



Joint DAR-LBP
Memorandum Circular No. *12*
Series of 1999

**SUBJECT : Supplemental Guidelines on the DAR-LBP Joint Financing
For Rubber Replanting Under the Credit Assistance Program
for Program Beneficiaries Development (CAP-PBD)**

I. Introduction/Rationale

Section H of Joint DAR-LBP Memorandum Circular No. 07, Series of 1998 provides for the determination of standards for nursery development, rubber replanting and rubber exploitation that are critical to the success of the rubber replanting program and the eventual repayment of the loan. As provided in this Memorandum Circular, a Regional Technical Advisory Team (RTAT) shall be created to be composed of representatives from DAR, LBP and a partner NGO. In line with this provision, the Regional Technical Advisory Team in Region IX, composed of the DAR Regional Director, LBP-Cluster Head, and the Executive Director of the National Federation of Labor - Agrarian Reform Department (NFL-ARD), a local NGO working with rubber plantations, was constituted to determine the appropriate standards for rubber replanting and exploitation.

In September 1998, the RTAT sought the assistance of the Rubber Research Institute of Malaysia (RRIM), through RRIM Consult. With financial support from the Belgian Integrated Agrarian Reform Support Program (BIARSP) and NFL-ARD, a consultancy engagement with RRIM-Consult was undertaken which resulted to ten (10) sets of guidelines, manuals and standards designed to identify appropriate standards governing the utilization of the CAP-PBD fund for the use of both the cooperatives and the financiers (DAR and LBP).

After the submission of the manual by RRIM-Consult, the RTAT undertook a review of the manuals and standards to determine its appropriateness, applicability, and congruence to the existing policies. The said review resulted in the revision of existing policies and parameters, to wit:

- a. Financial
 - b. Central organizations
 - c. Policy guidelines
 - d. Capability building requirements
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The RTAT recommended the issuance of supplemental guidelines to adopt the recommended standards for rubber replanting and, at the same time revised some provisions that are not consistent with the proposed standards/manuals.

It is in this light that these joint supplemental guidelines are being issued by both DAR and LBP to operationalize the joint financing for rubber replanting.

II. Project Financing

Joint financing by DAR and LBP shall be based on the actual needs and cost of each project subject to control costs as agreed by DAR and LBP. Such control costs shall be based on the recommendations of RRIM Consult and the results of the field validation conducted by DAR and LBP, and contained in the Financing Manual approved by the CAP-PBD National Program Management Committee. The control costs shall be reviewed as needed upon the recommendation of the CAP-PBD Regional Technical Advisory Team to consider inflation and other relevant factors.

The loan amount shall be determined based on the following equity sharing scheme:

1. A minimum of 10% of the total project cost shall be the equity of the cooperative. The balance shall be the loan amount to be funded by CAP-PBD and LBP;
2. The loan portion shall be jointly funded by CAP-PBD and LBP. The sharing ratio shall be based on yearly drawdowns and the topographic area mix of the replanting project (which determines the need for terracing and drainage), to wit:
 - a. CAP-PBD – requirement/drawdown for year 1 to year 3 (67% to 72% of loan amount)
 - b. LBP – requirement/drawdown for year 4 to year 6 (28% to 33% of the loan amount)

Proponent cooperatives that have frontloaded replanting activities earlier programmed for CAP-PBD assistance may be eligible for refunds, provided that the area replanted satisfy the standards.

III. Loan Application and Approval

LBP shall ensure the availability of credit to eligible rubber plantation cooperatives under the program subject to LBP's accreditation/lending policies and guidelines.

Accredited cooperatives applying for financial assistance under this joint Program shall submit to DAR and LBP a proposal for the replanting project. The proposal to be submitted must be consistent with the provisions of the *Guidelines for Loan Application and Approval* contained in Annex A of this Memorandum Circular. The replanting project shall adopt the specifications contained in Appendix I-A of the said guidelines.

The evaluation of the loan application shall consider the following factors:

1. Appropriateness of replanting request
2. Management capability to carry-out replanting
3. Proposed costing for replanting and maintenance
4. Proposed program of replanting
5. Proposed clone and income projections
6. Infrastructure availability
7. Availability of machinery and equipment
8. Availability of support services
9. Proposed loan repayment schedule

IV. Loan Terms and Interest Rates

Differential loan terms and conditions shall apply to the CAP-PBD portion and the LBP portion.

The CAP-PBD portion which shall be disbursed to cover the requirements for the first three (3) years shall have two percent (2%) per annum interest rate and a supervision cost of two percent (2%). It shall have a maximum term of 16 years inclusive of a maximum allowable grace period of nine (9) years.

The LBP portion shall cover the requirements from year 4 to year 6 of the replanting project. The loan shall bear an interest rate of 12 percent per annum plus a supervision fee of two percent (2%). It shall have a term of 13 years inclusive of a two-year grace period.

The deferred interest and charges during the grace period for both funds shall be non-interest bearing to be spread over the remaining repayment period. However,

the borrower has the option to pay the deferred interest and charges within a shorter period.

The rubber replanting project of the proponent cooperative shall be a separate activity of the said cooperative complete with designated accountable staff capable of carrying out the project. The capability of key accounting/management personnel involved in the replanting project shall be commensurate to the proposed undertaking. The cooperative shall maintain a separate bank account and books of accounts for the project.

The CAP-PBD Technical Advisory Team or its duly authorized representative may screen the key appointees in the project for the requisite qualifications. While the loan is outstanding, an advanced notice of one (1) month for key personnel changes will be required from the cooperative to ensure that there will be proper turn-over of accountability and responsibility.

V. Loan Releases

All loan releases shall be released in stages that are activity-based, consistent with the different packages described in the *Schedule of Activity-Based Packages to Guide Loan Releases Tranches for Replanting* which forms part of this Memorandum Circular as Annex B.

Releases shall be in the form of partial advances per package. The ratio of advanced releases shall be determined by LBP and DAR depending on the cost of the package, the cash position of the cooperative, and the evaluation of the implementation of the package against the required standards.

The proponent cooperatives shall comply with the required standards for the establishment phase and immature maintenance phase as contained in the *Inspection Standards for Loan Releases* which forms part of this Memorandum Circular as Annex C.

The compliance with the standards per package shall be the basis of the reimbursement (if a partial advance was released) and the release of the funds for the subsequent packages.

