THE MADHYA PRADESH STATE AGRO INDUSTRIES DEVELOPMENT CORPORATION LIMITED
"PANCHANAN" 3rd FLOOR, MALAVIYA NAGAR, BHOPAL
Phone (0755)- 2556857 EMAIL: mpagrohobpl @gmail.com

RATE CONTRACT OFFER (RCO) DOCUMENT

FOR SUPPLY OF

PROTECTED CULTIVATION INFRASTRUCTURES

(Green house / Shade net House / Poly house/ Poly Tunnel structure)

FOR THE

YEAR 2021-22 and 2021-22 and Onwards

DUE DATE 16-12-2021

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HO/ HORTI /2021-22/ Bhopal Dated 23-11-2021

NOTICE
INVITING ONLINE RATE CONTRACT OFFER (RCO)

On-line Rate Contract Offer (RCO) is invited under e-tendering system for SUPPLY AND INSTALLATION of Protected cultivation infrastructures (Green House, Net House and Low Tunnel) up to 2.00 PM on 16.12.2021 along with Earnest Money Deposit, from eligible suppliers as detailed in the RCO document. RCO document is available at www.mpagro.org and www.mptenders.gov.in. Amendments if any, will be published on above website. No further notification will be published in the news paper.

Manager
(Horticulture)

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RATE CONTRACT OFFER DOCUMENT FOR SUPPLY OF

PROTECTED CULTIVATION INFRASTRUCTURES

(GREEN HOUSE, NET HOUSE AND LOW TUNNEL)

This document contains 77 pages as below:

Meaning of the words in the document

	The Corporation	M.P. State Agro Industries Development Corporation Ltd.
	RCO	Rate Contract Offer
	Beneficiary/ Consignee	The person / department who wish to purchase the items through this Corporation
	Application forms/ the document	Application forms and all other relevant annexure documents
	Applicant /Offerer	The Manufacturer / Authorized Distributor who submit offers for Rate contract for supply and installation of Items as per document
	The supplier	Firm whose rates are approved and an agreement for supply & installation has been executed with the Corporation under this RCO
	EMD	Earnest Money Deposit
	SD	Security Deposit
	Department	Directorate of Horticulture and Farm Forestry and Directorate of Sericulture Govt. of Madhya Pradesh. Or any other department of government of Madhya Pradesh
	Managing Director	Managing Director of M P State Agro Industries Development Corporation Ltd Bhopal
	PROTECTED CULTIVATION INFRASTRUCTURES	GREEN HOUSE, NET HOUSE AND LOW TUNNEL

Annexure 1

A. **DISCLAIMER**

Though adequate care has been taken in the preparation of this RCO document, the Offerer should satisfy himself that the documents are complete in all respect. Intimation of discrepancy, if any, should be given to M.P. Agro before pre-bid or date mention under this RCO. If M.P. Agro receives no intimation, it shall be deemed that the Offerer are satisfied that the document is complete in all respects.

B. RATE CONTRACT OFFER PROCESS

The Rate Contract Offer (RCO) is invited under E- Tender system and bidding process will have following steps:

RCO Fee	Rs 11900 (Including Tax shall be paid online)
EMD	Rs 5,00,000/-

Stages of Bidding

Process	Scheduled date	Scheduled time
Purchase of RCO	From 24.11.21 2:00 pm to 16.12.21 before 2:00 pm	-----
Due date for receipt of Queries or suggestions from Applicant (offerer) if any pertaining to terms & conditions mentioned in RCO	6.12.2021	2.00 PM
Pre Bid Meeting	6.12.2021	2.00 PM
Due date for uploading reply to queries or suggestions	8.12.2021	5.00 PM
Closing of bid	16.12.2021	2.00 PM
Date and time for submission of hard copies of signed RCO documents with required Annexures / documents under RCO	16.12.2021	5.00 PM
Opening of Technical Bid	17.12.2021	3.30 PM
Opening of Financial (Price) Bid	Date & time will be communicated to eligible bidders	

Each stage will take place on the date and time mentioned against them.

C. Prologue :

The State Government aimed to double farmer's income. Directorate of Horticulture and Farm Forestry is very keen to encourage farmers to adopt protected method of cultivation by implementing High Tech Cultivation Technologies such as Green house / Shade net House / Poly house/ Poly Tunnel structure with the following purposes:

1) Provides favorable micro climatic conditions for the plants.
2) Cultivation in all seasons is possible.
3) Higher yield with better quality per unit area.
4) Conserves moisture thus needs less irrigation.
5) More suitable for cultivating high value / off season crops .
6) Helps to control pest and diseases.
7) Helps in hardening of tissue cultured plants.
8) Helps in raising early nurseries.
9) Round the year propagation of planting material is possible.
10) Protects the crops from wind, rain, snow, Birds, hail etc.
11) Generates self-employment opportunities for educated youth.

For the purpose of motivating farmers and fast adoption of such technologies, Directorate of Horticulture and farm Forestry, is providing financial assistance to the farmers for establishment of Green-house / Poly house/ Net house/ Poly Tunnel under Mission on Integrated Development of Horticulture.

Financial Assistance

Financial assistance for Green house / Poly house /Shade Net house/ Poly Tunnel is to the extent of 50% of the total cost norms indicated below is admissible to all the beneficiaries for adoption of this technology by farmers with a maximum ceiling up to 4000 square meter per beneficiary.

Items	***Structure Size***	***Maximum permissible cost (Rs./Square meter)upto 4000 Square meter per beneficiary***
Poly house with Fan & Pad system	up to area 500 Sq. m	1650
	>500 Sq.m up to 1008 Sqm	1465
	>1008 Sq.m up to 2080 Sq.m	1420
	>2080 Sq. m upto 4000 Sq.m	1400
Naturally Ventilated Poly house	up to area 500 Sq. m	1060
	>500 Sq.m up to 1008 Sqm	935
	>1008 Sq.m up to 2080 Sq.m	890
	>2080 Sq. m upto 4000 Sq.m	844
Shade Net house	up to area 4000 Sq. m	710
Walk in tunnels	Up to 800 Sq. m	600

Maximum permissible cost (Rs./Square meter)upto 4000 Square meter per beneficiary indicated above is for calculation of financial assistance only. if actual cost is more than above limit, then financial assistance will be calculated on above norms

Following key points are needed to be addressed for successful large scale implementation of this scheme in the State.

