

REDHAKHOL FOREST DIVISION

Odisha Forest Department
Sambalpur District, Odisha

NOTICE INVITING TENDER

(NIT No: F & E/RKL/ 013 (OFFLINE)/2026-27)

FOR SUPPLY, DESIGN, PITTING, PLANTING, GABION FENCING AND HORTICULTURE CONSULTANCY & OVERSIGHT FOR LEMON/LIME BIO-FENCING PLANTATION

*25,000 Balaji + 5,000 Assam Lemon Seedlings | 15 km Alignment | IoT Drip Oversight |
Husbandry Training | Redhakhol Forest Division*

Tender Reference No.	F & E/RKL/ 013 (OFFLINE)/2026-27
Name of Work	Supply, Design, Pitting, Planting, & Horticulture Consultancy/Oversight for Lemon/Lime Bio-Fencing Plantation – 30,000 Seedlings (Balaji + Assam Lemon), 15 km Alignment
Estimated Contract Value	As per BOQ enclosed (Plantation + Consultancy BOQ quoted separately)
Performance Security	3%
Period of Completion	90 days for Plantation Works
Tender Document Fee	Rs. 1000/- (Non-refundable, DD in favour of DFO, Redhakhol)
Bid Availability	01.06.2026 (11:00 AM) to 16.06.2026 (05:00 PM)
Last Date of Submission	16.06.2026 by 05:00 PM
Date of Opening	17.06.2026 at 11:30 AM
Issued By	Divisional Forest Officer, Redhakhol Forest Division.

PART – I: TENDER NOTICE

REDHAKHOL FOREST DIVISION, ODISHA FOREST DEPARTMENT

Office of the Divisional Forest Officer, Rairakhol, Sambalpur District – 768109

Email: dforedhakhol@odisha.gov.in |

NOTICE INVITING TENDER

NIT No: F & E/RKL/ 013 (OFFLINE)/2026-27

The Divisional Forest Officer, Redhakhol Forest Division, invites sealed tenders from eligible, experienced, and financially sound nursery agencies and plantation contractors for the Supply, Design, Pitting, and Planting

PART – II: SCOPE OF WORK

The scope of this tender covers all activities from nursery supply through complete establishment of the bio-fencing plantation. The Contractor shall be responsible for the following five components:

2.1 Component A – Supply of Lemon Seedlings (Two Varieties)

Certified, grafted, nursery-raised lemon seedlings in two distinct varieties as specified below. Both shall be sourced from registered nurseries and delivered to site with valid phytosanitary certificates.

Component A1 – Balaji Variety (25,000 Nos.)

Sl.	Particulars	Specification	Quantity
1	Variety	Balaji (Citrus limon / Acid Lime – Balaji selection); high commercial value, suitable for western Odisha conditions	25,000 Nos.
2	Age of Seedling	Minimum 18 months, nursery raised. 24 months preferred	—
3	Height	Minimum 70 -90 cm at time of supply	—
4	Root System	Well-developed fibrous root in polybag (min. 1 kg bag)	—
5	Hybrid Variety	Hybrid Certification	—
6	Source	Certified nursery approved by any State Horticulture Dept. or equivalent body.	—
7	Disease Status	Free from citrus canker, tristeza, and quarantine pests. Phytosanitary certificate mandatory.	—
8	Casualty Provision	Casualty due to transport shall be borne by the bidder.	

Component A2 – Assam Lemon Variety (5000)

Sl.	Particulars	Specification	Quantity
1	Variety	Assam Lemon (Citrus limon – Assam selection); hardy, high-yield, adapted to humid tropical conditions; preferred for forest-facing Row 1 for maximum deterrence	As per BOQ-A2
2	Age of Seedling	Minimum 18 months, nursery-raised, grafted/budded/hybrid	—
3	Height	Minimum 45–65 cm at time of supply	—
4	Root System	Well-developed root system in polybag (min. 1.5 kg bag preferred)	—
5	Graft Type/Hybrid	Separate certification required	—
6	Source	Certified nursery; preferably from Assam/NE India or OFD-approved nursery with proven Assam Lemon stock	—
7	Disease Status	Phytosanitary certificate for disease free status	—
8	Casualty Provision	Casualty due to transport shall be borne by the bidder.	Included

2.2 Component B – Survey, Design and Alignment Staking

Detailed field survey of the 15 km bio-fencing alignment in coordination with Forest Division staff and VSS members. Scope includes:

- Topographic survey of forest-village interface alignment as directed by the DFO
- Marking of three-row zig-zag plantation design (Row 1: Forest-facing; Row 2: Central offset; Row 3: Village-facing) with stakes at 2 m intervals
- GPS-based mapping and geo-tagging of alignment, submitted as KML/Shapefile to the Division
- Demarcation of pit locations at 2 m spacing within each row
- Plantation layout drawings showing alignment, row configuration, pit positions, and irrigation unit interface points
- Documentation of baseline land-use, existing vegetation, and sensitive features to be avoided
- Submission of Design Report for DFO approval before commencement of pitting

2.3 Component C – Pit Digging and Soil Preparation

Sl.	Item	Specification
1	Pit Size	45 cm × 45 cm × 45 cm (L × W × D)
2	Number of Pits	Approx. 22,500 (1,500 plants/km × 15 km × 3 rows, incl. 10% casualty)
3	Soil Type	Hard lateritic/loamy soil
4	Pit Filling	Excavated soil + FYM/Vermicompost (5 kg/pit) + NPK fertilizer (50 g/pit) + Urea (30 g/pit) + Bio-pesticide (5 g/pit)

5	Soil & Water Conservation	Circular/half-moon trench (0.5 m from plant stem) around each pit
6	Timing	Pits to be dug and filled 15 days before planting;

2.4 Component D – Planting Operations

- Planting season: During and after South-West Monsoon onset (July) or as directed by DFO
- Spacing: 2 m between plants within row; 2 m between rows in zig-zag configuration
- Three-row zig-zag pattern: Row 2 offset by 1 m laterally relative to Rows 1 and 3
- Each seedling to be planted vertically; polybag removed carefully without disturbing root ball
- Bamboo support peg staking per seedling (min. 1 m length)
- First watering at time of planting (to be coordinated with irrigation contractor)
- Application of Jivamruta /herbal bio-stimulant at planting or any other advanced products
- Casualty replacement in the month of September
- Bidders may use advanced horticultural operations

2.5 Component F – Horticulture Consultancy, IoT Oversight and Capacity Building

This component establishes the Contractor's responsibility as the primary technical and advisory authority for the entire plantation project. A qualified Horticulturalist must be on the Contractor's payroll and deployed full-time at the project site. The Contractor shall also take full ownership of coordinating the Solar-Based IoT Drip Irrigation system with approved vendors, and shall oversee all husbandry, training, and knowledge-transfer activities for Forest Division staff and VSS communities.

This component shall be governed by a separate Consultancy Agreement for FY 2026-27, extendable on a year-by-year basis up to a total of 4 years, by mutual consent of both parties, subject to satisfactory annual performance review by the DFO.

F1 – Qualified Horticulturalist (Full-Time Deployment)

- The Contractor shall deploy a minimum of one qualified Horticulturalist who must be on the Contractor's payroll (not a hired-in consultant or sub-contracted individual)
- Minimum qualification: B.Sc. Horticulture or B.Sc. Agriculture with specialization in fruit crops / citrus / orchard management from a recognized university; M.Sc. Horticulture preferred
- Minimum 2 years in large-scale orchard establishment or bio-fencing projects or related projects
- Proof of qualification (degree certificate) and employment (payroll slip / appointment letter) mandatory in technical bid
- The Horticulturalist shall be present at site during all critical plantation activities: planting, weeding rounds, fertilizer application, pest/disease scouting, pruning operations, and training sessions

F2 – Planning, Design and Oversight of Solar IoT Drip Irrigation System

The selected Contractor under this tender shall act as the coordinating agency responsible for integrating the Solar IoT Drip Irrigation system (NIT/002) with the plantation's agronomic needs:

- Preparing the site-specific irrigation design: zone layout, emitter spacing, soil-moisture sensor placement, and borewell locations aligned with the three-row zig-zag plantation; design submitted to DFO for approval.
- Co-ordinating with the contractor for installation timeline, pipeline route, lateral placement within plantation rows, and commissioning schedule to avoid damage to seedlings
- Verifying sensor placement, drip emitter positioning at root zone, and soil moisture threshold settings in coordination with the on-site Horticulturalist
- Ensuring automated irrigation schedules are aligned with the Horticulturalist's seasonal watering calendar based on crop growth stage

F3 – Husbandry Training and Capacity Building for VSS Communities

The Horticulturalist shall design and deliver a structured practical training programme for VSS members, Forest Guards, and Beat Officers covering the following modules:

Sl.	Module	Content and Scope
1	Citrus Pruning	Purpose and timing of pruning (post-harvest, canopy management, de-suckering, removal of dead/diseased wood); live demonstration; tools and safety; annual pruning calendar for Years 1–4
2	Fertilizer Application	Stage-wise NPK requirements (establishment, vegetative, fruiting phases); organic inputs (vermicompost, Jivamruta, biofertilizers); application methods (soil drench, drip fertigation); critical application windows – pre-monsoon, post-monsoon, post-harvest; dosage for Balaji and Assam Lemon; over-fertilisation risks and symptoms
3	Irrigation Management	Reading IoT dashboard and soil moisture thresholds; watering calendar by growth stage and season; critical dry-season management (Nov–May); operating solar pump and mobile app; manual override; identifying water stress vs. waterlogging symptoms in citrus
4	Disease Identification & Control	Common diseases in Odisha: Citrus Canker, Powdery Mildew, Gummosis, Foot Rot, Tristeza Virus; visual photographic identification guide; preventive cultural practices; approved fungicide/bactericide schedule; disease reporting protocol to DFO and Horticulturalist
5	Pest Identification & Insecticide Use	Common pests: Citrus Psylla, Leaf Miner, Aphids, Scales, Fruit Flies, Mites; identification (adults, eggs, damage symptoms); IPM approach; recommended insecticides and bio-pesticides (neem-based); spray timing (pre/post-flowering); dosage calculation; safety gear and handling; disposal of empty containers; restricted re-entry intervals
6	Post-Harvest Handling	Harvesting indicators and techniques; grading and sorting; storage and transport; value-addition basics (juice, pickle, essential oil extraction); market linkage with TRIFED/State agencies; income and yield record-keeping for VSS accounts

- Training conducted in Odia/Hindi with visual aids, demonstration plots, and printed manuals (Odia + English); minimum 2 structured training sessions per year
- Field demonstration plots established by Horticulturalist within the plantation for hands-on learning
- Training attendance register signed by DFO/Range Officer to be maintained and submitted with quarterly progress reports

F4 – Overall Project Oversight and Reporting

- Monthly field inspection of full 15 km alignment by the Horticulturalist with photographic documentation and geo-tagged records
- Quarterly Progress Report: plant survival by row/km, growth metrics (height, canopy spread), pest/disease observations, irrigation system performance, training activities, and next-quarter recommendations
- Annual Plantation Health Report submitted to DFO and MCL at end of each project year
- Year-wise recommendation report on fertilizer programme, pest management calendar, and pruning plan for the forthcoming season – submitted by 30th November each year
- Coordination with the Forest Division's LiDAR/UAV monitoring team to correlate remote sensing data with ground-truth observations

PART – III: BILL OF QUANTITIES (BOQ)

Rates shall be inclusive of all labour, materials, transport, consumables, supervision, and overheads.

BOQ – A: Supply of Lemon Seedlings

Sl.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A1	Supply of 18-month grafted Balaji variety lemon seedlings, certified nursery, in polybags, disease-free with phytosanitary certificate, delivered at site (incl. transport)	Nos.	25,000		
A2	Supply of 18-month grafted Assam Lemon variety seedlings, approved nursery, in polybags, disease-free with phytosanitary certificate and inter-state movement permit, delivered at site (incl. transport)	Nos.	5,000		

BOQ – B: Survey, Design and Alignment

Sl.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
B1	Survey, GPS mapping, three-row zig-zag design, alignment staking, Design Report preparation and submission (per km)	KM	15		

BOQ – C: Pit Digging and Soil Preparation

Sl.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
C1	Digging of pits 45 cm × 45 cm × 45 cm in hard lateritic soil	Nos.	22,500		
C2	Supply and application of FYM/Vermicompost @ 5 kg per pit (incl. transport)	Nos.	22,500		
C3	NPK Fertilizer @ 50 g + Urea @ 30 g + Bio-pesticide @ 5 g per pit (supply and application)	Nos.	22,500		
C4	Formation of circular/half-moon soil trench around each planting pit (0.5 m from stem)	Nos.	22,500		

BOQ – D: Planting Operations

Sl.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
D1	Planting of seedlings in prepared pits in three-row zig-	Nos.	22,500		

	zag configuration, bamboo staking and first watering				
D2	Application of Jivamruta / herbal bio-stimulant @ 1 litre per plant (supply and application)	LS	-		
D3	Weeding, soil-working and manuring				
D4	2nd Weeding, soil-working and manuring – 2nd round (November)				
D6	Casualty replacement planting (10% of total plants, labour only – seedlings counted in A1/A2)				

BOQ – E: Horticulture Consultancy Charges

This BOQ is to be filled in by the Contractor as a separate financial schedule. The rates shall cover all consultancy, oversight, training, reporting, IoT co-ordination, and expert deployment costs for the Consultancy Agreement period. The initial agreement is for FY 2026-27 and is extendable up to 4 years by mutual consent.

