Government of Bihar
Department of Agriculture
Bihar Horticulture Development Society, Patna

**Very Short Tender for Selection of Agency for Operation & Maintenance, Crop Management, Nursery Production, Demonstration, Training and Handholding of Centre of Excellence on Vegetables including Aeroponics and Hydroponics Facility, Chandi, Nalanda, Bihar**

Bihar Horticulture Development Society (BHDS), Department of Agriculture, Government of Bihar invites online proposals from reputed, technically competent and experienced agencies/institutions/consortia for Operation & Maintenance (O&M), crop management, nursery production, demonstration, training, market linkage and Handholding of the Centre of Excellence on Vegetables including Aeroponics and Hydroponics Facility at Chandi, Nalanda, Bihar.

The selected agency shall operate the CoE as a functional public horticulture resource centre for quality vegetable planting material, high-value vegetable production, spices demonstration, controlled-environment agriculture, farmer exposure visits, training of officers/farmers/FPOs/SHGs and practical technology transfer adaptable to Bihar's agro-climatic conditions.

**Proposal can only be uploaded/submitted on the website** https://gem.gov.in/ **while EMD payment should be through online mode (NEFT/RTGS).**

## 1. Notice Inviting e-Tender and Publication Notice

| SN | Activity | Date/Time: Duration |
|---|---|---|
| 1 | Mandatory site visit window | To be fixed; bidders shall submit Site Visit and Asset Verification Declaration |
| 2 | EMD | ₹5,00,000 or as approved by BHDS/e-procurement rules; online mode only. Exemption, if any, shall be strictly as per applicable Government orders and shall not dilute technical eligibility. |
| 3 | Bid to RA | The bid shall be considered for participation in the Reverse Auction (RA) process. |
| 3. | Empanelment Period | Three years from date of agreement, extendable by one year at a time for a maximum of two extensions based on performance. |
| 4 | Nodal officer/Contact person for queries | Deo Narayan Mahto, Deputy Director Horticulture (Administration & Evaluation), DoH, Govt. of Bihar (Mob No.- +91-8210536100) |

Mission Director, Bihar Horticulture Development Society, Patna reserves the right to revise/change/ cancel the proposal without assigning any reasons thereof.

14/10/26

Mission Director,
Bihar Horticulture Development Society, Bihar,
Patna

## 2. Bid Data Sheet

| Parameter | Provision |
|---|---|
| Authority | Bihar Horticulture Development Society (BHDS), Department of Agriculture, Government of Bihar. |
| Project Location | Centre of Excellence on Vegetables, Chandi, Nalanda, Bihar. |
| Contract Type | Performance-linked O&M and technical management service contract. |
| Contract Period | 36 months from date of agreement. Extension may be granted one year at a time, maximum two times, based solely on annual performance review and administrative requirement. |
| Selection Method | **Technical Qualification followed by Financial Evaluation. Lowest Financial Bidder (L1) shall be considered for award** |
| Minimum Technical Score | 75/100 overall, with minimum 60% marks in critical components: Nursery & Planting Material, Aeroponics/Hydroponics, Manpower and O&M Methodology. |
| Bid Validity | 180 days. |
| Proposal Language | English. Training material and farmer communication outputs shall be in Hindi and locally understandable language. |
| Permitted Applicant Structure | Single entity or consortium/JV with maximum 3 members. Lead member shall be fully responsible. Technical institutions may participate as lead bidder, consortium member or formal knowledge partner. |
| Financial Bid | Quoted Annual Fixed O&M Service Fee for Year 1, Year 2 and Year 3. Approved crop inputs, major repairs and capital replacements shall be handled as per RFP clauses and shall not be hidden inside an artificially low service fee. |
| Performance Security | 5% of total contract value in the form of Bank Guarantee/other approved instrument; additional performance security may be required for abnormally low bid as per RFP. |
| Payment Cycle | Monthly invoice with quarterly performance reconciliation. |

## 3. Disclaimer and Important Instructions

- This RFP is not an agreement and does not create any right in favour of any applicant until a formal agreement is executed by BHDS with the selected bidder.
- BHDS may update, amend, clarify, modify or cancel the RFP or the selection process at any stage in public interest and without liability.
- The applicant shall bear all costs of bid preparation, site visit, presentation, clarification and participation. BHDS shall not reimburse such costs.
- All information supplied by bidders shall be true, complete and verifiable. False representation, forged documents, suppression of facts, canvassing or collusion shall invite rejection, forfeiture of EMD/security and further action as per law.
- The technical proposal must not contain any financial quote or price information. Any such disclosure may lead to rejection.
- All documents shall be self-attested, page-numbered and uploaded in searchable PDF wherever possible. BHDS may seek original documents for verification.
- The bidder is deemed to have inspected the site, studied the asset condition and understood local climatic, labor, crop, market and utility conditions before quoting.

## 4. Background, Rationale and Objectives

The CoE at Chandi, Nalanda was established to demonstrate modern vegetable production technologies, protected cultivation, irrigation/fertigation systems, quality planting material production and practical farmer training. The

current O&M period has expired; therefore, BHDS intends to select a capable agency through a Competitive procurement process based on technical eligibility and lowest financial quote.

The Centre shall now be repositioned as a mission-oriented facility with three clear public outcomes: quality planting materials, practical technology demonstration and farmer income enhancement. The CoE must not remain a passive infrastructure site. It must behave like a living lab: every bed, tray, sensor, tank and tunnel should teach something useful to Bihar's farmers.

### 4.1 Objectives of the Assignment

- Operate and maintain the complete CoE infrastructure including open field demonstrations, shade-net houses, naturally ventilated polyhouses, high-tech nursery polyhouse, insect-vector-free net house, tunnels, irrigation/fertigation systems, hydroponics/aeroponics units, hostel, training rooms and allied facilities.
- Produce and supply quality vegetable seedlings/planting materials as per annual targets and demand aggregated by BHDS/District Horticulture Offices, with full lot-wise traceability and quality control.
- Demonstrate high-value vegetables, climate-resilient vegetable production, protected cultivation, low-cost/medium-cost replicable technologies, nursery management, grafting/rootstock use, pro-tray production, integrated pest and nutrient management and post-harvest handling.
- Develop a dedicated spices vertical for turmeric, ginger, garlic, coriander, chilli and other relevant spices, covering quality seed/rhizome/clove material, production, curing/drying, grading, storage, value addition and market linkage demonstration.
- Operate aeroponics/hydroponics units through a long-term crop and market plan with optimum capacity utilization, economic demonstrations and training modules for farmers, FPOs, SHGs, entrepreneurs and officers.
- Conduct structured training, exposure visits, ToT programmes and Handholding for farmers, extension officials, FPOs, SHGs, Jeevika groups, entrepreneurs and students.
- Create a transparent monitoring, reporting, quality assurance and grievance redressal system with monthly KPI dashboards and annual performance scorecards.
- Build in-house capability of BHDS/CoE staff through SOPs, manuals, training, digital records and structured handover.