VI. Loan Inspection and Administration

A Project Monitoring and Inspection Group (PMIG) shall be created and permanent technical personnel shall be appointed/detailed from DAR and LBP to

conduct activity-based inspections of the replanting projects. The group shall be based at the appropriate LBP branch or office.

The group shall be responsible for submitting reports which shall form the basis of the subsequent loan releases consistent with the standards contained in Annex C. The group may likewise undertake inspections prior to the close of a package to determine any weaknesses in standards compliance in order to make recommendations to the cooperative or the Technical Assistance Group to provide the appropriate technical assistance.

LBP and DAR shall issue the appropriate enabling orders to form the PMIG.

VII. Technical Assistance

A Technical Assistance Group (TAG) shall be created and composed of permanent technical personnel from DAR, LBP and the partner NGO. The TAG shall ensure that the proponent cooperatives are provided with access to the required technical assistance for managing and implementing their replanting activities in accordance with the required standards. The TAG shall closely coordinate with the PMIG to determine the technical assistance required by the proponent cooperatives in the course of the replanting activities. The group shall be based at the appropriate DAR field office.

DAR, LBP and the partner NGO shall issue the appropriate enabling orders to form the TAG.

VIII. Capability Building

The DAR, in partnership with LBP and the partner NGO, shall be responsible for formulating and implementing a capability building program to provide program implementors and cooperative personnel with the appropriate knowledge and skills in managing, coordinating and implementing the CAP-PBD Rubber Replanting Program. In particular, the capability building program must ensure that both the PMIG and TAG members are equipped with the technical skills needed to carry out their respective responsibilities.

Funding for the capability building program shall come from the CAP-PBD Program Management fund, DAR and LBP budget, and other fund sources that may be tapped.

IX. Review Mechanism

The replanting standards and the control costs shall be subject to an annual review to determine their continuing applicability and appropriateness, and to make adjustments for inflation and price escalation.

X. Oversight and Policy

The CAP-PBD Regional Technical Advisory Team (RTAT) is institutionalized as a permanent oversight and policy committee. The RTAT shall monitor and oversee the implementation of the rubber replanting program and shall recommend to the National Technical Review Committee (NTRC) policy and procedural revisions relative to program implementation.

Enabling orders shall be issued by DAR and LBP upon the endorsement of the NTRC.

XI. Others

The standards and processes for loan application and approval, and rubber replanting implementation provided herein are meant to ensure the success of the replanting project towards the sustainability of plantation operations of the proponent cooperatives. In cases where the situation of the area or province would make it impossible or inappropriate to comply with either the standards or the processes, exceptions may be allowed subject to the confirmation of the NTRC.

XII. Effectivity

This Memorandum Circular shall take effect immediately and shall remain in force until revoked in writing. The pertinent provisions of Joint DAR-LBP M.C. No. 07, Series of 1998, inconsistent with this Memorandum Circular are hereby revoked, superseded, or modified accordingly.

22 June 1999, Diliman, Quezon City



HORACIO R. MORALES
Secretary, DAR



FLORIDO P. CASUELA
President and CEO, LBP

ANNEX A

GUIDELINES FOR LOAN APPLICATION AND APPROVAL

The guidelines contained in this annex shall form the basis for loan proposal applications by participating cooperative plantations and approval by the LBP or the duly designated fund administrator (*approval basis indicated in Italics*).

LBP shall ensure the availability of credit to eligible rubber plantation cooperatives under the program subject to LBP's accreditation criteria/lending policies and guidelines.

Plantation cooperatives applying for credit assistance for replanting should submit to the LBP or designated fund administrators, a proposal that outlines the following items:

(Before replanting loan is approved, the LBP or duly designated authority should evaluate the request for loan by the Cooperative Plantation. The request should be in the form of a loan proposal or working paper detailing the required information. The evaluation should also seek to validate the veracity of written information in the proposal through field inspections and other appropriate methods.)

1. Appropriateness for replanting request
2. Management capability to carry out replanting
3. Proposed costing to carry out replanting and subsequent maintenance till maturity
4. Proposed program of replanting
5. Proposed clone and Income projection
6. Infrastructure availability to ensure accessibility to replanting site
7. Availability of machinery and equipment to carry out replanting
8. Availability of support services to ensure success of replanting
9. Proposed loan repayment schedule

(It is after evaluating the above parameters that the LBP or duly designated fund administrator will decide on loan approval).

I. APPROPRIATENESS FOR REPLANTING REQUEST

The Cooperative must provide the Fund administrator with the following information to show that the proposed replanting program to be undertaken is appropriate:

1. Total area to be replanted
2. Age of plants
3. Density of the said area
4. Yield of the said area
5. Percent of yield from the said area to overall yield of the plantation
6. Amount of bark reserve left
7. Current exploitation system and intensity for the said area

1. Total Area to be Replanted

The Cooperative should specify the area to be planted. It would be helpful if the location of the area with respect to other areas is shown through the plantation map.

(Designated fund administrator must be satisfied that the area to be replanted is of economical size. Any area bigger than 20 ha is worth considering.)

2. Age of Plants

The age of plants in the area to be replanted can better be shown by noting the year the plants were planted, were brought into tapping and the year higher tapping intensity was practiced.

(Fund administrator must be satisfied that the trees proposed to be replanted are really due for replanting. The age must be more than 30 years from the year of planting.)

3. Density

Data on this parameter are best presented in the following form:

- 3.1 Number of plants/ha
- 3.2 The initial density i.e. during establishment
- 3.3 Reasons for the decreasing density e.g. wind damage, root diseases or other causes
- 3.4 Percent ratio (%) of dry trees

(Fund administrator must be satisfied that the area to be replanted has a density that is uneconomical to exploit. Any density less than half of the original density during planting can be considered.)

4. Yield

Yield data for the past 5 years from the to-be replanted area should be provided. This will show any declining trend taking place that will help to demonstrate the need to replant the area.

(Fund administrator must be satisfied that the yield of the area to be replanted does not give significant yield. The yield of the area must show a declining trend.)

5. Percent of Yield to Overall Plantation Yield

The contribution of the to-be planted area to the overall Plantation yield over the past 5 years should be shown. The declining trend of contribution helps support the appropriateness to carry out replanting.

(Fund administrator must be satisfied that the contribution of the proposed area in term of yield is negligible and must show a decline from the yield at its prime age.)

