed based on the CDC of 1,667 trees/hectare.

The CDC shall be grossed-up from December 31, 2000 (the schedule of development, maintenance and protection cost shown in Annex "A" is based on 2000 prices) up to the date of LBP CF receipt for processing.

The process of computing CDC up to the nearest date of LBP CF receipt for processing is shown in Annex "C".

4. The tree inventory shall be conducted by a team composed of the LO, farmer-beneficiaries (FBs), lessee (if the property is covered by an existing lease contract) and the representative/s of DAR and LBP. The team, whenever necessary, shall request the assistance of CENRO/PENRO in the conduct of said inventory. A pro-forma Tree Inventory Summary Report is shown in Annex "D".

The age of trees as of the date of processing of CF shall be reckoned on the actual date when the commercial tree plantation is established as verified against the LO's farm records. If the exact date of establishment is not available and only the year when the trees are actually planted is available, the trees shall be assumed to be planted as of 31 December of said year.

If the exact date or year when the trees are planted is not available, the DAR/LBP shall request the assistance of CENRO/PENRO in the determination of the estimated age of the trees.

5. In case of naturally grown trees which are "not yet harvestable", the LO is entitled to a share of about fifty percent (50%) of value of standing trees (as payment for protection and maintenance incurred by the LO) considering that the same are treated as government/state-owned resources. Expressed in equation form:

$$\underline{\text{AMOUNT DUE LANDOWNER}} = 0.50 \ (RLV \ x \ PSP); \text{ or}$$
$$= 0.50 \ (VST).$$

The procedures in determining the RLV and PSP are shown in Item IV.B.1.b of this JMC.

6. If the commercial trees planted are by the FBs or lessee and the same are "not yet harvestable", the value of the land shall be computed in accordance with Items II.A.5 and II.B.6 of DAR A.O. No. 5, Series of 1998, respectively.

    If the land is covered by an existing lease contract, the LO shall be compensated for the land while the lessee shall be compensated for the value of standing commercial trees (VCST) treated as improvement on the land, as shown in the following equations:

    AMOUNT DUE LANDOWNER:

    $$LV_{(LAND)} \quad = \quad MV \ X \ 2$$

    AMOUNT DUE LESSEE:

    $$VCST \quad = \quad CDC$$

7. In no case, however shall the resulting value of the land planted to "not yet harvestable" trees exceed the value of the land planted to "harvestable" trees similar in terms of species and density within the estate under consideration or within the same Barangay or Municipality (in that order) approved by LBP within one (1) year from receipt of CF.

B. **VALUATION OF "HARVESTABLE" TREES**

    1. **PLANTED BY LO**

        The value of land containing "harvestable" commercial trees shall be computed in accordance with the following formula:

LV = (MV x 2) + Value of Standing Trees (VST)

Where:

LV = Land Value

MV = Market Value of the land which shall be based on the applicable Unit Market Value (UMV) classification of idle land

VST= Value of Standing Trees

a. The "harvestable" age of the different tree species, depending on their intended end uses is shown in Annex "E".

   For other tree species not included in Annex "E", the DAR/LBP shall request the CENRO/PENRO to determine the harvestable age of the tree under consideration based on known end use/s in the area.

b. The value of standing commercial tree/s shall be computed as follows:

   i. If the commercial trees are sold as "round" log, the value of standing tree shall be determined using the formula:

   VST = RLV x PSP

   Where:

   RLV = Round Log Volume (cubic-meters)

   PSP = Prevailing Selling Price of Timber (P/cubic-meter)

   The RLV is determined using the following formula:

   RLV = RRF x DBH^2 x EMH

   Where:

   RRF = Round Log Recovery Factor

DBH = Diameter of tree measured at breast height, in meters

EMH = Estimated merchantable height, in meters

The DBH and EMH shall also be determined by the team composed of the LO, FBs, and the representative/s of DAR and LBP (see Annex "D"). If the property is covered by an existing lease contract, the lessee shall participate in the conduct of the said inventory.

DAR and LBP shall be given proper training in the measurement of DBH and EMH, and in the identification of tree species.

The team, whenever necessary, shall request the assistance of CENRO/PENRO in the determination of DBH and EMB.

The applicable RRF, depending on the location of the property and the type of tree species (non-dipterocarp or dipterocarp), is provided in Annex "F". The list of tree species belonging to the non-dipterocarp and dipterocarp group is shown in Annex "G".

ii.   If the commercial trees are sold as "square" log, the value of standing tree/s shall be computed using the formula:

VST = SLV x PSP

Where:

SLV = Square Log Volume (cubic-meters)

PSP = Prevailing Selling Price of Square Log (P/cubic-meter)

The SLV is determined using the following formula:

SLV = RLV x SRF

Where:

SRF = Square Log Recovery Factor or 70%

The 70% square log recovery factor refers to the net SLV that would be recovered from RLV after sawing or converting round log into square log.