1) **Ensuring supply of all components as per the minimum standards specified by National Committee on Plasticulture Application in Horticulture (NCPAH), Government of India and given in Rate Contract Offer.**

2) Ensuring quality of supply and installation of project components as specified in the guideline to safe guard farmers from future loss.

3) Assisting farmers in selection of suitable Supplier (manufacturer/fabricator) to implement Green house/ Poly house/ Net house/ Poly Tunnel based on their requirement.

4) Ensuring training of operation of project as well as the agronomical inputs to farmers to achieve overall objective of increasing productivity and thus improving their income.

5) Ensuring trouble free operation of Green House/ Poly House/ Shade net House/ Poly Tunnel, at least for 3 years after the project has been implemented.

6) To derive a reasonable cost for each type of technology through price discovery method. This will protect farmers from undue market practice.

D. **Scope of Work**

It covers Erection, Procurement and Commissioning, After Sales Services, Repair and Maintenance and Agronomical Services as under:

1 Erection, Procurement and Commissioning

i.) The Supplier shall supply the material and construct the Green house / Net house / Poly house /Poly Tunnel at farmer's field according to the guideline prescribed by NCPAH.

ii.) If there will be amendments in guideline during the period of agreement by the National Committee on Plasticulture Applications in Horticulture *(*NCPAH) and the specification as prescribed in this Rate Contract Offer, the Supplier shall follow the same.

iii.) The Supplier shall implement the project using material and components of minimum Indian standard prescribed or of the suggested companies only. The detail is given in **Annexure -5 (A to J).** The type of polythene/net is to be used based on the crop selected by the farmer, however the quality criteria should fall with the minimum standard suggested in the guideline**.**

v.) The Supplier shall construct the Green house/ Poly house/ Net house/ Poly Tunnel within the time period set by Managing Director.

vi.) The Supplier will take a trial run of the entire project and handover the same to farmer.

vii.) The Supplier must handover, after commissioning of Green-house/ Net house/Poly Tunnel, a complete and updated "Operational Manual" in local language.

2 After Sales Services, Repair and Maintenance

i.) The warranty period for the components/ equipment shall be for three years from the date of completion of the project.

ii.) The Supplier will provide after sales services for 3 years to the farmer.

iii.) The Supplier will provide free replacement of component/equipment/cladding material if damaged during the warranty period.

iv.) In the event of any instrument/ component gets broken or damaged during installation and trial run at the site before handing over the Green house/ Net house/ Poly Tunnel to the farmer the Supplier shall replace the same at free of cost.

3 Agronomical Services

i.) The Supplier shall provide operational training of minimum 15 days to the farmer or its nominated family member only.

ii.) For the successful implementation of the project and to ensure envisaged benefits out of this project, the Supplier shall provide agronomy services related with Green house/ Poly-house/ Net house/ Poly Tunnel cultivation technology to the beneficiary. The duration of the agronomy services will be for three years after the project completion date.

iii.) The agronomy services to be provided by the Supplier must include the advice for selection of crop, variety of seeds and other related agriculture inputs and also advise for taking best crop based on the prevailing market condition with an objective to maximize the earning of farmer. However, the decision regarding the selection of crop should be taken by farmer.

iv.) During this period, a competent person deputed by the Supplier, who will support the farmer and will visit/ contact at every fifteen days to the farmer from date of handing over the project up to first 3 months and visit site once in every two months during period of warranty. The supplier will provide details of competent person (including Mob no) to farmer. The list of competent person along with detail of qualification and experience has to be provided to the Managing Director as per the format given in **Annexure -12.**

v.) The Supplier will maintain records of such visit and submit the same to the Managing Director as and when required.

E. Terms of Reference for the applicant/ offerer /supplier

i.) The Corporation is dealing in supply of various Agriculture and Horticulture inputs to the farmers and Govt. Departments of the State. The Corporation wishes to enter into rate contract with the manufacturer of Green House & Net house, Low Tunnel. This RCO is therefore invited in prescribed documents.

ii.) The Managing Director of the Corporation will decide the modus operandi for the selection of Offerer for Rate Contract and Finalizing of Rates.

iii.) As it is a rate contract, the Corporation may give counter offer of lowest rates or counter offered rates as decided by the corporation to all the eligible applicant/ offerer/ suppliers.

iv.) Applicant can submit its credentials relevant to the eligibility criteria specified as per **Annexure-2**.

v.) The applicant irrespective of its rate contract shall not be granted approval for quantum of work in a year more than its average annual turnover of last three year indicated in its proposal up to the year ending on **March 31st, 2021**. The performance review would be done based on the quantum of work done, quality and no. of projects completed successfully in a year. Based on the performance review of the Supplier the Managing Director may extend the work limit.

vi.) The Applicant/ supplier can implement the project only for the farmer or any one of his/ her family member who has undergone the specific training related with protected cultivation methods conducted by Dy. Director Horticulture at district level. The suppliers whose rates has been approved, shall have to demonstrate equipment's used in construction of protected cultivation. The farmer has a choice to select supplier. After selection of supplier, the information will be posted on portal MPFSTS and intimation to farmer to deposit farmer's share within 7 days.

vii.) The subsidy shall be released by the Department in kind & will be made available to the Corporation after due verification of the structure as per the technical specifications and fulfillment of terms & conditions specified in the work order issued by the Corporation.

viii.) The Managing Director may levy a penalty on the supplier if found that supplied component are not conforming to minimum specifications. The cost of such component would be recovered from the bill of supplier or from the bank guarantee submitted for the particular project by supplier.

ix.) The Supplier shall ensure the insurance of green-house/ poly-house/ net house/ poly tunnel from a reputed Insurance company just after completion of construction work for one year and will have to submit the insurance certificate to the farmer. The Supplier shall ensure to renew insurance further up to warranty period i.e. for second and third year too. The cost of insurance has to be borne by Supplier.

x.) The Supplier should provide help to the farmer for settlement of insurance claim and assist in submitting prima facie report of the damages occurred within the scope of the insurance policy if required.