6. Amount of Bark Reserve

Amount of bark reserve on the basal and high panels must be estimated and shown. Small reserve that is uneconomical to exploit will help justify replanting request.

(Fund administrator must be satisfied that the bark has been fully exploited. The very small bark reserve is an indication of this. If the bark reserve is still significant, LBP or duly designated fund administrator may suggest delay in replanting until such a time that

the bark is depleted. LBP or duly designated fund administrator may also suggest slaughter tapping to extract maximum yield from the area.)

7. Current Exploitation System and Intensity

Current exploitation system e.g. CUT (Controlled Upward Tapping), TAYL (Tap As You Like or slaughter tapping), double cut with stimulation etc. has to be specified. Intensity can be shown by tapping frequency and the use of stimulants.

The LBP or duly designated fund administrator will determine the appropriateness of the request by assessing the information provided.

(Fund administrator must be satisfied that the area to be replanted has been fully exploited. Managers usually undertake a slaughter tapping with the maximum intensity (daily and may be with stimulation) to extract the maximum yield before embarking on a replanting program.)

II. MANAGEMENT CAPABILITY

Cooperative should provide the following information to demonstrate to the fund administrator that it has the capability of carrying out replanting successfully :

Personnel	Plantation Experience	Service in Plantation	Hectares Replanted
1. Manager			
2. Deputy Manager			
3. Assistant Manager			
4. Field Assistants			

In cases where the experience of the Manager or/and Deputy Manager is not sufficient to convince the LBP or duly designated fund administrator of its capability, it should nominate expertise from somewhere else to help carry out, or advise on the process. In this case, the Cooperative should provide a resume of the expert highlighting on his experience in replanting.

(Fund administrator should be satisfied that the management has the capability to carry out the proposed replanting exercise. The collective experience of personnel in the above categories should be not less than 100 ha, with the manager and deputy manager collectively having half of that amount.)

III. PROPOSED COSTING

Proposal should also detail out the entire replanting costing. The proposed costing should include detailed costing of replanting activities as already preliminarily negotiated with the would-be contractor chosen through a tendering process (if components or the whole activity is contracted out) or through finding out the current market prices for the various works to be carried out. For purposes of calling for tender, an example is exhibited in Appendix IA for

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job specifications. Schedule of works as shown in the example under Appendix IB should be clearly shown.

Cost of all operations during establishment and maintenance of immature period must be detailed out (please refer to Appendix II).

(Proposal should also detail out the entire replanting costing. The proposed costing should be compared to the ranges in the Control Cost (released through a separate Memorandum Order). The LBP or duly designated fund administrator must be satisfied that the proposed cost is within the control cost. The LBP or duly designated fund administrator must get a satisfactory explanation from the manager as to any variation from the control cost, be it lesser or more.

In cases where the manager opts to contract out all activities related to replanting, LBP or duly designated fund administrator should ask for the tender documents and the minutes of tender selection. In addition, LBP or duly designated fund administrator should also request for the contractor's undertaking to complete the replanting exercise at the cost he submitted and accepted by the Cooperative.)

IV. PROPOSED PROGRAM

The Cooperative is also required to detail out the proposed program that should include the timing of each replanting activity (commencement and completion). A Gantt Chart best presents this.

(Fund administrator must be satisfied that the proposed replanting schedule by the Cooperative is realistic and workable.)

V. PROPOSED CLONE/ INCOME PROJECTION

Cooperative must specify the clone to be planted. This should be selected based on the local performance. Comparative clone performance prevalent to the Cooperative conditions must be shown to support selection. Cooperative must also project the future income from the replanted area based on the yield and prevalent sale price of rubber. Appendix III shows yield profiles of some clones.

(Fund administrator must be satisfied that the selection of clone is appropriate based on the historical record of the clone's local performance. LBP or duly designated fund administrator must also be satisfied that the income projection from this clone will lead to the improvement of Co-operative's revenue.)

VI. INFRASTRUCTURE AVAILABILITY

Availability of infrastructure is vital to ensure success of replanting program. This is for the transport of workers, planting materials, agronomic inputs e.g. fertilizers and pesticides, and supervision. Thus, Cooperative should highlight this aspect.

(Fund administrator must be satisfied that there is sufficient infrastructure to support replanting program.)

VII. MACHINERY AND EQUIPMENT

If Cooperative opts for mechanization to carry out replanting it should be noted that works carried out through this means need heavy machinery e.g. bulldozers, excavators and tractors. It is not likely that Cooperative owns this machinery. However, the contractor chosen for this program should make the machinery available.

(If the Cooperative opts for mechanized land clearing, the Fund administrator should request for a letter of undertaking from the contractor chosen for this program to supply the necessary equipment. Fund administrator should also request an inventory of equipment in the arsenal of the contractor. Financier must be satisfied that the contractor has the capability to undertake replanting program till completion.)

VIII. SUPPORT SERVICES

In cases where the Cooperative falls short of any facility (e.g. propagation nursery, field transport) or expertise (e.g. the management team has no prior experience in carrying out replanting program or if the team has no confidence in embarking on such a program), the Cooperative should highlight how it plans to mitigate the effects of this shortcomings. The mitigating measure can be through outsourcing or hiring (for facility) or appointment of experts in the exercise for the duration of the replanting program (for expertise).

(The Fund administrator must be satisfied that the arrangement made by the Cooperative is substantiated by commitments from parties mentioned and he must also be satisfied that the arrangement is workable. Costs for such services should be highlighted in the Proposed Costing. If it is not, the financier must be satisfied that the Cooperative is able to bear the costs on its own.)

IX. PROPOSED LOAN REPAYMENT

The Cooperative should also propose the repayment scheme or schedule. In order to facilitate decision on this matter, the Cooperative should present the plantation's pro-forma cash flow following the undertaking of the replanting program.

It should be noted that loan given out for replanting purposes can be recovered from the overall Cooperative's revenue if the Fund administrator is satisfied that the overall Cooperative's cash flow is healthy. Loan given out for replanting an area is not necessarily recovered only upon its maturity.

(Fund administrator satisfied that the proposed loan repayment schedule will not jeopardize other operations within the Cooperative.)

X. ASSESSMENT FOR ABILITY TO REPAY LOAN

Fund Administrator must be satisfied that the Cooperative's cash flow following exploitation of the replanted area is conducive for loan repayment.