Trees intended for pulp are commonly sold as round log, while trees that are intended for veneer are sold as round log or square log.

iii. If the commercial trees are sold on a per tree, per cord, per linear measure or per unit weight basis, the value of standing trees shall be determined using the applicable formula as shown below:

VST = No. of Trees x PSP per Tree or;

VST = No. of Cords x PSP per Cord or;

VST = No. of Trees x Linear Measure per Tree x PSP per Linear Measure

VST = Total Weight of Trees in kilograms X PSP per kilogram.

One cord is equivalent to a pile of one-meter length wood with a height of one (1) meter and a width of one (1) meter.

Commercial trees which are sold in other forms/measures shall be fully disclosed in the report on PSP of timber products to be prepared by DAR and LBP. (See Annex "H")

The PSP of the different timber products shall be secured by DAR/LBP from CENRO, duly conformed by the PENRO. In the absence of said PSP data, the DAR/LBP shall gather/monitor the PSP of timber, sawlog, pole, fuel wood and other known end uses in their area of coverage. A pro-forma table is shown in Annex "H".

If the PSPs of the different timber products are not available in the locality where the property is located, the PSP based on the stumpage value shall be used instead. The DAR/LBP

shall seek assistance from the CENRO/PENRO in the determination of the stumpage value.

2. **NATURALLY GROWN TREES**

    In the case of naturally grown trees which are already "harvestable" planted in a private agricultural land, the LO is entitled to a share of about fifty percent (50%) of VST (as payment for protection and maintenance incurred by the LO) considering that the same are treated as government/state-owned resources. Expressed in equation form:

    $$\underline{\text{AMOUNT DUE LANDOWNER}} = 0.50 \ (RLV \times PSP); \text{ or}$$
    $$= 0.50 \ (VST).$$

    Where:

    RLV = Round Log Volume (cubic-meters)

    PSP = Prevailing Selling Price of Timber (P/cubic-meter)

    The procedures in determining the RLV and PSP are shown in Item IV.B.1.b of this JMC.

3. **PLANTED BY FBs**

    If the commercial trees are planted by the FBs and the same are already "harvestable", the value of the land shall be computed using the formula:

    $$LV = (MV \times 2) + 25\% VST$$

4. **PLANTED BY LESSEE**

    If the commercial trees are introduced by the lessee, the amount due to the LO and the lessee shall be determined as follows:

    a) If the lease rental is a fixed amount paid annually:

        i.   In case the Comparable Sales (CS) is relevant or applicable, the amount due to the LO shall be computed in accordance with the formula

provided under II.A of DAR A.O. No. 5, Series of 1998 as shown below:

$$\underline{\text{AMOUNT DUE LANDOWNER}} = (CNI \times 0.60) + (CS \times 0.30) + (MV \times 0.10)$$

Where:

$$CNI = \frac{\underline{LRI \text{ (lease rental income /hectare)}}}{0.12}$$

ii.   If CS is not relevant or applicable, the amount due to the LO shall be computed in accordance with Item II.A.1 of DAR A.O. No. 5, Series of 1998 as shown by the following formula:

$$\underline{\text{AMOUNT DUE LANDOWNER}} = (CNI \times 0.90) + (MV \times 0.10)$$

Where:

$$CNI = \frac{LRI}{0.12}$$

iii.   The amount due to the lessee, on the other hand, shall be equivalent to the VST. In equation form:

$$\textbf{AMOUNT DUE LESSEE} = \textbf{VST}.$$

b)   If the lease rental is a fixed percentage of the gross income:

AMOUNT DUE LANDOWNER = (MV X 2) + % Share on VST (as stipulated under the contract)

AMOUNT DUE LESSEE = % Share on VST (as stipulated under the contract)

C.   VALUATION OF TREES THAT ARE RANDOMLY PLANTED INSIDE OR ALONG THE PERIMETERS OF A PLANTATION

The "not yet harvestable" and "harvestable" trees that are randomly planted inside or along the perimeter of a given plantation or a given delineated area shall be valued in accordance with the applicable formula provided under Item Nos. IV.A and IV.B above. The value of these trees shall be added to the final value of the given plantation or given delineated area as additional improvements on the land.