xi.) The Supplier shall not sub-contract the entire work of construction of green- house /net house/ poly-house/ poly tunnel to the associate dealer/ distributor/ other party. If Supplier is found to be sub-contracting the entire work of construction, the empanelment of such Supplier shall be cancelled by the Corporation along with forfeit of EMD and debarring to participate in RCO for further 2 years.

xii.) The Corporation has right to cancel the Rate Contract at any point of time during the contract period.

xiii.) The Corporation has right to terminate Rate Contract if found that work carried out by Supplier is not satisfactory.

xiv.) The work order for construction of green-house /poly-house/ net-house/ poly tunnel shall be issued by the Corporation to the supplier. The Corporation will carry out

inspection through its nominated official of the entire project as specified in **Annexure 5 (A-J).** On getting the inspection report and if the project will be found as per the norms of the Corporation payment will be released. **Rural Horticulture Extension officer shall visit & inspect the construction work from time to time for which separate instruction will be issued by the Department.**

xv.) On receipt of information regarding completion of work order, the same will be posted on portal MPFSTS and physical inspection will be carried out in presence of farmer by the committee headed by Joint Director Horticulture (members will be Dy. Director Horticulture, Sr Horticulture Development Officer, Rural Horticulture Development officer and District Manager of the Corporation). Action for Geo-tagging will be made after inspection

xvi.) The subsidy shall not be released if the structure or any component is not as per the specification mentioned.

F. INSTRUCTION OF OFFERERS :

The offers are invited under e-tendering system from the manufacturers to participate in this Rate Contract offer. The offerers are required to read carefully the terms and conditions and submit the document on website only after affixing their digital signatures as a token of acceptance.

All RCO and relevant documents shall be uploaded in JPG or PDF format only, in minimum resolution of 600 DPI. Document uploaded in other format will not be considered.

Scanned copies of all desired documents mentioned in Qualification Criteria and EMD must be uploaded on website. Offerer must submit hard copies of complete technical bid including qualification criteria and related documents/technical literature/Boucher duly signed (except Price Bid) along with proof of EMD. Hard copies of these documents must be dropped in e-Tender drop box placed at Office of the Managing Director M P State Agro Industries Development Corporation Limited, 3rd floor of Panchanan Bhawan, Malviya Nagar, Bhopal, before last date and time of submission of offer.

All documents uploaded on web site must be clear and readable. In case of any non clarity of uploaded documents or any dispute over documents uploaded online in E-Tender, the hard copies submitted by the offerer shall be treated final.

Offerers are advised to upload their offer well in time without waiting for last date of offer submission in order to avoid congestion or any other unforeseen circumstances.

Manager {Horticulture}

Annexure2

A. List of Mandatory Documents to be uploaded (Self Certified with Seal and signature)

S.No	TYPE OF DOCUMENTS
1	Document as Supplier of Green House / Net House/ Walk in Tunnel Registration with DTIC or Udyog Aadhar
2	Valid Permanent Account Number (PAN)
3	Valid GSTN.
4	Affidavit as per **Annexure 7**
5	CA certificate to establish experience of minimum three years in the field of Green-house/Poly-house/Net house/Poly Tunnel in supply, installation and maintenance. **Annexure 10**
6	Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 **Annexure 9 CA Certificate**
7	Constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel(40000sq mt.). in last 3 years **Annexure 10 duly countersigned by Nodal Department of respective States.**

ANNEXURE 3

ELIGIBILITY CRAITERIA

The following are the minimum eligibility criteria for submission of offer

a. An offerer should have valid registration as Supplier/ Manufacturer of Green House / Net House/ Walk in Tunnel with Department of Horticulture and Farm Forestry Madhya Pradesh.

Or

Document as Supplier/ Manufacturer of of Green House / Net House/ Walk in Tunnel registration with DTIC or Udyog aadhar will be considered.

b. An offerer should have valid PAN & TIN

c. Minimum 03 (three) years of experience in the field of Green house/Polyhouse/Net house/Poly Tunnel in supply, installation and maintenance. The Supplier has to submit a CA certificate to establish experience of minimum three years and format given at **Annexure 9**

d. The offerer should have Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 from construction activity of greenhouse/net house/poly house/ poly tunnel only. Nil Turnover in any of the above mentioned year will lead to disqualification. Annexure 9

e. The offerer should have constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel (40,000 sq mt) in last 3 years as on date 31st March 2021. **Annexure 10**

The offerer has to submit copy of all the relevant documents.

Note :

Beside this the Corporation may obtain third party inspection (before / after entering in agreement) for production capacity and production facilities of the applicant. (Expenses for this inspection will be born by supplier)

Manager {Horticulture}

ANNEXURE 4

GENERAL TERMS AND CONDITIONS

01- **PROCEDURE FOR RATE CONTRACT**

1.1 The Corporation invites Rate Contract offer for supply of items as specified in **Annexure 5 (A-J) who fulfils** eligibility criterion as per **Annexure 3**

1.2 Not more than one offer will be accepted from any Applicant/ Manufacturer. If any individual participating in the offer, representing more than one firm in one or different names and it comes to our knowledge at any point of time, all such offer will not be entertained and shall be liable for rejection.

02- AVAIBILITY OF RATE CONTRACT DOCUMENT (RCO)

As the document is available on website www.mpagro.org of the Corporation, the same can be submitted online through www.mptenders.gov.in

03- SUBMISSION OF RATE CONTRACT OFFER.

3.1 The Corporation invites online Rate Contract Offer for supply and installation of Green-house / Poly house/ Net house/ Poly Tunnel.

3.2 All the Mandatory Documents to be uploaded (Self Certified with Seal and signature) as per list in **Annexure 2** shall be uploaded in JPG or PDF format only, in minimum resolution of 600 DPI. Document uploaded in other format will not be considered.

3.3 Self-attested hard copies of all Mandatory Documents along with signed copy or RCO must be dropped in E-Tender drop box placed at Office of the Managing Director M P State Agro Industries Development Corporation Limited, IIIrd floor of Panchanan Bhawan, Malviya Nagar, Bhopal, before last date and time of submission of offer.

3.4 The Envelope of Hard Copies shall be submitted in a sealed cover super scribed with words "Rate Contract Offer for supply of and installation of Green house / Poly house/ Net house/ Poly Tunnel.