APPENDIX IA
Specification 1

**SPECIFICATION FOR THE WORKS OF FELLING, STACKING, BURNING,
RESTACKING AND REBURNING**

I. Felling

1. Felling and burning shall be carried out in areas which carry a stand of old rubber excluding occupied land, river reserves, within the perimeter of the area shown in the attached plan, the approximate hectareage of which is as stated therein.
2. The area to be worked is as shown on the plan attached and the boundaries thereof shall be marked on the ground by stakes. No account shall be taken of any Works carried out outside the boundaries so marked.
3. The Contractor shall obtain his own poison spraying licence and shall strictly comply with the Poison Ordinance 1949.
4. No boundary stones/markings, etc. shall be disturbed from their original position by the Contractor in the course of all works under this Contract and should such stones/markings be disturbed as a result thereof, the Contractor shall be required to reimburse the institute the cost of re-survey and materials, etc. and the Institute shall have the right to deduct this sum from any payments due to the Contractor under the Contract.
5. The Contractor shall be held responsible and shall pay for any damages to persons and/or properties caused by any means whatsoever in the course of all Works under this Contract, which shall mean to include this and all other Specifications annexed hereto. The Institute shall have the right to withhold all payments of part thereof which would otherwise be due to the Contractor until damage to persons and/or properties have been paid and proof of the settlement produced to the satisfaction of the Institute.

A. Mechanical (Bulldozer) Felling

Felling shall, as far as possible, be done mechanically i.e. with the help of Bulldozers. Only in areas inaccessible to bulldozers e.g. in swamps areas or on slopes more than 45 degrees, is manual felling using chain saws permitted and in which case the total chain-sawed area should not exceed 20% of the total contract area.

B. Manual (Chainsaw) Felling

1. The Contractor shall carry out under-brushing (felling of under-growths) before the Work of Felling shall commence.

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2. Felling of trees shall be as follows:

	Dimension of trees	Felling shall be done at a height of
a.	All undergrowth and trees up to a diameter of 7.5 cm shall be felled first	15 cm from ground level
b.	All trees between 7.5 cm and 15 cm in diameter	30 cm from ground level
c.	All trees between 15 cm and 30 cm in diameter	60 cm from ground level
d.	All trees between 30 cm and 76 cm in diameter	90 cm from ground level
e.	All trees between 76 cm and 150 cm in diameter	150 cm from ground level
f.	All trees over 150 cm in diameter	Shall be felled at the point where the buttress roots meet the main trunk

3. Where a tree is struck by another and thereby breaks at a height in excess of the height herein before mentioned, such tree shall be cut to the required height. All trees shall be cut clear off the stump and no tree shall be left suspended.
4. All trees shall be felled inwards from the perimeter rentiers. Road and tracks which are indicated by the Superintending Officer within the area shall be left clear for vehicles to pass. If however, any trees have been felled on or across such roads, tracks and perimeter rentiers, the clearance of the roads, track and perimeter rentiers shall be done by the Contractor at his expenses or if he fails to do so, by the Institute at the expenses of the Contractor and all expenses in connection therewith shall be charged to the Contractor's account and the amount thereof shall be deducted from any payments due to the Contractor under Contract.
5. Trees shall not be felled into or across any river, stream, swamp or ravine. Any tree or part thereof falling into or across river, stream, swamp or ravine shall be cleared by the Contractor at his own expenses or if he fails to do so, by the Institute at the expense of the Contractor and all expenses in Contractor's account and the amount thereof shall be deducted from any payments due to the Contractor under the Contract.
6. Trees in swamps, ravines, river reserves, alienated lands, lands illegally occupied, vacant and lallang areas and any areas unsuitable for planting shall not be felled. Any tree so felled shall be cleared out of the swamps etc. by the Contractor at his expense or if he fails to do so, by the Institute at the expense of the Contractor and all expenses in connection therewith shall be charged to the Contractor's account and the amount thereof shall be deducted from any payments due to the Contractor under the Contract. The Contractor is also liable for damages, if any, for such illegal felling.

II. Stacking

After the completion of Felling of the whole area or part thereof, and the Superintending Officer in accordance with his discretion so decides that the trees that have been felled are sufficiently dry, then in such event the said area shall be stacked. Stacking shall include extraction of stumps resulting from prior logging operations.

III. Burning

1. Mechanical (Bulldozer) Felling:

- (a) Following stacking and the discretion of the Superintending Officer the area shall be burnt (herein referred to as the "major burn"). Thereafter all timber shall be cut, restacked and completely burnt to ashes. Dead trees shall be felled within one month of the first major burn of the entire felled area.
- (b) After restacking and reburning, all growths and regenerations of any kind of vegetation whatsoever including lalang, undesirable grass, weeds, bamboos, bertams, rotan, wild bananas and other noxious growths shall be completely eradicated and dead by the roots before lining takes place and the area shall so be kept absolutely clean until and up to the time of issuance of payment certificate as described in Specification 8, Clause 8(a).

2. Manual (Chainsaw) Felling:

- (a) After the completion of Felling of the whole area or part thereof, and the Superintending Officer in accordance with his discretion so decides that the trees that have been felled are sufficiently dry, then in such event the said area shall be burnt (herein referred to as the "major burn"). Thereafter all timber shall be cut, stacked and completely burnt to ashes. Dead trees shall be felled within one month of the first major burn of the entire felled area.
- (b) After pruning, stacking and reburning, all growths and regenerations of any kind of vegetation whatsoever including lalang, undesirable grass, weeds, bamboos, bertams, rotan, wild bananas and other noxious growths shall be completely eradicated and dead by the roots before lining takes place and the area shall so be kept absolutely clean until and up to the time of taking over by maintenance Contractor.