D. **CUTTING OF COMMERCIAL TREES WHILE THE LAND TRANSFER CLAIM IS IN PROCESS OR WHEN THE LANDHOLDING IS ALREADY AWARDED TO THE FBs**

1. In cases where the LO had already cut and sold the commercial tree at the time of processing of CF or valuation of the subject property, the affected area of the property shall be considered as idle land. The value of the affected area shall be computed in accordance with the formula prescribed under Item II.A.3 of DAR A.O. No. 5, Series of 1998 as shown below:

$$LV = MV \times 2$$

The MV to be used shall be the applicable Unit Market Value (UMV) classification of idle land.

2. The FBs, who have been installed on the subject property and would like to cut the trees, shall first secure a clearance from the LBP. The DAR/LBP shall inform CENRO/PENRO that only those FBs with LBP clearance shall be issued permit to cut/transport their timber products.

3. The DARMO shall monitor and immediately report to the LBP-Agrarian Operations Center (AOC) the following cases:

   a) Cutting of trees by LO/lessee/FBs while the land transfer claim is still being processed; and

   b) Cutting of trees by the installed FBs without the necessary permit from the CENRO/PENRO.

4. The DARMO shall conduct a field inspection of the land in the process of awarding to farmer-beneficiaries before the date of actual payment thereof. Any substantial changes in the number of recorded commercial trees shall be immediately reported to the filed personnel of LBP for the purpose of revaluation of the land value.

5.   THE LBP-Agrarian Operations Center (AOC) shall secure an Affidavit of Compliance from the L.O./Lessee that no trees were cut/felled by him or he/she shall be rendered liable therein before actual payment thereof.

E.   ILLUSTRATIVE EXAMPLE

Annex "C" illustrates the application of the valuation concepts/principles for "not yet harvestable" trees while Annex "I" illustrates the application of the valuation concepts/principles for "harvestable" trees.

V.   REPEALING CLAUSE

All orders, circulars, rules and regulations inconsistent herewith are hereby revoked, amended, or modified as the case may be.

VI.   EFFECTIVITY

This JMC shall take effect ten (10) days after its publication in two (2) national newspapers of general circulation, pursuant to Section 49 of Republic Act No. 6657.

Signed this **23th** day of **May**, 2003.

ROBERTO M. PAGDANGANAN
Secretary
Department of Agrarian Reform

MARGARITO B. TEVES
President and CEO
Land Bank of the Philippines

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1.   MANILA BULLETIN

2.   MALAYA

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SCHEDULE OF DEVELOPMENT, MAINTENANCE AND PROTECTION COST PER HECTARE*

Year	Cost Per Hectare		
	2m x 3m (1,667 T/Ha.)	4m x 4m (625 T/Ha.)	5m x 2m (1,000 T/Ha.)
1	22,377.00	10,234.00	16,136.00
2	10,410.00	5,502.00	8,629.00
3	2,833.00	1,417.00	2,267.00
4	1,416.50	708.50	1,133.50
5	1,416.50	708.50	1,133.50
6	1,416.50	708.50	1,133.50
7	1,416.50	708.50	1,133.50
8	1,416.50	708.50	1,133.50
9	1,416.50	708.50	1,133.50
10	1,416.50	708.50	1,133.50
11	1,416.50	708.50	1,133.50
12	1,416.50	708.50	1,133.50
13	1,416.50	708.50	1,133.50
14	1,416.50	708.50	1,133.50
15	1,416.50	708.50	1,133.50
16	1,416.50	708.50	1,133.50
17	1,416.50	708.50	1,133.50
18	1,416.50	708.50	1,133.50
19	1,416.50	708.50	1,133.50
20	1,416.50	708.50	1,133.50
21	1,416.50	708.50	1,133.50
22	1,416.50	708.50	1,133.50
23	1,416.50	708.50	1,133.50
24	1,416.50	708.50	1,133.50

annex a/ct industry study/me

* Applicable to all tree species

PROCEDURES IN THE GENERATION OF THE SCHEDULE OF DEVELOPMENT, MAINTENANCE AND PROTECTION COST OF A ONE (1) HECTARE COMMERCIAL TREE PLANTATION

GIVEN:

Tree Species: Gmelina (Gmelina arborea)
Plant Spacing: 3m x 4m

PROCEDURES:

1. Determine the tree density per hectare based on the given spacing using the following formula:

$$\text{Tree Density} = \frac{10,000 \text{ square meters}}{3m \times 4m}$$

$$= \frac{10,000 \text{ square meters}}{12 \text{ square meters}}$$

$$= 833 \text{ trees per hectare}$$

2. Compute the Development, Maintenance and Protection Cost (DMPC) per hectare using average cost per tree of ₱15.31, ₱ 7.89 and ₱ 2.08 for Year 1, Year 2 and Year 3, respectively.