### 4.2 Bihar Context to be Reflected in the Bidder's Approach

| Context | Implication for CoE Chandi |
|---|---|
| Smallholder reality | Technologies must be scalable for small and marginal farmers, FPOs, SHGs and peri-urban growers; demonstrations must include economics, not only agronomy. |
| Climate stress | Heat, humidity, monsoon disease pressure, waterlogging pockets, winter cold spells and summer irrigation stress must be built into crop calendars and protection plans. |
| Market proximity | Patna, Nalanda, Rajgir, Bihar Sharif and institutional buyers provide potential markets for high-value vegetables and hydroponic produce. Market linkage demonstrations must be practical. |
| Quality planting material gap | The CoE shall help bridge the deficit of reliable seedlings, rootstocks and spice planting material through traceable nursery protocols. |
| Spices opportunity | Turmeric, ginger, garlic and coriander require disease-free planting material, drying/curing, grading and aggregation models; these shall be demonstrated as value chains, not only as field crops. |

## 5. Tender Design

The last tender design was vulnerable to a low-price race. For a technology-heavy CoE, mere caretaking capacity is not enough. The RFP therefore incorporates the following safeguards:

### 5.1 Provisions

- Pre-bid market sounding and mandatory site visit shall be used to clarify risks before bid submission.
- Consortium/JV with maximum 3 members is permitted to combine protected cultivation, hydroponics/aeroponics, spices and training capabilities.
- Major structural repairs and capital replacement not attributable to agency negligence shall be approved by BHDS separately to avoid hidden risk premiums and artificially low bids.
- BHDS shall facilitate official demand aggregation for seedlings/training through District Horticulture Offices and schemes, but the agency remains responsible for quality production and delivery planning irrespective of government procurement.
- High performing agency will receive extension consideration. Extension is an incentive, not a right.

## 6. Facility Overview and Existing Asset Base

The agency shall operate and maintain the full CoE area and all structures handed over under joint inventory. The indicative facilities and areas, based on the existing draft and subject to joint verification at site, are as follows:

| Sl. | Facility/Structure | Indicative Area | Core Use |
|---|---|---|---|
| 1 | Open field demonstration in vegetables with drip irrigation and mulching | 4.00 ha | Seasonal vegetables, spices, drip/mulch, raised beds, precision farming, value-chain demos. |
| 2 | Shade-net house | 0.40 ha | Capsicum, tomato, coriander, carrot, chilli, asparagus and season-wise crops. |
| 3 | Naturally ventilated polyhouses | 0.40 ha | Tomato, cherry tomato, capsicum, cucumber and seasonal high-value vegetables. |
| 4 | High-tech polyhouse with boom irrigation for nursery raising | 0.20 ha | Chilli, pepper, tomato, onion, cole crops, exotic vegetables, grafted seedlings and pro-tray nursery. |
| 5 | Insect-vector-free net house | 0.40 ha | Vegetable seedlings, foundation material, pest-exclusion demonstrations. |
| 6 | Water tank/pond lining with HDPE sheet | 0.10 ha | Water storage, irrigation support and water management demonstration. |
| 7 | High-ventilated tunnel | 0.40 ha | Tomato, cucumber, bell pepper, lettuce, mint, coriander, chilli and season-wise crops. |
| 8 | Irrigation and fertigation system for structures and open area | 7.20 ha coverage | Drip, semi-permanent sprinkler, automatic sprinkler and fertigation across the facility. |
| 9 | Aeroponics and hydroponics units | As per site inventory | Market-linked soilless cultivation, training and economic demonstration. |
| 10 | Administrative/training/hostel/retail/allied facilities | As per site inventory | Training, exposure visits, hostel, kitchen, records, sales and visitor management. |

**Joint Inventory**

- A detailed joint inventory and condition report shall be prepared before handover. The agency shall not later claim ignorance of site condition.
- Existing deficiencies shall be categorized as: pre-existing defects, agency-remediable routine defects, and BHDS-approved major repairs.

## 7. Scope of Work

The scope is comprehensive. Any activity reasonably necessary for safe, efficient, productive and demonstrative operation of the CoE shall be treated as included unless expressly excluded. The agency shall prepare detailed SOPs and annual plans for approval by BHDS.

## 7.1 Transition and Stabilisation Phase: First 30–45 Days

| Timeline | Minimum Deliverable |
|---|---|
| D+7 | Mobilise key personnel, take joint possession, verify assets, utilities, pending defects and crop status. |
| D+15 | Submit Asset Condition Report, Risk Register, Immediate Restoration Plan and Manpower Deployment Certificate. |
| D+30 | Submit 3-year O&M Strategy, Year-1 Annual Operating Plan, crop calendar, nursery target plan, hydroponics/aeroponics crop plan, training calendar and input/spares plan. |
| D+45 | Submit SOPs for nursery, protected cultivation, hydroponics/aeroponics, fertigation, plant protection, sanitation, training, sales, records, safety and emergency response. |

## 7.2 Operation and Maintenance of CoE Infrastructure

- Daily operation of all irrigation, fertigation, polyhouse, shade-net, tunnel, nursery, hydroponic/aeroponic, water storage, electrical, automation and allied systems.
- Preventive maintenance schedule for pumps, filters, valves, driplines, sprinklers, misting units, EC/pH meters, nutrient tanks, sensors, panels, fans, pads, nets, sheets, benches, trays, grow beds and climate devices.
- Breakdown response with documented incident reporting, root-cause analysis and restoration timelines.
- Cleaning, sanitation, algae management, weed control, path maintenance, drainage management, safe disposal of crop residues and waste.
- Maintenance of training facilities, farmer hostel, kitchen, retail counter, parking area, landscaping and demonstration signage.
- Preparation of annual repair and replacement plan, with prior approval requirement for major repairs/capital replacement.