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Specification 2**SPECIFICATIONS FOR PLOUGHING AND HARROWING**

1. Ploughing and harrowing must be carried out within the boundaries specified by the Superintending officer. Contractor shall not be paid for works carried out outside the specified boundaries.
2. Contractor shall carry out two rounds of ploughing followed by one round of harrowing. Contractor shall repeat works of ploughing and harrowing when directed by the Superintending Officer following his dissatisfaction on works earlier carried out.
 - i) Contractor shall carry out disk ploughing for the first round. The disk shall have a diameter of 26 inches and shall have a ploughing depth of 7 - 8 inches.
 - ii) Contractor shall carry out second disk ploughing at a right angle to the first round ploughing at the same depth or as directed by the Superintending Officer.
 - iii) Contractor shall carry out harrowing using "Rome Serrated Disc".
3. Contractor shall observe the following interval between works:
 - i) Second round ploughing shall be 30 days after the first round ploughing
 - ii) Harrowing shall be carried out 15 days after the second round ploughing
4. Contractor shall completely eradicate all growth of weeds as directed by the Superintending Officer
5. Contractor shall observe that no boundary stone or any other form of boundary demarcation shall be displaced while carrying out works related to ploughing and harrowing



Specification No. 3

SPECIFICATION FOR THE WORKS OF CONSTRUCTION OF
AGRICULTURAL ROADS IN RUBBER AREAS**A. Type of roads**

There shall be only one type of road to be constructed over the entire Rubber Area to be instructed by the Superintending Officer.

B. Layout and setting out

1. The Institute shall plan and design the layout of the Agricultural Roads which shall be staked out by the Contractor under the direction of the Superintending Officer or his site representative.
2. The Contractor shall provide the stakes for setting out the alignment of the Agricultural Roads. The length of the stakes shall be 150 cm high with the top 30 cm painted.
3. The Contractor shall provide the Superintending Officer any assistance he may require for setting out and checking the road alignment on the ground.

C. Formation of width

The finished formation width shall be 3.65 meter.

D. Camber

The camber of the road shall be within the range of 1:25 to 1:20 sloping towards the edge of the bank.

E. Length of roads

The length of the roads is approximately 75 meter per ha on average.

F. Earthworks

1. The Contractor shall carry out the earthworks in an orderly manner and shall maintain good crossfalls to ensure the rapid dispersal of all surface water from the road formation at all time.
2. Cutting and filling shall be undertaken to achieve a longitudinal gradient not exceeding 1:12 in any instance, except with the prior approval of the Superintending Officer.

3. Where cuttings are to be made, the side slopes shall not exceed 1:2 and in all cases the spoils from such cuttings shall be used for making embankments in the lower sections of the road formation.
4. Soil used for filling shall be obtained from parts of the road that require cutting or from approved burrow-pits, or from where cutting is done in making a corner which shall be suitably banked and the width increased to commensurate with the sharpness of the bend in the road alignment.

G. Regrading/widening

Wherever existing logger tracks coincide with the alignment of Agricultural Road, these shall be regraded and/or widened to conform to the above Specification.

H. Construction Plants

The Contractor shall have a minimum of six bulldozers and one grader for the execution of road works.

I. Bridges and culverts

The construction of bridges and culverts are not included in this Specification. However, temporary bridges for the Plants/Vehicles engaged in the Construction of the Agricultural Roads and the supervision of the works under this Contract shall be provided by the Contractor.

Specification No. 4

**SPECIFICATION FOR LINING IN RUBBER AREAS
(LINING FOR PLANTING ROW AND PLANTING POINTS)**

1. All plantable land must be lined under the guidance of the Superintending Officer.
2. All lining pegs are to be provided by the Contractor. The pegs must be 120 cm long to be coloured as directed by the Superintending Officer.
3. The interval between planting rows should be as follows:
 - (a) 9.14 meter for hilly terrain
 - (b) 7.31 meter for undulating terrain
 - (c) 6.09 meter for flat terrain

4. The distance between planting points should be as follow:

Terrain	Polybags
Hilly	2.13meter
Undulating	2.74 meter
Flat	3.05 meter
Planting density	500 - 550

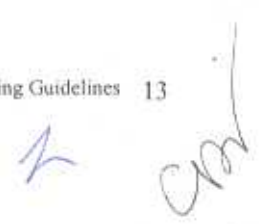
5. The uniform density method of lining may be followed on hilly terrain based on planting densities, as given above. Allowance for road interference should be included.

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Specification No. 5

SPECIFICATION FOR THE WORKS OF
MECHANICAL AND MANUAL TERRACING IN RUBBER AREAS

1. Terracing if required shall be done manually and/or mechanically by bulldozing at the discretion of the Superintending Officer. It must be preceded by contour lining using appropriate equipment to ensure evenly horizontal terraces.
2. Terracing shall be done along the contours at 9.14 meter apart in the plantable rubber area which shall be indicated by the Superintending Officer who has the right to vary the distance between terraces having regard to the terrain and the steepness of the areas to be terraced.
3. Terraces shall be cut to a minimum width of:
 - (a) 150 cm into the solid earth in the case of terraces constructed by bulldozers,
 - (b) 90 cm into the solid earth in the case of manually constructed terraces and all finished terraces shall not be less than:
 - i) 240 cm wide in the case of terraces constructed by bulldozers and
 - ii) 150 cm wide in the case of manually constructed terraces.
4. Terraces shall be cut in the shape of wedge with drop to the back of the terraces. The angle of the slope shall provide a drop of:
 - (a) 45 cm to the back of the terrace in the case of terraces constructed by bulldozers.
 - (b) 30 cm to the back of the terrace in the case of manually constructed terraces.
5. The earth excavated and dug from the hillside to form the outside section of the terraces shall be firmly beaten in order to consolidate the finished terraces and to eliminate erosion.
6. In the case of terracing by bulldozers all stumps shall be destumped and removed from the terrace row and in manual terracing, stumps below 25 cm in diameter shall be cut down to ground level and removed from the terrace row. In both bulldozing and manually constructed terraces, all felled timber on and across the terraces shall be removed from the terrace row and placed elsewhere.



Specification No. 6

SPECIFICATION FOR THE WORKS OF HOLING IN RUBBER AREAS

1. Holes may be dug manually and/or mechanically at the discretion of the Superintending Officer.
2. The dimension of the holes to be dug shall be as follows:

Manually holed	Mechanically holed
Top 60 cm square	45 cm diameter
Depth 45 cm deep	45 cm deep
Base 37.5 cm square	45 cm diameter

3. In terraced areas holes shall be dug in the centre of the terraces in the original solid earth or as indicated by the Superintending Officer. In platform areas holes shall be dug in the centre of the platform or as indicated by the Superintending Officer.
4. In manual holing the top 15 cm of the soil shall be placed on one side of the hole and the remainder on the other side of the hole or as indicated by the Superintending Officer.
5. Holes shall be weathered for a period of not less than two weeks and before filling at the discretion of the Superintending Officer.
6. When filling, the bottom half of the hole shall be filled and trampled down, the balance shall be filled with top soil to capacity.
7. The top 22.5 cm of the filling shall be mixed with 112 g of rock phosphate, or any other fertilizer supplied by the Institute.
8. After the holes have been filled, lining pegs, made available by the Contractor, shall be placed on every hole.