Year 1   = ₱ 15.31/tree x 833 trees/hectare
           = ₱ 12,753/hectare

Year 2   = ₱ 7.89/tree x 833 trees/hectare
           = ₱ 6,572/hectare

Year 3   = ₱ 2.08/tree x 833 trees/hectare
           = ₱ 1,733/hectare

Note: The tree density of 833 trees per hectare is assumed to be the same from Year 1 up to Year 3 considering that replanting is undertaken on mortalitiy/ies.

3. The cost of maintenance from Year 4 up to the age when the Gmelina trees become harvestable as saw log or lumber is assumed to be 50% of the cost in Year 3.

4. Generate the schedule of DMPC per hectare of Gmelina at 3m x 4m tree spacing.

Year	DMPC/ha.
1	₱12,753
2	6,572
3	1,733
4	866
5	866
6	866
7	866
8	866
9	866
10	866
11	866
12	866
13	866
14	866

PROCESS IN THE COMPUTATION OF THE CUMULATIVE DEVELOPMENT COST

GIVEN:

Name of Land Owner	: Ruperto B. Mangahas
Location of Property	: Manjuyod, Negros Oriental
Tree Species	: Gmelina Arborea (Gmelina)
Area Planted	: 10.0000 hectares
Date Planted	: January 1, 1999
Plant Spacing	: 2m x 3m
Date of Field Investigation (FI)	: May 26, 2000
Date of Claim Folder (CF) Receipt	: February 9, 2001
Unit Market Value (UMV) of Idle Land	: P15,000/hectare
Date of Effectivity of the Schedule of UMV	: January 1, 1999
Location Adjustment Factor (LAF)	: 96%
Regional Consumer Price Index (RCPI)	
January 1999	: 1.353
December 2000	: 1.467
February 2001	: 1.658

REQUIRED: Determine the Total Land Value (TLV) of the property.

COMPUTATION:

1. Using the development, maintenance and protection cost data for 2m x 3m plant spacing in Annex "A" of DAR-LBP Joint Memorandum Circular (JMC) No. __, Series of 2001, the grossed-up Cumulative Development Cost (CDC) from December 31, 1999 up to January 2001 is computed as follows:

CDC (January 1999 to February 09, 2001) = P22,377 + P10,410 + (40/365 x P2,833)
= P33,097

$$\text{Grossed-up CDC} = P33,097 \times \frac{\text{RCPI (February 2001)}}{\text{RCPI (December 2000)}}$$

= P33,097 x (1.658/1.467)

= P37,406/hectare

2. Compute the Market Value (MV) per Tax Declaration

$$MV = UMV \times LAF \times \frac{RCPI\ (February\ 2001)}{RCPI\ (January\ 1999)}$$

= P15,000 x 0.96 x (1.658/1.353)

= P17,646/Hectare

3. Compute the Unit Land Value (ULV) of the property.

ULV = (MV x 2) + CDC
= (P17,646 x 2) + P37,406
= P35,292 + P37,406
= P72,698/Hectare

4. Determine the TLV of the property.

TLV = ULV x Area Planted
= P72,698/Hectare x 10.0000 Hectares
= P726,980.00
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TREE INVENTORY SUMMARY REPORT

Name of Landowner : _____
OCT/TCT No. : _____
Area (Hectares) : _____
Location of Property : _____
Date of Inventory : _____

Tree Species		Diameter at Breast Height (cm)	Estimated Merchantable Height (m)	Not Yet Harvestable/ Harvestable	No. of Trees	Volume	
Common Name	Scientific Name					Round Log (cu-m)	Square Log (cu-m)

Conducted by:

_____
Landowner

_____
Farmer-Beneficiary

_____
Lessee*

_____
DAR Representative

_____
LBP Representative

_____
CENRO/PENRO**

* if the property is covered by a lease contract
** if assistance is requested

HARVESTABLE AGE OF DIFFERENT TREE SPECIES

Tree Species	HARVESTABLE AGE				
	Sawlog	Pole	Fuelwood	Veneer[1]	Pulp[2]
Gmelina (Gmelina arborea)	15	10	6	10	3 – 6
Mangium (Acacia mangium)	14	8	3 - 6	14	-
Narra (Pterocarpus indicus)	25	17	10	17	-
Mahogany (Swietenia macrophylla)	25	15	10	15	-
Auri (Acacia auriculiformis)	-	12	6	-	-
Eucalyptus Spp.	15	7	3 - 6	10	3 – 6
Falcata	15	-	3 - 6	10 - 12	3 – 6

[1] Trees intended for veneer are sold as round log or square log.
[2] Trees intended for pulp are commonly sold as round log.