4. TECHNICAL INFORMATION REGARDING ELIGIBILITY.

4.1 Envelope should contain the following documents :-

4.1.1 RCO Document duly signed on each page by authorized signatory.

4.1.2 Registration Certificate /Document as Supplier of Green House / Net House/ Low Tunnel Udyog Aadhar/ Registration with DTIC.

4.1.3 Self-Certified Copy of Valid PAN and TIN (of Manufacturer and Authorized Distributor as the case may be).

4.1.4 Affidavit as per **Annexure 7**.

4.1.5 Minimum 03 (three) years of experience in the field of Green- house/Poly-house/Net house/Poly Tunnel in supply, installation and maintenance. The Supplier has to submit a CA certificate to establish experience of minimum three years and format given at **Annexure-9**

4.1.5 The offerer should have Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 from construction activity of greenhouse/net house/poly house/ poly tunnel only. Nil Turnover in any of the above mentioned year will lead to disqualification. **Annexure-9**

4.1.6 The offerer should have constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel (40,000 sq mt.) in last 3 years as on date 31st March 2021. **Annexure-10**

4.2 Hard Copies received in the offer box up to due date and time will be opened on due date and time as mentioned in page No - 6. In case of non clarity of uploaded document or any dispute over documents uploaded online in E-Tender, the hard copies submitted by the offerer shall be treated final.

The Corporation will not be responsible for any delay on any account in receipt of offer. If the offer is received after the specific date and time even if the delay in receipt was caused in postal transit or any other reason, whatsoever. On-line offer will be open on due date and time as mentioned in Annexure 1 point B in the presence of the representative of firms who wishes to be present. Date of opening of Financial Offer (price bid) will be intimated on notice board and online on www.mpagro.org.

05- RATE CONTRACT OFFER DOCUMENT

The Offerer is expected to read carefully all instructions, conditions of the Rate Contract Document, Performa agreement, Specifications, all annexure, etc Failure to comply with the requirements of offer submission will be at the offerer risk. Offers that are not substantially responsive to the requirements of the RCO documents will be rejected. The Offerer has to submit Affidavit as per **Annexure 7** on non-judicial stamp paper of Rs 1000.

06- EARNEST MONEY DEPOSIT (EMD):

Offerer has to deposit required Earnest Money Deposit (EMD) of Rupees 5,00,000 (Five Lakh) only online.

(i) Earnest Money of all unsuccessful Offerer will be returned. No interest is payable on the amount of EMD at the time of refund.

(ii) Earnest Money shall be forfeited if the offer is withdrawn.

a. At any time prior to its rejection,

b. Before or after the acceptance is communicated to the Offerer.

c. If the selected Offerer fails to execute the agreement within prescribed time limit.

d. If it is found that false documents/ information are submitted.

e. If supplier breaches any of all terms and conditions in this RCO or agreement.

(iii) The EMD will remain with the Corporation during the currency of the contract and/or till successful execution of all the order placed during the currency of the contract and will be refunded to the supplier without interest in case of no dispute.

(iv)- **Earnest money of successful Offerer will be adjusted against Security Deposit (SD) at the time of the execution of the agreement.**

07- SECURITY DEPOSIT (SD):

(i) The Security deposit will remain with the Corporation during the currency of the contract and will be refunded to the supplier without interest in case of no dispute.

(ii) Security deposit will be forfeited in case of failure of supply of the material as mentioned in the purchase order, in time and as per the approved specifications or for any breach of terms and condition of the agreement and RCO.

(iii) The security deposit will be refunded after the successful execution of all orders during currency of the contract period provided no dispute, claim or complaint exist for settlement without interest.

08- TECHNICAL SPECIFICATION:

Technical Specifications are given in **Annexure 5**. Supplier has to supply items as per the specification.

09- QUOATING OF RATES FOR RATE CONTRACT:

9.1 The Offerer must submit rates online only as per format given in **Annexure 6.** The rates should be inclusive of construction of greenhouse/ poly house/ net house/ poly Tunnel/ repair and maintenance and agronomical services as specified in the scope of work of this document.

9.2 Rates for Green House/ Net House / Low Tunnel Should be given on Turn Key Basis i:e the rates must include the cost of material, cost of installation, all the taxes whatsoever, Agronomy Service charges* (*as mentioned in clause no 21) and Corporation margin, F.O.R. destination. The rates must be given for specific size and type of Green house/ Net House and Low Tunnel

9.3 In this RCO the Offerer should quote final selling rates (F.O.R. destination) to customer through office of District Manager of this Corporation, inclusive of all applicable taxes duties,

9.4 Corporation will take 2% service and 0.5 % inspection Charges + GST as

applicable on total basic cost of the project (Complete Unit cost for Green house/ Polyhouse /Net house/Poly Tunnel constructed, etc as per **Annexure 6**). In case bill is raised by corporation the amount will be added in agro's bill accordingly/ In Case if supplier directly billing to farmer, Service Charges bill (2.5% of the unit cost) will be raised in name of the supplier and the amount will be adjusted at the time of payment to supplier.

9.5 The in M.P offerer should quote their lowest price, in accordance to the condition mentioned in clause No. 10. The Supplier shall have to offer consolidated price for each project component mentioned in the format for different sizes separately. The price should be inclusive of all except applicable taxes.

10- REASONABILITY OF RATES:

Offerer shall have to offer his lowest rates for the offered item and it should be strictly in accordance with the clause mentioned below (applicable from the date of Submission of RCO).

(i) The price charged for Items under this contract by the offerer shall in no event exceed the lowest price at which the identical items to any other person /Organization/ Government Department/ Govt. Corporation / or any Govt. body in M.P. during the period till completion of all orders issued during the currency of contract is completed.

(ii) If at any time during the said period the Supplier reduces the sales price of such offered items or sells such items to any other person/ organization at a price lower than the price chargeable under the contract, the Supplier shall forthwith notify such reduction in the rate to the Corporation. The price paid under the contract after such reduction in sale price, shall stand correspondingly reduced. The Corporation shall be entitled to recover such excess amount.

11- NEGOTIATIONS: It is clarified that normally, no rate negotiation will be done and therefore the offerer should quote their lowest prices only. However the Managing Director of the Corporation may decide to give counter offer of the rates decided by the Corporation to all eligible offerers.