## 7.3 Quality Planting Material and Nursery Production

- Prepare season-wise seedling production plan based on BHDS/DHO demand, scheme calendar, market windows and crop suitability.
- Use only approved seed/planting material sources and maintain seed lot records, invoices, germination records, media records, tray use, sowing date, batch number, dispatch date and recipient details.
- Produce uniform, healthy, pest-free and disease-free seedlings in pro-trays/approved media, with proper hardening before dispatch.
- Demonstrate grafted vegetable seedlings/rootstock technology for tomato, brinjal, chilli and cucurbits wherever relevant and approved.
- Maintain lot-wise traceability through batch labels/QR codes wherever feasible; no anonymous seedling movement shall be permitted.
- Follow integrated pest management, nursery hygiene, footbath/entry sanitation, tool disinfection, media treatment and pest exclusion protocols.
- Replace/reproduce rejected seedlings at agency cost where rejection is attributable to agency negligence, poor nursery hygiene or deviation from approved protocol.

| Quality Parameter | Minimum Requirement / Protocol |
|---|---|
| Seed/source traceability | Every batch shall have seed lot details, source, invoice, sowing date, germination observation and dispatch register. |
| Seedling health | No visible pest/disease, no damping-off patches, no severe nutrient disorder, uniform growth and adequate root ball. |
| Hardening | Minimum hardening period as per crop protocol before dispatch; stress/shock due to poor hardening shall be treated as quality failure. |
| Dispatch | Crop-wise age and tray stage shall be as per SOP; over-aged or etiolated seedlings shall not be supplied. |

| Quality Parameter | Minimum Requirement / Protocol |
|---|---|
| Complaint response | Farmer complaints shall be recorded and responded to within 72 hours; valid complaints attributable to agency shall be rectified. |

## 7.4 High-Value Vegetables Demonstration

Indicative crops shall include Tomato, cherry tomato, capsicum, cucumber, chilli, brinjal, onion seedlings, cole crops, leafy vegetables, coriander, mint, lettuce, asparagus and other crops approved by BHDS based on seasonality and market relevance.

- Demonstrate open field versus protected cultivation economics, including yield, quality, input cost, water use, labour, pest incidence and market price.
- Use drip, fertigation, mulch, staking, trellising, pruning, IPM/INM, bio-inputs, pheromone/sticky traps and climate-adapted practices as demonstration modules.
- Maintain crop-wise protocol sheets and economics sheets for farmers; every demonstration should end with a simple farmer-facing "क्या करें, क्या न करें, ककतना खर्च, ककतना लाभ" module.
- Show low-cost, medium-cost and high-tech models so that small farmers are not intimidated by steel-and-sensor agriculture.

## 7.5 Dedicated Spices Value Chain Demonstration

Spices shall be treated as a priority vertical. Demonstration shall cover the entire chain from quality planting material to marketable produce, with special focus on turmeric, ginger, garlic, coriander and chilli.

| Crop/Module | Minimum Demonstration Content |
|---|---|
| Turmeric | Disease-free rhizome selection, single-bud/pro-tray sprouting, raised-bed cultivation, drip/fertigation, rhizome treatment, curing, slicing/drying, polishing, grading, packaging and FPO aggregation. |
| Ginger | Healthy seed rhizome selection, seed treatment, raised beds, mulching, drainage, soft rot management, shade/irrigation, washing, drying, grading and market linkage. |
| Garlic | Clove selection, raised-bed planting, drip/sprinkler scheduling, disease management, curing, grading, storage and seed garlic production demonstration. |
| Coriander/Chilli | Nursery/seed production, protected/open demonstrations, IPM, drying/grading, marketable quality and local processing. |
| Common value-chain module | Input sourcing, crop economics, harvest maturity, primary processing, packaging, traceability, buyer interface and scheme convergence. |

## 7.6 Aeroponics and Hydroponics Facility: Long-Term Operating Plan

Aeroponics and hydroponics units must be run as working production and training systems. Idle shiny infrastructure is the most expensive scarecrow in government horticulture; the agency shall plan crop cycles, market linkages, water/nutrient protocols and capacity utilisation in advance.

| Component | Requirement |
|---|---|
| System audit | Within 30 days, verify tanks, pumps, nozzles, channels, grow beds, sensors, EC/pH meters, dosing units, electrical safety, alarms, water quality and spare requirements. |
| Crop plan | Prepare 12-month crop cycle plan covering leafy greens/herbs and fruiting vegetables or other compatible crops, subject to system design and market plan. |
| Water/nutrient protocol | Maintain EC, pH, nutrient batch, water level, reservoir sanitation, filtration, dosing, drain/recirculation and correction logs. |
| Capacity utilisation | Year 1: minimum 60% after stabilisation; Year 2: 75%; Year 3: 85%, excluding approved shutdowns and force majeure. |
| Market plan | Map buyers in Patna, Rajgir, Nalanda, Bihar Sharif and institutional segments; create pre-harvest sale plan and transparent sale records. |
| Demonstration value | Each crop cycle shall generate crop economics, water-use efficiency note, training content and farmer/entrepreneur suitability note. |

| Component | Requirement |
|---|---|
| Risk management | Maintain contingency for power failure, pump/nozzle failure, disease outbreak, nutrient imbalance, algae contamination and crop failure. |

## 7.7 Training, Exposure Visits and Extension

| Activity | Minimum Annual Requirement |
|---|---|
| Structured farmer trainings | Minimum 12 programmes/year; batch size 25–40; modules on nursery, protected cultivation, drip/fertigation, hydroponics/aeroponics, spices, IPM/INM, post-harvest and market linkage. |
| Exposure visits | Minimum 24 exposure visits/year; visitor route, signage, field demonstration and feedback forms mandatory. |
| Training of Trainers | Minimum 2 ToT programmes/year for DHO/BHO/extension staff/KVK resource persons. |
| Entrepreneur/FPO/SHG modules | Minimum 4 programmes/year focused on cost economics, DPR, bankability, scheme convergence, market linkage and operations. |
| Training material | Hindi training kits, crop protocol sheets, economics sheets, digital photos/videos and attendance records. |
| Feedback | Post-training feedback score shall be captured; average score below 3.5/5 in two consecutive programmes shall require corrective action. |

## 7.8 Innovation, Market Linkage and Replicability

- Demonstrate at least six practical technologies per year, such as grafted seedlings, single-bud turmeric, soilless media, low-cost hydroponics, IoT-assisted fertigation, QR-based seedling traceability, low-cost protected structures, solar drying/curing for spices, biological pest control or post-harvest packing.
- Prepare farmer-facing techno-economic notes for every innovation: capital cost, working cost, skill requirement, risk, suitable district profile and payback indication.
- Develop market linkages with FPOs, hotels, institutional buyers, processors, retailers and local aggregators. Buyer engagement records shall be maintained.
- Support BHDS in scheme convergence with MIDH, NHB, PMFME, AIF, FPO schemes, PDMC and relevant state schemes.