ROUND LOG RECOVERY FACTOR (RRF), BY REGION AND SPECIES GROUP
(Standing Timber)

REGION	SPECIES GROUP	Applicable RRF when	
		DBH in centimeters 1/	DBH in meters 2/
Northern Luzon (Regions I, II & III)	Non-Dipterocarp Dipterocarp	0.00005109 0.00005203	0.5109 0.5203
Southern Luzon (Regions IV & V except Palawan)	Non-Dipterocarp Dipterocarp	0.00005204 0.00005171	0.5204 0.5171
Eastern Visayas (Region VIII and Bohol)	Non-Dipterocarp Dipterocarp	0.00004874 0.00005231	0.4874 0.5231
Western Visayas (Regions VI, VII and Palawan)	Non-Dipterocarp Dipterocarp	0.00004874 0.00004649	0.4874 0.4649
Eastern Mindanao (Portion of Agusan, East of Agusan River, Davao and Surigao)	Non-Dipterocarp Dipterocarp	0.00004961 0.00005087	0.4961 0.5087
Central Mindanao (Bukidnon, Cotabato, Lanao, Misamis & Portion of Agusan, West of Agusan River)	Non-Dipterocarp Dipterocarp	0.00005039 0.00005019	0.5039 0.5019
Western Mindanao (Basilan, Sulu and Zamboanga)	Non-Dipterocarp Dipterocarp	0.00004840 0.00004668	0.4840 0.4668

1/ This factor is applicable if the DBH is measured in centimeters while the EMH is in meters.
2/ This factor is applicable if DBH and EMH are measured in meters.

LIST OF DIPTEROCARP AND NON-DIPTEROCARP TREE SPECIES

A.   **Dipterocarp Tree Species**

Common Name	Scientific Name
Afu	Anisoptera brunnea
Almon	Shorea Almon
Apitong	Dipterocarpus grandiflorus
Basilan Apitong	Dipterocarpus basilanicus
Basilan Yakal	Hopea basilanica
Blanco-narig	Vatica blancoana
Broad-winged apitong	Dipterocarpus speciosus
Dagang	Anisoptera aurea
Dalingdingan	Hopea foxworthyi
Gisok-gisok	Hopea philippinensis
Guijo	Shorea guiso
Hagakhak	Dipterocarpus warbugii
Hairy-leafed apitong	Dipterocarpus philippinensis
Hasselt panau, Palawan panau	Dipterocarpus kasseltii
Highland panau	Dipterocarpus subalpinus
Kaladis narig	Vatica elliptica
Lauan	Pentacme and Shorea spp
Lauan Mindanao	Pentacme mindanensis
Lauan red	Shorea negrosensis
Lauan white	Pentacme contorta
Leaf-tailed panau, Panau-buntotan	Dipterocarpus caudatus
Malaanonang	Shorea polita
Malaguijo	Shorea plagata
Malapanau	Dipterocarpus kerrii
Malayakal	Shorea seminis
Manggachapui	Hopea acuminata
Manngasinoro	Shorea phillppinensis
Mayapis	Shorea squamata
Mindanao narek	Hopea brachyptera
Mindanao narig	Vatica mindanensis
Mindanao palosapis	Anisoptera mindanensis
Narek	Hopea cagayanensis
Palawan narig	Vatica obtusifolia
Panau, panau-buntotan	Dipterocarpus gracilis
Round-leafed apitong	Dipterocarpus orbicularis
Southern Bagtikan	Parashorea warbugii

Common Name	Scientific Name
Tangile	Shorea polysperma
Tawi-tawi narig	Vatica papuana
Thick-leafed narig	Vatica pachyphylla
Tiaong	Shorea polysperma
Whitford narig	Vatica whitfordii
Yakal	Shorea astylosa
Yakal-gisok	Shorea gisok
Yakal-kaliot	Hopea malibato
Yakal-mabolo	Shorea ciliata
Yakal-magasusu	Hopea mindanensis
Yakal-malibato	Shorea malibato
Yakal-saplungan	Hopea plagata
Yakal-yamban	Shorea falciferoides