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Specification No. 7

SPECIFICATION FOR CONSTRUCTION OF DRAINS

1. Drains should be constructed as determined and directed by the Superintending Officer.
2. The length of the drains shall be determined by the Superintending Officer and shall have the following dimensions:

Dimension of drains (meters)			
	A	B	C
Top	1.5	1.2	0.9
Depth	1.2	0.9	0.6
Base	0.9	0.6	0.3

3. The layout of the drains shall be indicated by means of pegs after consulting with the Superintending Officer. The top 150 cm of each peg shall be painted yellow.
4. The Contractor shall remove any woody parts which obstruct the flow of water into and in the drains.
5. The Contractor shall remove all roots, woody parts and dug soil at least 0.50 m away from both sides of the drains. Under no circumstances shall these roots, woody parts and dug soil be stacked in a manner obstructing the flow of water from surrounding areas.
6. Drains shall be constructed with sufficient slope for unrestricted flow of water.
7. Certificate for progress payment shall be issued for every 1,000 m of drain satisfactorily completed, less retention fund.

Specification No. 8

**SPECIFICATION FOR THE WORKS OF CLEARING AND REMOVAL
OF TIMBER ON UNTERRACED PLANTING ROWS IN RUBBER AREAS**

1. The areas of planting rows (hereinafter called "the row") shall be indicated to the Contractor by the Superintending Officer.
2. The Contractor shall cut and remove:
 - (a) All fallen timber lying across the rows shall be cut to a width of no less than 180 cm – i.e. the width of the rows.
 - (b) The cut timber shall than be removed to either side of the rows at a distance far enough for it not to roll on to the rows so as to keep the rows free from all obstacles and to allow unobstructed access at all times.

Specification No. 9

SPECIFICATION FOR THE WORKS OF THE ESTABLISHMENT OF
LEGUMINOUS COVER CROPS IN RUBBER AREAS

1. Prior to sowing of the leguminous cover crops seeds, the entire area shall have been clean weeded of all growths and regenerations of any kind of vegetation whatsoever including lalang, undesirable grass, weeds, bamboos, bertams, rotan, wild bananas and all other noxious growths which shall have been completely eradicated and dead by the roots.
2. Sowing of the creeping leguminous cover crop seeds shall be carried out over the entire area as soon as possible after the work of lining is completed as directed by the Superintending Officer.

Terrain	Species of cover crops seeds	Rate of application/ha
Hilly	Calopogonium caeruleum Pueraria javanica	1 kg 7 kg
Flat	Calopogonium caeruleum Pueraria javanica	
Undulating	Calopogonium caeruleum Pueraria javanica	

3. The seed-mixture shall be treated with rhizobium compost in the proportion as specified by the Rubber Research Institute and the seed-mixture shall then be mixed with its own weight of rock phosphate, before application in the field.
4. Sowing of seed-mixture shall be in four cultivated drills to be spaced at 150 cm intervals with the first drill to be at the outer edge of the terrace or at any distance as indicated by the Superintending Officer.
5. Sowing of the seed-mixture shall be carried out in the following manner.
 - (a) The drills shall be made by sink changkol or other means to a depth as indicated by the Superintending Officer.
 - (b) The seed-mixture shall then be evenly distributed along the drills.
 - (c) The drills with the seed-mixture shall then be covered with earth.
 - (d) The number of labourers required shall be as directed by the Superintending Officer so as to enable the sowing of the leguminous cover crops seeds. Safety of storage shall be responsibility of the Contractor. Rhizobium compost and rock phosphate shall be provided by the Institute at the Contractor's cost.

6. (a) The Contractor shall, at his own expense, purchase, transport and stock the stipulated quantity of leguminous cover crops seeds. Safety of storage shall be the responsibility of the Contractor. Rhizobium and rock phosphate shall be provided by the Institute at the Contractor's cost.
- (c) In the event that the Contractor for these Basic Development works is not doing further maintenance works, the Contractor is responsible for the preliminary maintenance of the leguminous cover crop until Clause 8 applies.
7. (a) A payment certificate in respect of any block of not less than 100 ha may be issued by the Superintending Officer not earlier than 30 days after the leguminous cover crop seeds have been sown in accordance with this Specification:

Provided that

- i) The leguminous cover crop seeds have germinated in not less than 90% of the said block of 100 ha, and
- ii) The said block of 100 ha has been kept clean and free from all noxious and undesirable
- (c) Where part of parts within the said block of 100 ha has or have been excluded from a payment, certificate by reason of the failure of the leguminous cover crop seeds to germinate, then in such an event, the Contractor shall at his own cost and expense resow and maintain the said area until the Leguminous cover crop seeds have successfully germinated. A payment certificate shall be issued for the balance of the area originally excluded from the payment certificate when the leguminous cover crop seeds sown in the balance area have fully germinated.
8. Where a payment has been made in respect of an area established with leguminous cover crops in accordance with the above requirements the Institute shall certify such area by issuing a "Certificate of Commencement of Maintenance" of the leguminous cover crop area under pure cover conditions in accordance with the relevant specifications.



APPENDIX I-B

SCHEDULE OF DATES FOR COMPLETION OF WORK RUBBER AREAS

Date of possession of site by Contractor shall be 1st July, 1992:

Item no.	Nature of works	Date of commencement	Date of completion
1.a	Felling		
1.b	Stacking/burning		
1.c	Pruning, restacking and reburning		
2.	Construction of agricultural roads		
3.	Lining and terracing		
4.	Holing		
5.	Cover establishment		
6.	Planting of polybag plants		
7.	Maintenance of cultivated areas	1 month after establishment of covers as and when directed	Per round of 30 days cycle
8.	Side shoot pruning		Per round of 30 days cycle