## 7.9 Reporting, MIS and Governance

| Report | Frequency | Minimum Contents |
|---|---|---|
| Daily log | Daily | Manpower attendance, crop status, nursery sowing/dispatch, EC/pH, water/nutrient use, system alarms, weather/temperature, maintenance observations. |
| Weekly report | Weekly | Work completed, crop block status, preventive maintenance, consumables, training/visitor activity, issues and next-week plan. |
| Monthly KPI dashboard | Monthly | Seedling targets vs actuals, hydroponics utilisation, training numbers, system uptime, complaints, sales, maintenance, risk items and action plan. |
| Quarterly review note | Quarterly | Performance score, financial/payment milestones, crop economics, value-chain progress, innovation demos, corrective action status. |
| Annual report | Annual | Consolidated output, farmer reach, revenue, technology adoption, lessons, asset status, next year plan and extension/continuity recommendations. |

# 8. Quality Assurance, Service Levels and KPIs

Payments, penalties and extension eligibility shall be linked to measurable service levels. The agency shall maintain records in physical registers and digital formats prescribed by BHDS.

| KPI | Minimum Service Level | Review |
|---|---|---|
| Seedling/planting material production | Minimum 80% of BHDS-approved annual target unless BHDS delays input approval/supply or issues written revision. | Monthly/seasonal |
| Seedling quality at dispatch | ≥95% visually healthy and conforming to crop protocol; no batch shall be dispatched with major pest/disease/over-aged seedlings. | Per batch |
| Hydroponics/aeroponics uptime | ≥95% operational uptime excluding approved shutdown and external utility failure beyond agency control. | Monthly |
| Capacity utilisation of A&H units | Year 1 ≥60%; Year 2 ≥75%; Year 3 ≥85% after stabilisation. | Quarterly |
| Preventive maintenance compliance | 100% scheduled preventive maintenance; missed activity must be closed within 72 hours with reason. | Monthly |
| Training/exposure delivery | Minimum annual training and exposure targets as per Section 7.7 with attendance and feedback records. | Monthly/annual |
| Digital reporting | Monthly dashboard by 5th day of following month; no repeated data gaps. | Monthly |
| Complaint resolution | Acknowledgement within 24 hours, technical response within 72 hours, closure within 7 working days unless complex. | Monthly |
| Asset condition | No avoidable deterioration due to agency negligence; damage/loss recoverable. | Quarterly |
| Statutory compliance | Full compliance with labour, safety, GST, PF/ESI where applicable, pesticide/fertilizer handling and workplace norms. | Continuous |

### 8.1 Quality Audit and Third-Party Verification

- BHDS may constitute a CoE Monitoring Committee and may invite external experts from IIAP/ICAR/SAU/KVK/technical institutions for periodic review.
- Random seedling and plant-health audits may be conducted at any stage. If defects are attributable to agency negligence, testing/replacement/corrective costs may be recovered.
- Hydroponic produce may be subjected to residue/quality testing where commercially sold or used for premium demonstration.
- The agency shall allow inspection of all records, input stock, nutrient solutions, pesticide registers, sales records and digital logs.

## 9. Minimum Manpower Deployment

The bidder must propose adequate manpower and cannot treat this contract as a security/housekeeping contract. Key technical positions shall be evaluated. Replacement of key personnel requires prior approval of BHDS.

| Sl. | Position | Minimum Qualification | Minimum Experience | Deployment |
|---|---|---|---|---|
| 1 | Project Director / Team Leader | Part-time strategic oversight; M.Sc./Ph.D. Horticulture/Agriculture/Protected Cultivation or equivalent | 10+ years; CoE/protected cultivation/nursery/CEA exposure preferred | At least 3 days/month onsite or as required |
| 2 | CoE Operations Manager | B.Sc./M.Sc. Horticulture/Agriculture | 5+ years in greenhouse/nursery/farm operations; team management | Full-time onsite |
| 3 | Protected Cultivation & Nursery Specialist | B.Sc./M.Sc. Horticulture/Agriculture/Plant Science | 4+ years in nursery/pro-tray/grafting/protected vegetables | Full-time onsite |
| 4 | Hydroponics/Aeroponics/CEA Specialist | B.Sc./M.Sc. Agri/Horti/Plant Science/CEA; trained in soilless systems | 3+ years in hydroponics/aeroponics/fertigation/nutrient management | Full-time or minimum 15 days/month onsite with remote monitoring |
| 5 | Spices Value Chain Specialist | B.Sc./M.Sc. Horticulture/Spices/Agronomy or equivalent | 3+ years in turmeric/ginger/garlic/spice production/post-harvest/value chain | Part-time, minimum monthly visit and training support |
| 6 | Fertigation & Irrigation Technician | Diploma/ITI/Agricultural Engineering/Irrigation background | 3+ years in drip, pump, filters, valves, fertigation and line flushing | Full-time onsite |

| Sl. | Position | Minimum Qualification | Minimum Experience | Deployment |
|---|---|---|---|---|
| 7 | Electrical/Automation Technician | ITI/Diploma Electrical/Electronics/Instrumentation | 3+ years in panels, motors, controllers, sensors and backup systems | Full-time or on-call with 24-hour response |
| 8 | Training & Extension Coordinator | Graduate in agriculture/horticulture/rural development; Hindi communication skills | 3+ years in training/farmer mobilisation/extension | Full-time onsite |
| 9 | MIS/Store/Sales Assistant | Graduate with computer skills | 2+ years in inventory, sale records, MIS, billing and data entry | Full-time onsite |
| 10 | Skilled Operators, Nursery Assistants, Labour, Housekeeping, Security | As per work requirement and statutory norms | Relevant practical experience | As per approved deployment plan |

**Key Personnel Conditions**

- CVs, qualification certificates and experience certificates of key personnel shall be uploaded with the technical bid.
- Key staff attendance shall be verified through registers/biometric/geotagged logs as prescribed by BHDS.
- Non-deployment or substitution with underqualified staff shall attract payment deduction and may be treated as material default.