12- VALIDITY OF APPLICATION: Application received in against this RCO are valid for acceptance for 6 months from the last date of Submission.

13- VALIDITY OF RATE CONTRACT: The Rate Contract against this RCO is valid up to 2022-23 (31.03.2023) and Onwards. The RCO can be extended after the expiry i.e 3103.2023 till the new Rates are circulated after finalizing the New RCO in this regards.

14- EXECUTION OF AGREEMENT:

(a) The successful offerer shall have to execute an agreement as per **Annexure 13** with the Corporation. The agreement will be executed on non-judicial stamp paper of Rs.

1000/- the cost of the same will be borne by the offerer.

(b) The Corporation shall intimate the successful offerer regarding acceptance of his offer and inform him to execute an agreement. In case the offerer fails to execute agreement within time limit the EMD deposited by offerer shall be forfeited. After executing agreement, the term **Offerer** will be replaced by the term **Supplier.**

15- PLACEMENT OF ORDER:

1. The Managing Director of the Corporation will decide ordering authority in the Corporation, accordingly Head office/ Regional Manager of the Corporation shall place purchase order to the supplier.

16- SCHEDULE AND MODE OF SUPPLY/ PAYMENT:

1. The supplier has to supply and install the ordered Green House/ Net House/ Low Tunnel within 60 days from the receipt of order of the Corporation.

2. In special case, supplier may request in writing to Dy. Director Horticulture of the district (under intimation to district office of the Corporation) for extension in time limit mentioned above (in point 16.1) . On receipt of such request, Dy. Director Horticulture may extend time limit and inform in writing to supplier as well as to the Corporation.

3. If supplier has not executed work order in time, penalty @ Rs 15/- per sq. mt. will be charged for delay of 15 days , @ Rs 30/- per sq mt will be charged for delay of 30 days and @ Rs 50/- per sq mt will be charged for delay of 45 days and will be deducted from supplier's bill. The penalty so deducted will be paid to beneficiary in his bank account by the Corporation.

4. Failure on the part of the supplier for supply/ installation, may lead to forfeiture of the Security Deposit and the rate contract shall stand cancelled and agreement terminated.

5. If any dispute regarding the quality/ quantity of the material supplied, the Corporation will make payment after settlement of the dispute only

17- PAYMENT

CASE 1 - If supplier is not willing to submit Bank Guarantee

1. On successful installation of protected cultivation infrastructure, the payment shall be released on "Payment after Payment" basis. (i:e on receipt of payment from consignee) The Corporation will make 95% payment of invoice to supplier.

2. Remaining 5% payment will be released after completion of warranty i.e. 3 years from date of installation of protected cultivation infrastructure.

CASE II - If supplier is willing to submit Bank Guarantee

1. Offerer have to submit Bank Guarantee of Rs. 17 lac for availing work order in which cultivator share is not exceeding Rs. 17 lacs, this includes all the protected cultivation infrastructures at one time. For availing more orders, wherein, cultivator's share is exceeding limit of Rs. 17 lac, offerer have to submit Bank Guarantee for the balance amount. For the purpose of Bank Guarantee Rs. 17 lac per 4000 sq. mt of Poly house is taken in to consideration. Bank Guarantee can be submitted up to, for 4 times of the amount i.e. 4000x4 sq. mtr. Rs. 68 lac (17x4). On completion of the work, fresh order will be issued by the Corporation, the aforesaid bank guarantee will be treated as revolving Bank Guarantee for next order.
2. Those offerer who have submitted Bank Guarantee with Directorate of Horticulture & Farm Forestry and valid upto 31-3-2023 will be considered under this Rate Contract Offer, provided offerer give consent in writing as per **Annexure 14**.
3. Those offerer who have not deposited Bank Guarantee as point 2 above will have to deposit bank guarantee as mentioned above at point 1.
4. This Rate Contract offer will be valid upto 31-03-2023 and onwards. In case of any extension of contract agreement, the supplier (the offerer with whom an agreement is signed by the Corporation) will have to revalidate bank guarantee for extended period will in advance.
5. Cultivator share under the Scheme will be deposited directly by the beneficiary in supplier's account to whom order has been placed. The subsidy amount will be disbursed as under.
   On receipt of subsidy amount from Department, the remaining amount of invoice shall be released from subsidy after deducting 5% amount of total invoice amount. The 5% amount will be released after completion of warrantee period.
6. Cultivator share under the scheme will be deposited to the corporation (M.P. Agro) the Corporation, on demand from supplier will release cultivator share on completion of civil foundation work and supplies of material i.e. structure and poly film at site. The subsidy amount will be disburse as under.
   On receipt of subsidy amount from Department, the remaining amount of invoice shall be released from subsidy after deducting 5% amount of total invoice amount. The 5% amount will be released after completion of warrantee period.

17- TARNSIT INSURANCE:

The Supplier will arrange for Transit Insurance and Material supplied should be covered under Transit insurance for Road Risk, Theft, Pilferage, and Non Delivery Risk (RRTPND).

18- WARRANTY

3 year warranty from the date of installation. The Supplier is responsible for damage if any accruing due to Corrosion, Sunlight, manufacturing defect. etc. in such case the supplier will replace/ repair such material on its own expenses within 10 days from the date of receipt of intimation. If the supplier fails to do so in the given time limit of 10 days, the department/ beneficiary will be free to repair/ replace the defective material from open market, in such case The Corporation is free to recover such expenditure whatsoever from pending payment / Security Deposit / Bank Guarantee.

19- TRAINING: Supplier should provide training to the Farmer / Beneficiary/ Consignee and officers of Horticulture & corporation (On cluster Basis). Suppliers has to provide Schedules of Training program to District horticulture office. Corporation will monitor the

training should be conducted as per schedule. During training, the supplier shall demonstrate items used in construction of protected cultivation infrastructure to the selected beneficiaries. Training Must Include technical guidance for running and maintenance of structure, selection and production technique of crop and selection of seed material etc. It is expected from the supplier to provide handholding support to beneficiaries for market linkages of the produce.

20- **AFTER SALE SERVICE:** The supplier shall be fully responsible for the satisfactory performance of the Green House / Net House for which supplier shall ensure prompt repair, maintenance and other sale service during the warranty period of 3 years.