Appendix II Cost Table

Activity / Year Establishment	1	2	3	4	5
Planting Materials					
Slashing & underbrushing					
Felling					
Burn & fire containment					
Poisoning of stumps					
Rootstumps removal (+ covering back of holes)					
Stack & Burn					
Terracing					
Lining					
Holing					
Planting (+hauling, transport & distribution)					
Covers establishment plus cost of seeds and treatment					
Bunds and terraces					
Roads & bridges					
Drainage					
Fencing					
General Charges					
Subtotal					
Immature Phase					
Maintenance					
Interrow weeding					
Treerow weeding					
Manuring					
Supplies					
Pest & Diseases					
Roads & bridges					
Branch Induction					
Pruning & thinning					
Wind damage					
Marking & census					
Fencing					
Drainage					
Bunds & terraces					
Cultivation tools					
Transport					
General Charges (5%)					
Subtotal					
Total (establishment & immature maintenance)					




Activity / Year	1	2	3	4	5	6	7	→	20
Mature Phase / Year of Tapping									
Treerow weeding									
Interrow weeding									
Manuring									
Pest & diseases (3% incr./yr)									
Wind damage									
Pruning & thinning									
Marking & census									
Upkeep fences & boundaries									
Upkeep drainage									
Upkeep roads, bridges & paths									
Tools & field maintenance									
Transport									
Subtotal									
Exploitation									
Marking & census									
Tasking									
Retasking									
Opening (done by tappers)									
Tapping utensils: pails & churns									
Tapping gadgets: knives, cups, springs & spouts									
Replacement of tapping gadgets (10% of initial cost)									
Tapping									
Transport									
Subtotal									
General Charges (5%)									
Total (mature area maintenance & tapping)									
Total									

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APPENDIX III

Yield Profile of Some Popular Clones

Yr of Tapping	RRIM 600	PB 260	PB 235	GT1
1	720	1180	1370	700
2	1210	1820	1870	1180
3	1600	2220	2280	1410
4	1860	2220	2300	1640
5	2310	1960	2000	1570
6	2320	2370	2060	1960
7	2350	2760	3230	2280
8	2470	2530	2530	2340
9	2700	2390	2560	2310
10	2360	2230	2530	1880
11	2190		2170	2040
12	2040		3290	1700
13	2660			1530
14	2940			1670
15	3260			1640
16	3500			1700
17	3500			1700
18	3500			1700
19	3500			1700
20	3500			1700

Annex B

SCHEDULE OF ACTIVITY-BASED PACKAGES TO GUIDE LOAN RELEASES/TRANCHES FOR REPLANTING

I. Policy on loan releases under CAP-PBD for Rubber Replanting

Replanting loan approved for the cooperative to carry out a replanting program *should be released in stages that are activity-based*. The reasons for this mode of payment is to ensure that loan given out is accountably spent and facilitate inspection/assessment by the fund administrator. In this schedule, the mode of payment is outlined for the fund administrator to follow.

II. Packaging of Activities

To facilitate inspection and release of loan, the activities of replanting are packaged as follows (The control costs for each package will be subject of a separate memorandum order):

Establishment Phase

A. Package 1:

Activities under this package are:

- Slashing & underbrushing
- Felling
- Poisoning of stumps

B. Package 2

Activities under this package are:

- Burn & fire containment
- Root stumps removal
- Stack and burn

C. Package 3

Activities under this package are:

- Covers establishment (includes seeds and treatment)
- Lining
- Holing

D. Package 4

Activities under this package are:

- Roads and bridges
- Drainage

E. Package 5

Activities under this package are:

- Planting materials
- Planting (includes hauling, transport and distribution)

The fund administrator or his representative will carry out the necessary inspection after the end of each package of activities.

Immature Maintenance Phase

During the immature phase, loan tranches are released quarterly. The amount to be released is the actual amount the cooperative has spent to maintain the area. However, the reimbursement should not be more than the controlled cost. Needless to say that the reimbursement should only be made after the area has been inspected and the standards as outlined in Annex C of this document are achieved.

If all the agronomic inputs as outlined in the CAP-PBD Manuals for Plantation Cooperatives (viz. *Guidelines For Rubber Replanting*), are adhered to, the plants should by the fifth year, be ready for tapping. Thus, it may not be necessary to release loan tranche for Packages 22 – 25. It is suggested here that the fund administrator requests for average girth measurement of the plants and the percentage of tappable plants at the middle and at the end of year 4. Refer to *CAP-PBD Manual for Mature Field Maintenance* for further details on tapping.

III. INSPECTION

Inspection is carried out at the end of completion of each package of activities. The Inspector appointed by the fund administrator will refer closely to Annex C (Inspection Standards for Loan Release) during the inspection. Only when works following the activities in the package are done in compliance to the standards will the amount of the scheduled amount be released.

IV. SCHEDULED LOAN RELEASE

In this section, the time and amount (the proportion) of the replanting loan to be released are described. Basically, loan tranches are released during establishment and the maintenance of immature phase.

1. Establishment Phase

During the establishment phase, advance totaling 30% of amount needed to carry out the subsequent package is released. The first release is upon approval of the loan. Upon inspection at the end of the Package 1, and upon compliance to the set standard (refer to Annex 3), the remainder of the amount for Package 1 is released.

When works under Package 1 are completed, works under Package 2 commence. The fund administrator has to release 30% of amount of Package 2. As this amount is paid at the end of Package 1 and just before Package 2, the total amount released to the cooperative at this instant is 30% of Package 2 plus 70% balance for Package 1.

This mode of loan release goes on till the completion of establishment phase.

2. Immature Phase Maintenance

During the immature phase, where maintenance works are carried out, the mode of loan released is slightly different. The fund administrator is only to reimburse the actual amount spent by the cooperative to carry out the maintenance works at quarterly interval. However, the total amount to be released is not more than the control cost as shown in the in Loan Release Schedule (Please also refer to Annex A).

As mentioned above, it may not be necessary to release the amount to be paid on the 5th and last year of maintenance. The plants should already reach tappable size by the end of the 4th year.

The recommended 30-70 ratio of advance releases for the establishment phase and the reimbursement system of loan release for the immature phase maintenance assumes that the cooperative has an adequate cash position. If the cooperative cannot comply with the recommended ratio, the proportion may be revised, subject to the clearance of the fund administrator.

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ANNEX C

INSPECTION STANDARDS FOR LOAN RELEASE

In this Annex, the standards for works done for different packages (refer to Annex B) and the method of evaluation are described. *The activity-based inspections based on the following standards will be conducted by the fund administrator.* The guidelines will also assist cooperatives gauge their performance against set standards of implementation.