# 10. Eligibility Criteria and Required Documents

| Criterion | Minimum Requirement | Documents |
|---|---|---|
| Legal status | Company/LLP/registered partnership/society/trust/ICAR/SAU/KVK/Government/Semi-Government organisation/registered national or international organisation. Consortium permitted. | Registration/Incorporation certificate; MoA/AoA/bye-laws; consortium MoU if applicable. |
| Years of existence | Minimum 5 years of existence as on bid submission date. Government/ICAR/SAU/KVK institutions may be exempted but must demonstrate relevant capacity. | Registration documents and audited statements. |
| Turnover | Average annual turnover of at least ₹5 crore during last three financial years. For consortium, combined average turnover of ₹8 crore and lead member at least ₹3 crore. Government/ICAR/SAU institutions may submit budget/expenditure/project certificates in lieu of turnover. | CA certificate with UDIN, audited balance sheets and ITRs for FY 2022-23, 2023-24 and 2024-25 or latest three completed financial years. |
| Net worth | Positive net worth in the latest financial year and no adverse audit qualification affecting going concern status. | CA certificate and audited financials. |
| Similar O&M/protected cultivation experience | At least three assignments in last seven years related to O&M/management of horticulture CoE, protected cultivation, greenhouse/polyhouse/nursery/farm technology project, each of value not less than ₹50 lakh; or one assignment of ₹2 crore and one additional relevant assignment. | Work orders, agreements, completion/ongoing satisfactory certificates, invoices/payment proof. |
| Hydroponics/aeroponics/soilless/CEA experience | At least one assignment involving hydroponics, aeroponics, soilless cultivation, fertigation/nutrient dosing, greenhouse automation or similar controlled-environment system; or formal OEM/technical partner tie-up with demonstrated project experience. | Work order/certificate/OEM authorization/MoU/technical partner credential. |
| Training and extension experience | At least 20 farmer/officer trainings/exposure programmes or 1,000 persons trained in horticulture/protected cultivation/nursery/CEA/value chain during last five years. Consortium partner experience allowed. | Training reports, attendance, certificates, client letters, photographs. |
| Local presence | Existing office in Bihar or undertaking to establish operational office in Bihar within 30 days of LoA. | Office proof or undertaking. |
| Statutory registration | PAN, GST; EPF/ESI where applicable; labour licence and other registrations to be obtained as applicable after award. | Certificates/undertakings. |
| Non-blacklisting | Not blacklisted/debarred by Central/State Government/PSU/ICAR/SAU during last five years and no major pending criminal case involving fraud/corruption. | Notarized affidavit and board/authorised declaration. |

| Criterion | Minimum Requirement | Documents |

| | | |
|---|---|---|
| Certification | ISO 9001/14001/45001, nursery accreditation/star rating, GLOBALG.A.P./IndiaGAP or equivalent certification shall be desirable and scored; not mandatory for eligibility unless approved by BHDS. | Certificates, if available. |

### 10.1 Consortium/JV Conditions

- Maximum three members shall be permitted. One member shall be designated as Lead Member and shall be responsible for contract performance.
- Members shall have jointly and severally binding obligations, or the lead member shall provide an unconditional undertaking acceptable to BHDS.
- No member shall participate in more than one bid for this RFP, either singly or through consortium.
- The technical capability of consortium members may be counted only for the specific work package assigned to them in the consortium MoU.
- Change of consortium composition after bid submission shall not be permitted except with prior approval of BHDS in exceptional circumstances.

## 11. Technical Proposal Requirements

The technical proposal shall be clear, evidence-based and site-specific. It should ordinarily not exceed 40 pages excluding annexures, CVs, certificates, work orders and statutory documents. Generic brochures without a CoE Chandi operating plan will receive poor technical marks.

1. Bidder profile, legal status, financial capacity and relevant assignments.
2. Understanding of CoE Chandi's objectives, Bihar agro-climatic conditions, crop priorities and infrastructure condition.
3. Three-year O&M strategy with annual milestones and transition plan.
4. Season-wise and crop-wise plan for vegetable seedlings, high-value vegetables and spices.
5. Nursery quality assurance protocol, traceability system, seed/source management and dispatch plan.
6. Aeroponics/hydroponics operations plan including crop cycles, capacity utilisation, nutrient/water management, SOPs and market linkage strategy.
7. Protected cultivation, irrigation, fertigation, plant protection, biosecurity and sanitation plan.
8. Training, exposure visit, ToT, farmer Extension and extension strategy with Hindi training material outline.
9. Market linkage and value-chain demonstration plan for vegetables, hydroponic produce and spices.
10. Manpower deployment plan, organisation chart, CVs, salary/payroll approach and reliever plan.
11. MIS/dashboard/reporting formats, quality audit plan and KPI monitoring framework.
12. Risk mitigation plan for power, water, crop failure, disease outbreak, system breakdown, market glut, manpower shortage and natural calamity.
13. OEM/technical partner details, spare availability, calibration plan and escalation matrix.