21. **CONSULTANCY (Agronomy Services):** The supplier shall be fully responsible to provide technical consultancy (agronomy practices) for growing of the crops grown in Green House/ Net House/ low Tunnel for at least one year. The supplier has to provide proper technical guidance to the beneficiaries regarding sowing/ plantation, maintenance of crop uses of fertilizer/ pesticide proper handling and harvesting packaging and provide handholding support to beneficiaries for market linkages of the produce.

a. Supplier should arrange technical persons to visit the beneficiaries as per annexure 1 point D-3.iv (Page 9))

b. Once in every two months from 6^{th} to up to 12^{th} month from the date of construction. Date of visits may be decided as per mutual understanding of the beneficiaries and the supplier.

22- **TESTING FOR QUALITY**: 2 Samples of each component used in installation of protected cultivation infrastructures may be drawn by Corporation/ Department of Horticulture in presence of supplier's representative and beneficiary on as and when basis, which will be used for quality test in future.

Testing will be carried out by third party for which expenditure on testing will be borne by supplier. In case components found substandard in first testing, the supplier will be penalized as decided by the Managing Director of the Corporation. In case if components found substandard in 3 testing , the supplier will be debar from further supplies & will be blacklisted for 3 years. The Earnest money deposited by the supplier will be forfeited.

23- **FORCE MAJEURE CLAUSE**: If any time during the currency of contract the performance in whole or in part by either party or any obligation under this contract shall be prevented /delayed by reasons of any war, hostility, acts of the public enemy, civil commotions sabotage, fire, floods, explosions, epidemics, quarantine, restrictions, strike. lockouts or "circumstances beyond human control" (hereinafter referred to as eventualities) then neither party will be way of such eventuality be entitled to terminate this contract nor shall have any claim for damages against the other in respect of such nonperformance or delay in performance (provided notice of the happening of any such eventualities is given by either party to the other within 21 days from the date of occurrence thereof) Deliveries under this contract shall be resumed as soon as practicable after such eventualities has come to an end or ceased to exist.

23- Submission of RCO shall deem to be the acceptance by the Offerer of the all the terms and conditions contain herein.

24- The Managing Director of the Corporation reserves the right to accept or reject any or all the offers without assigning any reason whatsoever at any time prior to the award of the contract, without incurring any liability to the affected offerer and any obligation to inform the affected offerer of the grounds.

25- **PURCHASE PREFERANCE**: As per the policy of the State Govt. in respect of purchase of material for the use of Corporation purchase preference to the extent of 30% shall be given to those Manufacturers who belong to the SC/ST category. A self certified photocopy of certificate issued by competent Authority.

26- **INSPECTION:** The Managing Director may decide to inspect the Production / Quality Control Facilities of the Offerer before or after the execution of agreement. If any time it is found that the information submitted by Offerer/Supplier is not according to the documents submitted the Managing Director reserves the right to reject the offer or terminate the agreement.

27- **SELECTION OF FIRMS**: The Managing Director of the Corporation will decide the modus operandi for the selection of Offerer for Rate Contract. It should be noted that the Corporation may select one or any number of firms to get Rate contract. The decision of the Managing Director of the Corporation shall be final and binding to the Offerer.

28- The Managing Director of The Corporation reserves the right to impose penalties at his discretion for breach of the terms and conditions (commensurate with the losses incurred) which may be forfeiture of SD and/or debarring the supplier for maximum period of 5 years to supply all materials, whatsoever may be, through this Corporation.

29- Managing Director of the Corporation reserves the right to amend or replace or change any condition without any notice, in exigencies required to do so.

30- In case of any amendments including extension of due date will be published on Corporation's website www.mpagro.org, and www.mptenders.gov.in no further notification will be made in the news paper. Accordingly interested bidders are advised to keep close watch on the Corporation's website in their own interest. It is also to be noted that any such amendments will be a part of the Documents and will be binding on the bidder and it will be presume that the bidder has satisfied himself about such amendments

31- **Arbitration:** In case of any dispute arising between the supplier and Corporation the matter shall be referred to General Manager of the Corporation. In case the supplier is not satisfied with the decisions of General Manager the matter shall be referred to the Managing Director of the Corporation who will act as sole arbitrator finally passes his verdict, which will be binding, to supplier and Corporation.

32- For all legal proceedings the district court Bhopal will have jurisdiction.

33- It is the discretion of the Managing Director of the Corporation to accept/reject the application without assigning any reason thereof.

Manager {Horticulture}

ANNEXURE 5 A

Terminology used:

NATIONAL COMMITTEE ON PLASTICULTURE APPLICATION S IN HORTICULTURE (NCPAH)

Greenhouse - is a framed/inflated structure covered with a transparent/translucent material that allows sufficient sunlight to enter for the purpose of growing and maintaining the plants under partially and fully controlled conditions.

1. **Air Circulation** - The process of moving or mixing air within a greenhouse to control temperature, humidity and carbon dioxide distribution.
2. **Column** - A column providing the main structural support to individual frame member for a greenhouse that are spaced at regular intervals and set in concrete footings.
3. **Curtain wall** -The non-transparent lower portion of the side walls of a greenhouse.
4. **Design load** - The design load includes the weight of the structure {dead load), loads {equipment, etc) associated with building use (live load) and loads from snow and wind
5. **Energy curtains** - automated system utilizing fabrics to insulate the greenhouse as per
6. the crop requirements (day/night).
7. **Evaporative Pad** - Refers to the wetted part of cooling system through which air is drawn by exhaust fan. Heat is extracted from air to evaporate water in pad thereby lowering the air temperature.
8. **Even span** - a basic style of greenhouse in which rafters are equal in length.
9. **Fan-and-pad cooling system** - a system in which large exhaust fans draw air through a moistened cellulose pad mounted on the opposite end of the structure.
10. **Fan-tube ventilation** - fans bring in small amounts of cool outside air and mix it with the warm air.
11. **Fertilizer injector system** - equipment used for the irrigation of plants with exact proportions of fertilizers obtained from a concentrate of water-fertilizer and water.
12. **Fog-evaporative cooling system** - fog is generated inside; as the minute fog droplets
13. evaporate, heat is absorbed.
14. **Foundation** - Foundation is the structural element between the greenhouse super structure and the ground; It must safely transfer gravity, uplift and overturning loads to the ground such as those from snow, crops, and wind.
15. **Glazing** - It is the transparent or translucent material glass or plastic, used to cover the greenhouse which transmits the desired amount of illumination to the growing area in the greenhouse.
16. **Gothic arch** - Basic style of greenhouse with a pointed arch; trusses have been eliminated.
17. **Gutter** - In a multi-span greenhouse it is the lowest portion of the roof construction generally shaped in the form of a wide channel to drain off rain water and to permit people walking on it for maintenance.