B.   Non-Dipterocarp Tree Species

Common Name	Scientific Name
Akle	Serialbizia acle
Akleng-parang	Albizia procera
Ahern balok	Millettia ahernii
Alibangbang	Pileostigma malabaricum
Almaciga, Adiangau	Agathis philippinensis
Amherstia, Orchidtree	Amherstia nobilis
Anagap	Abarema scutifera
Anagap-bangin	Abarema multiflora
Andaupong	Cassia mindanaensis
Anii	Erythrina fusca
Antsoan	Cassia javanica
Antsoan-dilau	Cassia spectabilis
Antsoan-haluan	Cassia hybrida
Antsoan-mabolo	Cassia javanica (pubifolia)
Apanit	Mastixia philippinensis
Apanit-apatan	Mastixia tetrapetala
Apanit-buntotan	Mastixia subcaudata
Aroma, Cassie	Acacia farnesiana
Aromang lagkitan	Acacia visco
Asiatic sau, silktree	Albizia julibrissin
Ataatab	Cassia divaricata
Ayangili	Acacia confusa
Bahai	Ormosia calavensis
Bahai-laparan	Ormosia grandifolia

Common Name	Scientific Name
Balitbitan	Cynometra ramiflora
Balok-balok	Millettia brachycarpa
Balok-dagat	Millettia littoralis
Balok-haba	Millettia longipes
Balok-laparan	Millettia platyphylla
Bani	Pongamia pinnata
Banuyo	Wallaceodendron celebicum
Basilan bahai	Ormosia basilanensis
Balete	Kingiodendron alternifolium
Batikuling	Litsea leytensis
Batikuling-surutan	Litsea odorifera
Betis	Madhuca betis
Betis-bundok	Madhuca monticola
Big-leafed mahogany, Arawakan	Swietenia macrophylla
Blackwattle	Acacia mearnsii
Blanco narra	Pterocarpus blancoi
Bolong-eta	Diospyros pilosanthera
Brazilian firetree	Schizolobium excelsum
Brownea	Brownea grandiceps
Bugas	Abarema elliptica
Butad	Parkia harbesonii
Caballero	Caesalpinia pulcherrima
Cana-fistula, golden-shower	Cassia fistula
Chinese rosewood	Dalbergia cochinchinensis
Chittagong balok	Millettia atropurpurea
Cutchtree, cathecu	Acacia cathecu
Dao	Dracontomelon dao
Dapdap-palong	Erythrina crista-galli
Dhak, Bengal-kino	Butea monosperma
Dila-dila	Cytometra inaequifolia
Divi-divi	Caesalpinia coriaria
Earpod, Nigger-ear	Enterolobium cyclocarpum
Fireball	Calliandra haematocephala
Firetree	Delonix regia
Foxworthy baluk	Millettia foxworthyi
Fringon	Bauhinia monandra
Fringon-morado	Bauhinia purpurea
Fringon pula	Bauhinia monandra var. rosea
Greenwattle	Acacia decurrens
Guama	Inga laurina
Hairy-leafed narra	Pterocarpus pubescens
Honok	Serianthes grandiflora
Hopang	Paralbizia platycarpa
India rosewood	Dalbergia latifolia

Common Name	Scientific Name
Ipil	Intsia bijuga
Ipil-ipil	Leucaena leococephala
Ipil-laut	Intsia retusa
Jatoba, West Indian Locust	Hymenaea courbaril
Java tanglin	Adenanthera microsperma
Kalantas, kantingen	Toona calantas
Kamachile	Pithecellobium dulce
Kamagong, Mabolo	Diospyros philippinensis
Kamagong-bundok	Diospyros Montana
Kamagong-liitan	Diospyros Montana var parva
Kamanigum	Abarema clypearia
Kamatog	Erythrophloeum densiflorum
Kariskis	Albizia lebbekoides
Kasai	Albizia retusa
Katurai	Sesbania grandiflora
Kayugalu	Sindora inermis
Kulikul	Abarema mindanaensis
Kunding	Parkia sherfeseei
Kupang	Parkia roxburghii
Lanete	Wrightia laniti
Langil	Albizia lebbek
Lanos	Cynometra simplicifolia
Lanos-haba	Cynometra simplicifolia var oblongata
Logwood	Haematoxylon campechianum
Lubang dapdap	Erythrina stipitata
Lunbayau	Tarrietia javanica
Madre de cacao, Kawkawte	Glicirida sepium
Magatkarot	Zygia apoensis
Makapil	Dalbergia mimosella
Makapilit	Periscopsos mooniana
Malaanagap	Zygia caulostachya
Malabalok	Millettia racemosa
Malabani	Millettia tenuipes
Malabanot	Bauhinia dolichocalyx
Malabar narra	Pterocarpus marsupium
Malaipil	Intsia acuminata
Malakamatog	Erythrophloeum philippinensis
Malakaturai	Cassia multijuga
Malamalunggai	Cassia timoriensis
Malapatpat	Millettia canariifolia
Malapigas	Desmodium umbellatum
Malatambali	Crudia cauliflora
Malatanglin	Adenanthera pavonina