## 12. Evaluation Method: Technical Qualification and L1 Selection

Evaluation shall be carried out in three sequential stages: eligibility screening and financial scoring. Financial bids of only technically qualified bidders shall be opened.

| Sl. | Technical Evaluation Component | Marks | Evaluation | Marks |
|---|---|---|---|---|
| 1 | Organisation profile, financial capacity, legal status and governance | 16 | Organisation Profile | 4 |
| | | | Financial Capacity | 4 |
| | | | Legal Status | 4 |

| | | | | |
|---|---|---|---|---|
| | | | Governance | 4 |
| 2 | Relevant similar assignments: CoE/protected cultivation/nursery/O&M/government/ICAR/SAU experience | 18 | COE | 3 |
| | | | Protected Cultivation | 3 |
| | | | Nursery | 3 |
| | | | Government | 3 |
| | | | ICAR | 3 |
| | | | SAU | 3 |
| 3 | Aeroponics/hydroponics/CEA operations plan, nutrient/water protocols and capacity utilisation strategy | 14 | Aeroponics/Hydroponics | 3 |
| | | | CEA Operation Plan | 3 |
| | | | Nutrient | 3 |
| | | | Water Protocols | 3 |
| | | | Capacity Utilization Strategy | 2 |
| 4 | Protected cultivation, irrigation, fertigation, crop health, sanitation and maintenance methodology | 12 | Protected Cultivation | 2 |
| | | | Irrigation | 2 |
| | | | Fertigation | 2 |
| | | | Crop Health | 2 |
| | | | Sanitation | 2 |
| | | | Maintenance Methodology | 2 |
| 5 | Spices value-chain demonstration plan: turmeric, ginger, garlic and allied crops | 8 | Turmeric | 2 |
| | | | Ginger | 2 |
| | | | Garlic | 2 |
| | | | Allied Crops | 2 |
| 6 | Training, exposure visits, ToT, farmer handholding and Hindi extension material strategy | 8 | Training | 4 |
| | | | Exposure Visit | 2 |
| | | | Farmer Handholding | 2 |
| 7 | Manpower deployment, key personnel quality, reliever plan and technical partner/OEM support | 12 | Manpower deployment | 3 |
| | | | Key personnel quality, | 3 |
| | | | Reliever plan and | 3 |
| | | | Technical partner/OEM support | 3 |
| 8 | MIS, KPI dashboard, records, reporting, quality audit and governance system | 5 | MIS | 1 |
| | | | KPI Dashboards | 1 |
| | | | Record | 1 |
| | | | Reporting | 1 |
| | | | Quality Audit and Governance System | 1 |
| 9 | Risk mitigation, emergency response, sustainability, market linkage and innovation plan | 7 | Risk mitigation, | 3 |
| | | | Emergency response, | 1 |
| | | | Sustainability, | 1 |
| | | | Market linkage and | 1 |

| | | | | |
|---|---|---|---|---|
| | | | Innovation plan | 1 |
| | Total | 100 | | 100 |

Minimum qualifying marks: 75/100 overall, and minimum 60% marks in the combined critical components of nursery/planting material, aeroponics/hydroponics, O&M methodology and manpower. BHDS may require a technical presentation/site interaction before final scoring.

### 12.1 Financial Score

The financial proposal shall be evaluated using the lowest financial quotation among technically qualified bidders will be ranked L-1 and considered for award subject to due diligence and approval.

### 12.2 Abnormally Low Bid Safeguard

- If a financial bid is more than 20% below the internal estimate or more than 15% below the average of technically qualified financial bids, BHDS may seek a detailed cost justification.
- The bidder shall demonstrate that statutory wages, qualified manpower, routine maintenance, reporting, insurance, overheads and quality obligations have been adequately costed.
- If the explanation is unsatisfactory, BHDS may reject the bid as non-responsive. Alternatively, BHDS may demand additional performance security up to 10% of annual contract value before award.
- No bidder shall be permitted to justify low cost through deployment of underqualified manpower, non-payment of statutory dues or non-performance of quality deliverables.

## 13. Financial Proposal, Payment

### 13.1 Financial Bid Structure

To avoid distorted bids, the financial quote shall be based on annual fixed O&M service fee. The bidder shall also submit a cost break-up for transparency, but final financial comparison shall be based on the evaluated quote specified in the e-procurement BOQ.

| Cost Head | Treatment |
|---|---|
| Fixed O&M Service Fee | To be quoted by bidder for Year 1, Year 2 and Year 3. Includes management fee, approved manpower, routine O&M, minor tools, reporting, training support, routine housekeeping/sanitation and ordinary overheads. |
| Crop Inputs | Seeds, nursery media, fertilizers, nutrient salts, plant protection materials, trays and other production inputs shall be provided by BHDS or procured by agency only with prior written approval and reimbursed/adjusted as per approved mechanism. |
| Major Repairs/Capital Replacement | Structural repair, replacement of polyfilm/net/fan-pad/pump/controller/major equipment above the financial threshold approved in agreement shall require prior BHDS approval and shall not be presumed included unless specifically included in BOQ. |

| Cost Head | Treatment |
|---|---|
| Utility Charges | Electricity/water/internet treatment shall be specified by BHDS before bid finalization. If borne by BHDS, the agency shall still be responsible for prudent use and wastage due to negligence shall be recoverable. |
| Taxes | GST and applicable taxes shall be quoted/paid as per prevailing law. |

### 13.2 Payment Schedule

| Payment Item | Condition |
|---|---|

| | |
|---|---|
| Monthly running payment | Up to 80% of monthly fixed O&M fee after submission of invoice, attendance, daily logs, monthly report and certification by CoE In-charge/committee. |
| Quarterly performance reconciliation | Balance 20% of quarterly payment released after KPI review; deductions/penalties adjusted. |
| Approved reimbursables | Paid only against prior approval, bills, stock entry, utilisation certificate and verification. No ex-post-facto claim shall be entertained except emergency action approved in writing. |
| Final payment | After final handover, asset reconciliation, return of records, settlement of dues and defect rectification. |

# 14. Performance Security, Penalties, Defaults and Risk-and-Cost

Performance controls are designed to deter neglect without turning the contract into a penalty machine. Minor deviations require correction; repeated or serious defaults invite deduction, termination and risk-and-cost action.

| Default/Deficiency | Consequence |
|---|---|
| Non-deployment of approved key personnel | Deduction from monthly bill proportionate to absence; repeated non-deployment may be major default. |
| Poor seedling batch due to agency negligence | Rejection/replacement at agency cost; payment deduction; farmer complaint response mandatory. |
| Hydroponics/aeroponics idle without approval | Daily deduction after permitted shutdown; recurring idle period may trigger show-cause and termination. |
| Preventive maintenance missed | Deduction if not closed within 72 hours; repeated failure triggers corrective action plan. |
| False reporting or revenue leakage | Recovery of loss, penalty up to twice the loss where legally permissible, termination and debarment proceedings. |
| Damage/loss of Government asset due to negligence | Recovery at replacement/repair cost; serious negligence may lead to forfeiture of security. |
| Statutory/labour violation | Agency solely responsible; payment may be withheld until compliance; serious violation is major default. |
| Unauthorised subletting/use of facility | Major default; termination and forfeiture proceedings. |

## 14.1 Performance Security

- The selected bidder shall submit performance security equal to 5% of total contract value before signing the agreement.
- Performance security shall remain valid for the contract period plus at least 180 days or as specified by BHDS.
- BHDS may invoke performance security for abandonment, material default, failure to cure defects, asset damage, revenue leakage or other recoverable dues as per contract.
- Additional performance security may be required for abnormally low bids.