18. **Gutter**- Connected Greenhouse-A series of two or more single span greenhouses joined together at the cave by a drain gutter. Interior walls are usually eliminated.
19. **Intermittent mist system** - watering method; tiny droplets delivered periodically keep plants moist.
20. **Life of Glazing Material** -The period for which a glazing material will retain most of its transmission qualities, optical and physical properties when continually exposed to naturally occurring weather elements.
21. **Light Transmittance** - The ratio of the light passing through a glazing material to the light incident upon it.
22. **Mechanical Ventilation** - Desirable air exchange which occurs through controlled openings when fans are used to move air into and exhaust air out, of the greenhouse. Fans may be located either at the inlet end (positive pressure) or the exhaust end (negative pressure); however, the most common location is the exhaust end.
23. **Multi Span Greenhouses** - A type of greenhouse construction where individual houses are combined at the gutters, usually to form one open area under the entire roof Gable shape, saw tooth or curved roof greenhouses are found economical for large areas of 500 to 10000 m2 under commercial cultivations. They are also called ridge and furrow greenhouses.
24. **Natural Ventilation** ~ Desirable air exchange which occurs in response to temperature and pressure variations inside and outside the greenhouse. These variations are created and maintained by solar energy, internal heat sources, and/or wind.
25. **Nets** - Is a UV stabilized knitted fabrics structure made of Polyethylene/ Polypropylene in the form of tape or monofilament that block certain amount of light.
26. **Orientation** - Refers to the positioning of greenhouses in such a way so that maximum winter light is transmitted to the plants. For greenhouses above 40"N latitude the ridge in either an individual greenhouse or a gutter connected range should run east-west. The potential for uneven growth in some plants because of gutters shading the same area during each day must be balanced against general reduction in winter light, if ridges run north-south.
27. **Overhead watering** - water is applied over the canopy of the plants with spray nozzles.
28. **Polyethylene films** - a petroleum-based flexible plastic used for cladding the greenhouse.
29. **Purlin** - A component of the greenhouse frame running the length of the greenhouse which connects the trusses together, adding more structural strength.
30. **Quonset** - basic style of greenhouse with curved roof with or without sidewalls
31. **Rafter** - A frame component spanning the space between the cave and the ridge.
32. **Ridge** - The highest part of the roof of a greenhouse usually forming a major structural component of greenhouse.

33. **Ridge and Furrow Greenhouse** - A ridge and furrow greenhouse is a structure that consists of a number of greenhouses connected along the length of the houses. The shared side walls create a large interior space.
34. **Rigid structured sheet** - a type of covering used in greenhouses commonly made of polycarbonate and acrylic; it is rigid and resistant to weathering.
35. **Short-day curtains** - automated system utilizing fabrics to insulate the greenhouse as per the crop requirements (day/night).
36. **Trusses** - composed of rafters, chords, and struts that support the roof.
37. **Ultra-Violet (UV) stabilization** - The plastic covers being susceptible Lu photo degradation, both polyethylene and vinyl films are affected by ultra-violet light. They become brittle and tear when exposed to solar radiation. Stabilizers are mixed to make polyethylene UV Stabilized.
38. **Uneven span** - basic style of greenhouse in which rafters are of unequal length.
39. **Ventilation Rate** - The volume of air exchanged per unit time per unit floor area. Ventilation rate is often expressed as m3/s.m2 of greenhouse floor area (alternatively, as internal air volume changes per unit of time).
40. **Ventilation** - The process of exchanging air inside the greenhouse with outside air to control greenhouse temperature, humidity, oxygen and carbon dioxide levels.

    Ventilators - moveable units of a greenhouse to allow for natural air flow
42. **Weather ability** - It is the resistance of a greenhouse glazing material to degradation due to weather effects.

Annexure 5 B

SUGGESTIVE TECHNICAL SPECIFICATIONS OF GREENHOUSE/ POLYHOUS/ NET HOUSE AND WALK IN TUNNEL.

1. NATURALLY VENTILATED GREENHOUSE (TYPE-I)

Sr. No.	Items	Description/Specifications
1	Product	**Naturally Ventilated Greenhouse**
2	Size	500 m^2/l000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6.5m to 7m depending upon the climatic conditions and wind
5	Ridge Vent	1m - 1.2m opening fixed with 40 mesh insect Net. Provision should be kept to close the vent with plastic film with manual mechanism for opening & closing the vent. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost
6	Gutter height	4m - 4.5m from floor area
7	Gutter slope	2% slope need be provided in civil foundation work/ structure
8	Gutter frame	16 gauge or 1.2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint having provision of rain water harvesting system
9	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2 There should be provision for opening one portion at either side for entry of small. tractor/power tiller for intercultural practices
10	Structure	Complete structure made of galvanized steel tubular pipes /C- channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 3.2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2.9 mm thick
	Trusses member/Top arches	48 mm OD, 2.9 mm thick
	Purlins	Top purlins 48/42 mm OD, 2.6 mm thick
	Purlins member& others Foundations	33/25 mm, 2.3 mm thick Insert GI pipes of minimum 60 mm with 2.9 mm thick to have foundation depth of 75 mm with 3.2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).

11	Entrance room& Door	One entrance room of size 3 m x 3 m x 3 m (L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size2m width & 2.5 m height double leaf made in plastic/FRP (fibre reinforced plastic) sheets mounted in suitable frame.
12	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR thermic, light diffusion and optional properties like Anti-sulphur, anti- virus, UV blocking and also having minimum 80% level of light transmittance.
13	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
14	Spring Insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must be inserted for fixing shade net into Aluminum Profile.
15	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having Manual operated crank mechanism for opening and closing of curtains. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains, Anti-flapping strips are suggested to ensure smooth functioning of the curtain
16	Shade Net	Use UV stabilized Mono Tap of 50% shade factor with motor operated mechanism for expanding and retracting. Size of net should be equal to the floor area of greenhouse.
17	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse (Applicable only BIS standards for all irrigation components as well as water tank).
18	Footpath	not required
19	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).