Common Name	Scientific Name
Manggis	Koompassia excelsa
Matagum	Cynometra dongnainsis
Matolog	Cynometra copelandii
Merbau, malay	Intsia bakeri
Mezquite	Prosopis juliflora
Mila-milan	Millettia cavitensis
Molave, Maulauin	Vitex parviflora
Moluccan sau	Albizia falcate
Mottled-lead dapdap	Erythrina variegata
Namnam, Namog	Cynometra cauliflora
Namot	Cynometra bijuga
Namot-namot	Cynometra bijuga var. momisoides
Narra	Pterocarpus indicus
Narrow-leafed saraca	Saraca thaipingensis
Panapotien	Ormosia orbiculata
Panauisan	Abarema pauciflora
Pinkball	Calliandra portoricensis
Pinkshower	Cassia nodosa
Potkipot	Abarema angulata
Prickly narra, Red narra	Pterocarpus vidalianus
Pukinggang-kahoi	Clitoria racemosa
Pyinkado	Xylia xylocarpa
Raintree, Monkey-pod tree	Samanea saman
Rarang	Erythrina subumbrans
Sagang-kahoi	Ormosia paniculata
Salingkugi	Albizia saponaria
Sampalok	Tamarindus indica
Sandalaitan	Sophora tomentosa
Sangilo	Pistacia chinensis
Saplit, Sapodilla plum, Sappanwood,	Albizia megaladenia
Saraca	Saraca declinata
Showy-guama	Inga spectabilis
Siar, Baringbing	Peltophorum pterocarpum
Sibukau, Sappanwood	Caesalpinia sappan
Siping	Cynometra warbugii
Siping-siping	Cynometra bifoliolata
Sonting	Cassica leptophylla
Supa	Sindora supa
Tabid-tabid	Zygia fagifolia
Tanglin	Adenanthera intermedia
Teak, Yati	Tectona grandis
Tergemina	Calliandra tergemina
Thailand shower	Cassia siamea
Tiagkot	Abarema clypearia

Common Name	Scientific Name
Tiagkot-kulot	Abarema sessiliflora
Tindalo, Balayong	Afzelia rhomboidea
Tiri	Gleditsia rolfei
Tubli	Derris species
Tubling-kahoi	Derris cumingii
Ulud	Crudia blancoi
Unaki	Albizia magallanensis
Unik	Albizia chinensis
Yellow-shower	Cassia fructicosa
Zigzag-rosewood	Dalbergia sissoo

/annex f/ct industry study disk/me

PREVAILING SELLING PRICES OF TIMBER PRODUCTS AT FARM GATE

Municipality of _____

As of _____

Tree Species		Round Log			Square Log			Per Tree/ Per Cord/ Per Linear Measure/ Per Unit Weight	Source/s of Information
Common Name	Scientific Name	Timber	Pole	Other Uses	Timber	Saw log	Other Uses		

Prepared by:

DAR Representative

CENRO/PENRO Representative

LBP Representative

ILLUSTRATIVE EXAMPLE

GIVEN:

Name of Land Owner	: Marcelo C. Santander
Location of Property	: Alcala, Cagayan
Tree Species	: Swietenia Macrophyla (Mahogany)
Area Planted	: 15.0000 hectares
Year Planted	: 1974
Plant Spacing	: 5m x 2m
Date of Field Investigation (FI)	: April 1-23, 2000
Date of Claim Folder (CF) Receipt	: November 15, 2000
Unit Market Value (UMV) of Idle Land	: P10,000/hectare
Date of Effectivity of the Schedule of UMV	: January 1, 1999
Location Adjustment Factor ((LAF)	: 97%
Regional Consumer Price Index (RCPI)	
January 1999	: 1.410
November 2000	: 1.620

Summary of Inventory:

1. The Diameter at Breast Height (DBH) and the Estimated Merchantable Height (EMH) of the trees together with the total number of trees at different diameter classes are summarized as follows:

DBH	EMH	No. of Trees
34 cm	10 m	950
32 cm	10 m	1,000
30 cm	10 m	1,200
28 cm	9 m	1,400
26 cm	8 m	1,450
24 cm	8 m	1,450
22 cm	8 m	1,000
20 cm	8 m	1,200
18 cm	8 m	1,200
16 cm	7 m	1,250
14 cm	6 m	1,000
12 cm	5 m	900
10 cm	5 m	800