# 15. Contract Period, Handholding, Handover and Exit

The contract period shall be three years. Extension may be considered one year at a time, maximum two extensions, based on annual performance review, continued need and mutual agreement. Extension shall not be a right.

| Condition for Extension | Minimum Requirement |
|---|---|
| Annual performance score | At least 80/100 in the preceding year and no downward trend requiring termination. |
| Critical deliverables | Seedling production, A&H utilisation, training, maintenance and reporting targets substantially achieved. |
| Compliance status | No major unresolved statutory default, revenue leakage, asset damage, false reporting or blacklisting event. |
| Asset condition | Facility maintained in acceptable condition with updated inventory and maintenance records. |
| Administrative requirement | BHDS certifies continued requirement and budget availability. |

### 15.1 Handover at Commencement and Completion

- Commencement handover shall be through joint physical inventory, photographs, condition report, crop status and defect list.
- At completion/termination, the agency shall hand over assets, records, SOPs, logs, training material, inventories, crop-status notes, pending issue list and digital data.
- Exit transition support of minimum 30 days shall be provided if required by BHDS to avoid operational disruption.
- Government assets shall remain the property of BHDS. Any approved permanent improvement attached to immovable property shall vest in BHDS unless expressly agreed otherwise.

## 16. Legal, Statutory and Administrative Conditions

- The agency shall comply with applicable laws relating to labour, minimum wages, PF/ESI where applicable, GST, workplace safety, fire safety, electrical safety, pesticides, fertilizers, waste disposal, environmental compliance and prevention of sexual harassment at workplace.
- The agency shall be solely responsible for its employees, workers, consultants, sub-contractors and representatives. No employer-employee relationship shall be created with BHDS.
- No child labour, forced labour, banned agro-chemicals, unsafe practices, fraudulent sales or unauthorised use of public assets shall be permitted.
- The agency shall obtain and maintain insurance as prescribed in the agreement, including workmen/employee compensation, public liability and insurance of movable equipment where required.
- All data, reports, records, photographs, crop observations, farmer records, sale records, training records and manuals generated under the contract shall belong to BHDS.
- The agency shall not use CoE branding, premises or data for private commercial promotion without prior written approval of BHDS.
- Dispute resolution, termination, notice period, force majeure and jurisdiction shall be governed by the agreement. Courts at Patna shall have exclusive jurisdiction.

### 16.1 Obligations of BHDS

- Provide access to the site, existing assets and available records during handover.
- Nominate a CoE In-charge/Nodal Officer and constitute a monitoring/review mechanism.
- Facilitate official demand aggregation for seedlings and training through districts/schemes where applicable.
- Approve annual crop plans, training calendar, input procurement plans and major repairs within reasonable time.
- Release payments as per contract against verified deliverables and completed formalities.

### 16.2 Obligations of the Agency

- Operate the CoE professionally and continuously as per approved plan, SOPs and directions of BHDS.
- Deploy and retain qualified personnel, maintain discipline and ensure timely salary/statutory payments.

- Ensure quality, traceability, crop health, preventive maintenance, training delivery, market linkage, records and reporting.
- Protect Government assets and immediately report any incident, loss, theft, damage, breakdown or safety concern.
- Prepare corrective action plans and comply with inspection observations within prescribed time.

### Selected Public References for Benchmarking

- Press Information Bureau, Ministry of Agriculture & Farmers Welfare: Press release on Centre of Excellence for Vegetables at Baramati and Indo-Dutch CoE practices, 29 August 2022.
- Centre of Excellence for Vegetables, KVK Baramati: About page describing quality planting material, protected cultivation, fertigation, training and market intelligence.
- ICAR-IARI: Centre for Protected Cultivation Technology introduction page.
- ICAR-IIHR/ICAR: State-of-the-art facilities and CoE for quality planting material, training and demonstrations.
- ICAR-IISR/ICAR: Pan-India Action Research Project on Spice Value Chains and training on sustainable ginger and turmeric cultivation, 2025.
- PIB: Status of Centres of Excellence under India-Israel Cooperation, including CoE for Vegetables at Chandi, Nalanda.

## 18. Annexures and Formats

### Annexure I – Bid Submission Letter

To,
The Mission Director,
Bihar Horticulture Development Society,
2nd Floor, Krishi Bhawan, Mithapur, Patna – 800001

Subject: Technical Proposal for Selection of Agency for Operation & Maintenance, Crop Management, Nursery Production, Demonstration, Training and Extension of CoE on Vegetables including Aeroponics and Hydroponics Facility, Chandi, Nalanda.

Sir,
We submit our Technical Proposal in accordance with the RFP. We confirm that we have read the RFP, visited/understood the site, accepted the terms and conditions, and undertake to perform the assignment as per the RFP and our approved technical proposal. We certify that the information furnished is true and correct. We also certify that no financial information has been included in the technical proposal.

Authorised Signatory: _____ Name: _____ Designation: _____ Seal: _____ Date: _____

### Annexure II – Power of Attorney / Authority Letter

| Particular | Details |
|---|---|
| Name of Bidder / Firm | |
| Registered Address | |
| Name of Authorised Signatory | |
| Designation | |
| Specimen Signature | |
| Date | |
| Seal of Firm | |