Sl.	Description of Consultancy Service	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
F1	Horticulture Consultancy Charges	-	-	-	LS

Consultancy Agreement Duration Initial: FY 2026-27 (1 Year) Extendable: Up to 4 years total by mutual consent	Annual Consultancy Charges <i>Extension years: From year 2 to year 4</i>	Rs. _____
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BOQ – Summary

Ref.	Component	Amount (Rs.)
A	Supply of Lemon Seedlings – Balaji (25,000 Nos.) + Assam Lemon Variety (5000)	
B	Survey, Design and Alignment Staking – 15 km	
C	Pit Digging and Soil Preparation – 22,500 Pits	
D	Horticulture Consultancy, IoT Oversight & Capacity Building – FY 2026-27	
	TOTAL – Plantation Works (A + B + C + D)	Rs. _____
	TOTAL – Consultancy (F) – Annual FY 2026-27	Rs. _____
	GST @ applicable rate (to be quoted separately on both Plantation and Consultancy)	Rs. _____
	GRAND TOTAL (Plantation + Consultancy Year 1, incl. GST)	Rs. _____

PART IV — TECHNICAL BID

Note: Submit one Technical Bid form per LOT quoted. Clearly mark the LOT number(s) on the envelope.

Sl.	Particulars	Details / Document Reference
01	Name of the Bidder / Vendor / Firm	
02	Address for communication	
03	Permanent registered address	
04	Mobile No. (WhatsApp enabled)	
05	Valid Email ID	
06	Aadhar Card No. (Copy enclosed)	
07	PAN (Copy enclosed)	
08	Income Tax Returns — last 3 years	
09	GST Returns — last 3 years	
10	GSTIN (Copy enclosed)	
11	Certificate of No Relationship (Annexure-V)	
12	Previous Govt. supply orders for similar items (if any)	
13	Horticulturalist in the payroll	

Signature with seal of the
Proprietor / Vendor / Supplier

PART – IV: DECLARATION AND UNDERTAKING BY BIDDER

I/We, the undersigned, hereby declare and certify that:

- The information provided in this bid document is true, accurate, and complete to the best of my/our knowledge and belief
- I/We have read, understood and accept all terms, conditions and specifications in this Tender Document (NIT No. RFD/CSR/MCL/2026-27/001) including the Consultancy Agreement provisions under Part V, Clause 5.9
- I/We confirm that the Balaji and Assam Lemon variety seedlings offered are grafted, 18-month-old, disease-free, and sourced from nurseries registered with the State Horticulture Department or equivalent body
- I/We confirm that the Horticulturalist named in our Technical Bid is on our firm's payroll; proof of employment and qualification is enclosed; we understand that deployment of the named Horticulturalist is mandatory throughout the contract/consultancy period
- I/We are not blacklisted or debarred from any Government department or public sector undertaking
- I/We accept that the DFO's decision on all technical matters (seedling quality, survival assessment, gabion fencing quality, Horticulturalist performance, training quality, and IoT oversight) shall be final and binding
- I/We agree to the payment milestones and penalty clauses as stipulated in Part V of this tender document
- I/We agree to execute a separate Consultancy Agreement for FY 2026-27 as detailed in Clause 5.9, and acknowledge the provisions for annual extension up to 4 years

The quoted rates under BOQ A–E (Plantation Works) are inclusive of all costs (material, labour, transport, supervision, contingency) except GST. The Consultancy rates under BOQ-F are quoted separately and shall form the basis of the Consultancy Agreement for FY 2026-27.

<p>Name of Firm/Agency: _____</p> <p>Name of Authorized Signatory: _____</p> <p>Designation: _____</p> <p>Date: _____</p> <p>Seal:</p>	<p>Signature: _____</p> <p>Place: _____</p> <p>Address: _____</p> <p>Phone/Mobile: _____</p> <p>Email: _____</p>
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