1. ESTABLISHMENT

Package No:	Description	Required Standards
1	Underbrushing & Felling Poisoning of stumps	<ul style="list-style-type: none">• The stand is rid of undergrowth at a height of 15 cm from the ground• All trees are felled to a height of 60 cm above the ground• All stumps are ring-poisoned at a height of 40 cm from the ground
2	Burning (main) Stacking & burning Rootstumps removal	<ul style="list-style-type: none">• The field is cleared of branches, undergrowth, and stumps.
3	Terracing Covers establishment Lining & holing	<ul style="list-style-type: none">• Terraces are constructed according to specifications and proposed length on slopes > 8%• Cover crops have started to germinate• No noxious weeds are seen• Holing (with dimension according to specifications) is completed in straight rows
4	Roads & Bridges Drainage	<ul style="list-style-type: none">• Roads are either constructed or repaired (depending on the proposal)• Drainage is already completed with dimensions according to specifications (following proposal)
5	Planting Materials Planting	<ul style="list-style-type: none">• Planting materials are 2 -3 whorls polybag plants• All plants planted are healthy and turgid, no wilting, no vacant points• Planting points are free from weeds

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II. IMMATURE MAINTENANCE

Package No:	Description	Required Standards
6	First year maintenance (1 st quarter)	<ul style="list-style-type: none"> • Plants are growing well, new shoots have come out • Vacant points and runts are supplied • Plant bases are ring weeded • Covers are spreading – covering at least 20% of the interrows • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card)
7	First year maintenance (2 nd quarter)	<ul style="list-style-type: none"> • Plants have 4 – 5 whorls of leaves • Pruning on wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Vacant points and runts are supplied • Plant bases are ring weeded • Covers, kept pure are spreading – covering at least 40% of the interrows • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card)
8	First year maintenance (3 rd quarter)	<ul style="list-style-type: none"> • Plants have 5 – 6 whorls of leaves • Pruning on wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Vacant points and runts are supplied • Plant bases are ring weeded • Covers, kept pure are spreading – covering at least 60% of the interrows • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card)

9	First year maintenance (4th quarter)	<ul style="list-style-type: none"> • Plants have 6 – 7 whorls of leaves • Pruning on wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Vacant points and runts are supplied • Plant bases are ring weeded • Covers, kept pure are spreading – covering >80% of the interrows • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card)
10	Second year maintenance (1 st quarter)	<ul style="list-style-type: none"> • Pruning of wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Plant bases are ring weeded • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
11	Second year maintenance (2nd quarter)	<ul style="list-style-type: none"> • Pruning of wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Plant bases are ring weeded • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)

12	Second year maintenance (3rd quarter)	<ul style="list-style-type: none"> • Pruning of wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Plant bases are ring weeded • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
13	Second year maintenance (4th quarter)	<ul style="list-style-type: none"> • Pruning of wild shoots has been carried out as per specifications in CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>. • Plant bases are ring weeded • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
14	Third year maintenance (1 st quarter)	<ul style="list-style-type: none"> • Branch induction and corrective pruning are carried out if necessary as per procedure (<i>Guidelines for Immature Maintenance</i>) • Plant rows are strip weeded • Girth should measure 20 cm • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)

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15	Third year maintenance (2nd quarter)	<ul style="list-style-type: none"> • Branch induction and corrective pruning are carried out if necessary as per procedure (CAP-PBD Manual, <i>Guidelines for Immature Maintenance.</i>) • Plant rows are strip weeded • Girth should measure about 22 cm • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
16	Third year maintenance (3rd quarter)	<ul style="list-style-type: none"> • Branch induction and corrective pruning are carried out if necessary as per procedure (CAP-PBD Manual, <i>Guidelines for Immature Maintenance.</i>) • Plant rows are strip weeded • Girth should measure about 24 cm • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
17	Third year maintenance (4th quarter)	<ul style="list-style-type: none"> • Branch induction and corrective pruning are carried out if necessary as per procedure (CAP-PBD Manual, <i>Guidelines for Immature Maintenance</i>) • Plant rows are strip weeded • Girth should measure about 27 cm • Covers are kept pure • Where covers are not established the interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)

18	Fourth year maintenance (1 st quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 29 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
19	Fourth year maintenance (2 nd quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 31 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
20	Fourth year maintenance (3 rd quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 33 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
21	Fourth year maintenance (4 th quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 36 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
22	Fifth year maintenance (1 st quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 38 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)

23	Fifth year maintenance (2 nd quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 40 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
24	Fifth year maintenance (3 rd quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 42 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)
25	Fifth year maintenance (4 th quarter)	<ul style="list-style-type: none"> • Plant rows are strip weeded • Girth should measure about 45 cm • Interrows are free of noxious weeds • Proof of fertilizer application (check fertilizer bin card) • Inspection for root disease had been carried out and if applicable been treated (check roll and Calixin bin card)

III. EVALUATION DURING INSPECTION

During inspection, the Financier should carry out a compliance audit (i.e. comparing the actual work carried out with respect to the set standards). The inspector should rate the degree of compliance using forms as shown in Exhibit 1. Compliance is recorded under "Observation & Remarks". If minor non-conformances are observed, the inspector has to request upgrading of performance to comply with the set standards. In this case, while anticipating upgrading, he may recommend partial payment to be made (this is purely on his discretion). Only when major non-conformance is observed, will payment be completely withheld till the next inspection.




Exhibit 1: Inspection Protocol for Loan Release
(Sample Format)

Pack No:	Description	Required Standards	Observations & Remarks	% Payment Recommended
1	Underbrushing & Felling Poisoning of stumps	<ul style="list-style-type: none"> The stand is rid of undergrowth at a height of 15 cm from the ground All trees are felled to a height of 60 cm above the ground All stumps are ring-poisoned at a height of 40 cm from the ground 		
2	Burning (main) Stacking & burning Rootstumps removal	<ul style="list-style-type: none"> The field is cleared of branches, undergrowth, and stumps. 		
3	Terracing Covers establishment Lining & holing	<ul style="list-style-type: none"> Terraces are constructed according to specifications, and proposed length on slopes > 8% Cover crops have started to germinate No noxious weeds are seen Holing (with dimension according to specifications) is completed in straight rows. 		
4	Roads & Bridges Drainage	<ul style="list-style-type: none"> Roads are either constructed or repaired (depending on the proposal) Drainage is already completed with dimensions according to specifications (following proposal) 		