## Annexure III – Bidder Information and Eligibility Checklist

| Particular | Response | Reference |
|---|---|---|
| Name of legal entity | Yes/No/Details | Document Reference/Page No. |
| Type of entity | Yes/No/Details | Document Reference/Page No. |
| Registered office address | Yes/No/Details | Document Reference/Page No. |
| Office in Bihar/undertaking | Yes/No/Details | Document Reference/Page No. |
| PAN | Yes/No/Details | Document Reference/Page No. |
| GSTIN | Yes/No/Details | Document Reference/Page No. |
| Years of existence | Yes/No/Details | Document Reference/Page No. |
| Average turnover | Yes/No/Details | Document Reference/Page No. |
| Net worth | Yes/No/Details | Document Reference/Page No. |
| Similar experience | Yes/No/Details | Document Reference/Page No. |
| Nursery/planting material experience | Yes/No/Details | Document Reference/Page No. |
| Hydroponics/aeroponics/CEA experience | Yes/No/Details | Document Reference/Page No. |
| Training/extension experience | Yes/No/Details | Document Reference/Page No. |
| Key personnel CVs | Yes/No/Details | Document Reference/Page No. |
| OEM/technical partner proof | Yes/No/Details | Document Reference/Page No. |
| Non-blacklisting affidavit | Yes/No/Details | Document Reference/Page No. |
| EMD details | Yes/No/Details | Document Reference/Page No. |
| Technical proposal attached | Yes/No/Details | Document Reference/Page No. |

## Annexure IV – Consortium/JV Declaration

We, the undersigned members of the proposed consortium/JV, agree to participate jointly in the RFP. The Lead Member shall be _____. The roles and responsibilities of each member are as follows:

| Sl. | Member Name | Role/Work Package | Share/Responsibility | Authorised Signatory |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

## Annexure V – Similar Experience Statement

| Sl. | Client/Project | Nature of Work | Location | Value | Period | Status | Proof Ref. |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |

## Annexure VI – Key Personnel and Deployment Plan

| Sl. | Position | Name | Qualification | Experience | Deployment Status | CV Ref. |
|---|---|---|---|---|---|---|
| 1 | Project Director/Team Leader | | | | | |
| 2 | CoE Operations Manager | | | | | |
| 3 | Protected Cultivation & Nursery Specialist | | | | | |
| 4 | Hydroponics/Aeroponics/CEA Specialist | | | | | |
| 5 | Spices Value Chain Specialist | | | | | |
| 6 | Fertigation & Irrigation Technician | | | | | |
| 7 | Electrical/Automation Technician | | | | | |

| Sl. | Position | Name | Qualification | Experience | Deployment Status | CV Ref. |
|---|---|---|---|---|---|---|
| 8 | Training & Extension Coordinator | | | | | |

## Annexure VII – Technical Approach Template

1. Bidder profile, legal status, financial capacity and relevant assignments.
2. Understanding of CoE Chandi's objectives, Bihar agro-climatic conditions, crop priorities and infrastructure condition.
3. Three-year O&M strategy with annual milestones and transition plan.
4. Season-wise and crop-wise plan for vegetable seedlings, high-value vegetables and spices.
5. Nursery quality assurance protocol, traceability system, seed/source management and dispatch plan.
6. Aeroponics/hydroponics operations plan including crop cycles, capacity utilisation, nutrient/water management, SOPs and market linkage strategy.
7. Protected cultivation, irrigation, fertigation, plant protection, biosecurity and sanitation plan.
8. Training, exposure visit, ToT, farmer handholding and extension strategy with Hindi training material outline.
9. Market linkage and value-chain demonstration plan for vegetables, hydroponic produce and spices.
10. Manpower deployment plan, organisation chart, CVs, salary/payroll approach and reliever plan.
11. MIS/dashboard/reporting formats, quality audit plan and KPI monitoring framework.
12. Risk mitigation plan for power, water, crop failure, disease outbreak, system breakdown, market glut, manpower shortage and natural calamity.
13. OEM/technical partner details, spare availability, calibration plan and escalation matrix.

## Annexure VIII – Annual Crop, Nursery and Training Plan Format

| Crop/Activity | Season/Month | Area/System | Target Output | Training/Demo Link | Inputs Required | Responsible Expert |
|---|---|---|---|---|---|---|
| Vegetable seedlings | | | | | | |
| Protected vegetable crop | | | | | | |
| Hydroponics/aeroponics crop | | | | | | |
| Turmeric/ginger/garlic value chain | | | | | | |
| Exposure visit/training | | | | | | |

## Annexure IX – Financial Proposal Format

Financial Proposal shall be submitted only in the Financial Bid/BOQ section of GeM and must not be included in the technical bid. The format below is indicative; final BOQ shall prevail.

| Item | Year 1 Amount | Year 2 Amount | Year 3 Amount | Total |
|---|---|---|---|---|
| Fixed O&M Service Fee excluding GST | | | | |
| GST and applicable taxes | | | | |
| Total quoted amount | | | | |

## Annexure X – Annual Performance Scorecard

| Performance Area | Marks |
|---|---|
| Quality planting material and nursery production | 20 |

| Performance Area | Marks |
|---|---|
| Aeroponics/hydroponics operation and capacity utilisation | 15 |
| Protected cultivation/open field/spices demonstrations | 15 |
| Training, exposure visits and farmer feedback | 15 |
| Maintenance, uptime and asset care | 15 |
| Reporting, MIS, records and transparency | 10 |
| Market linkage, innovation and value-chain outputs | 5 |
| Compliance, safety and grievance redressal | 5 |
| Total | 100 |

## Annexure XI – Site Visit and Asset Verification Declaration

I/We declare that we have inspected/understood the site conditions, indicative facility inventory and location of the CoE, Chandi, Nalanda, Bihar, and have considered the same while preparing our bid. We acknowledge that the facility shall be handed over through joint inventory and on terms specified by BHDS.

| Particular | Details |
|---|---|
| Name of bidder | |
| Representative visiting site | |
| Date of visit | |
| Mobile/e-mail | |
| Signature and seal | |

## Annexure XII – Affidavit Regarding Blacklisting, Integrity and Litigation on Rs 100 Stamp paper

The bidder shall submit a notarized affidavit on non-judicial stamp paper as prescribed by BHDS stating that the bidder/consortium members are not blacklisted/debarred by any Central/State Government/PSU/ICAR/SAU during the last five years; have not submitted false documents; shall comply with RFP requirements; and shall disclose material litigation, if any.

## Annexure XIII – Turnover Certificate

| Financial Year | Annual Turnover (Rs. in lakh) | Supporting document reference |
|---|---|---|
| FY 2022-23 | | |
| FY 2023-24 | | |
| FY 2024-25 | | |

Certified that the average annual turnover of M/s _____during the above three financial years is Rs. _____lakh.

Signature and Seal of Chartered Accountant (with UDIN)