2. There are three (3) known end-uses of mahogany trees in the area, namely:

Square Log - DBH of 24 cm to 34 cm

Pole　　　　- DBH of 18 cm to 22 cm
Fuel Wood - DBH of 16 cm and below

3. The Prevailing Selling Prices (PSP) of square log, pole and fuel wood as determined jointly by the representative/s of DAR, LBP and CENRO-Alcala are as follows:

   Square Log = P5.75/Board-Foot
   Pole　　　 = P1,000/pole
   Fuel Wood = P350/Cubic-meter

   NOTE: The above PSPs are net to the LO. The cost of cutting, hauling and other incidental expenses are shouldered by the buyers/contractors.

REQUIRED: Determine the Total Land Value (TLV) of the property.

COMPUTATION:

1. Determine the value of standing trees.

   a. Compute the Square Log Volume (SLV) of harvestable trees to be sold as square log.

      Using the applicable Round Log Recovery Factor (RRF) in Annex "E" and the Square Log Recovery Factor (SRF) of 70% prescribed under JMC No. ___, Series of 2001, the SLV of each tree diameter class is computed as follows:

      SLV = RLV x SRF　or
      SLV = RRF x DBH^2 x EMH x SRF x Number of Trees
      　= 0.00005109 x 34 cm x 34 cm x 10 m x 0.70 x　 950　trees =　392.75 cu-m.
      　= 0.00005109 x 32 cm x 32 cm x 10 m x 0.70 x 1,000　trees =　366.21 cu-m.
      　= 0.00005109 x 30 cm x 30 cm x 10 m x 0.70 x 1,200　trees =　386.24 cu-m.
      　= 0.00005109 x 28 cm x 28 cm x　9 m x 0.70 x 1,400　trees =　353.28 cu-m.
      　= 0.00005109 x 26 cm x 26 cm x　8 m x 0.70 x 1,450　trees =　280.44 cu-m.
      　= 0.00005109 x 24 cm x 24 cm x　8 m x 0.70 x 1,450　trees =　238.95 cu-m.

      　　　　　　　　　　　　　　Total SLV　　　　　　　 2,017.87 cu-m. or
      　　　　　　　　　　　　　　　　　　　　　　　　　　855,576.88 Bd-Ft.
      　　　　　　　　　　　　　　　　　　　　　　　　　　================

   b. Determine the total number of harvestable trees to be sold as pole:

      Total Number of Trees = 1,000 (DBH of 22 cm) + 1,200 (DBH of 20 cm) +
      　　　　　　　　　　　　　 1,200 (DBH of 18 cm)
      　　　　　　　　　　　　 = 3,400 trees

c. Determine the Round Log Volume (RLV) of harvestable trees to be sold as fuel wood.

$RLV = RRF \times DBH^2 \times EMH \times$ Number of Trees

= 0.00005109 x 16 cm x 16 cm x 7 m x 1,250 trees = 114.44 cu-m.
= 0.00005109 x 14 cm x 14 cm x 6 m x 1,000 trees = 60.08 cu-m.
= 0.00005109 x 12 cm x 12 cm x 5 m x   900 trees = 33.11 cu-m.
= 0.00005109 x 10 cm x 10 cm x 5 m x   800 trees = 20.44 cu-m.

                              Total RLV   228.07 cu-m.
                                                    ============

d. Compute the Value of Standing Trees (VST).

Square Log = SLV x PSP
            = 855,576.88 Bd-Ft. x P5.75/Bd-Ft.
            = P4,919,567

Pole   = Number of Trees x PSP
            = 3,400 trees x P1,000/tree
            = P3,400,000

Fuel Wood = RLV x PSP
            = 228.07 cu-m. x P350/cu-m.
            = P79,824

Total VST = P4,919,567 + P3,400,000 + P79,824
           = P8,399,391.00
             ============

2. Compute the Market Value (MV) per Tax Declarartion

$$MV = UMV \times LAF \times \frac{RCPI\ (November\ 2000)}{RCPI\ (January\ 1999)}$$

= P10,000/Hectare x 0.97 x (1.620/1.410)

= P11,145/Hectare

3. Determine the Total Land Value (TLV) of the property.

ULV = [(MV x 2) x Area] + VST
    = [(P11,145/Hectare x 2) x 15.0000 Hectares] + P8,399,391
    = P334,350 + P8,399,391
    = P8,733,741.00
      ============