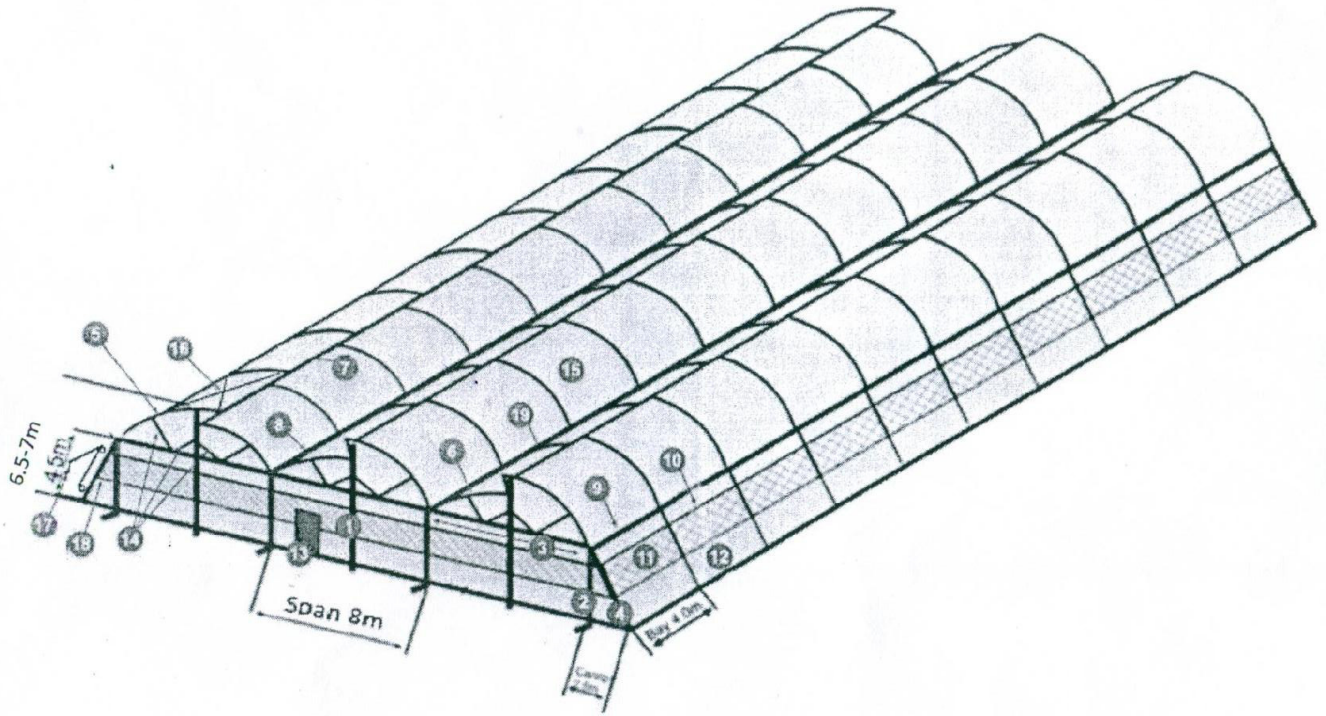
Note:

- In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profil. However the cost of the apron should be computed on the basis of material used.
- Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 C

NATURALLY VENTILATED GREENHOUSE (Type-2) 2mm thickness of structural		
Sr. No.	**Items**	**Description/Specifications**
1	Product	**Naturally Ventilated Greenhouse**
2	Size	500 m^2/l000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6.5m to 7m depending upon the climatic conditions and wind
5	Ridge Vent	1m - 1.2m opening fixed with 40 mesh insect Net. Provision should be kept to close the vent with plastic film with manual mechanism for opening & closing the vent. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost.
6	Gutter height	4m - 4.5m from floor area
7	Gutter slope	2% slope need be provided in civil foundation work/ structure
8	Gutter frame	16 gauge or 1.2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint having provision of rain water harvesting system.
9	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2. There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
10	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2 mm thick
	Trusses member/Top arches	48 mm OD, 2 mm thick
	Purlins	Top purlins 48/42 mm OD, 2 mm thick
	Purlins member & others	33/25 mm, 2 mm thick
	Foundations	Insert GI pipes of minimum 60 mm with 2 mm thick to have foundation depth of 75 mm with 2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).

11	Entrance room & Door	One entrance room of size 3 m x 3 m x 3 m (L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fibre reinforced plastic) sheets mounted in suitable frame.
12	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS
		15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR
		thermic, light diffusion and optional properties like Anti-sulphur, anti-
		virus, UV blocking and also having minimum 80% level of light
		transmittance.
13	Fixing of	All ends/joints of plastic film need to be fixed with two way
	cladding	aluminum profiles with suitable locking arrangement along with curtain
	materials	top. Wooden batons or PVC grippers need not be used for fixing the
		cladding materials.
14	Spring Insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must
		be inserted for fixing shade net into Aluminum Profile.
15	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having Manual operated crank mechanism for opening and closing of curtains. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains, Anti-flapping strips are suggested to ensure smooth functioning of the curtain.
16	Shade Net	Use UV stabilized Mono tap of 50% shade factor with motor
		operated mechanism for expanding and retracting. Size of net should be
		equal to the floor area of greenhouse.
17	Drip Irrigation System	Drip irrigation system inside greenhouse need to be selected based on crop
	with fogging &	spacing along with fogging and misting facilities. The suggested bill of
	misting facility	materials must have Sand Filter, Screen Filter, Control Valves, By-pass
		Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush
		Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral,
		Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank
		and fittings & accessories. Provision for micro sprinklers need be kept
		for top of the vents of the greenhouse (Applicable only BIS standards for
		all irrigation components as well as water tank).
18	Footpath	not required
19	Testing	All plastic materials used in the greenhouse to be tested by the CIPET
		or any other testing Institute for quality assurance (if required).
Note: *In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profil. However the cost of the apron should be computed on the basis of material used*		
Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr		



1. Main column
2. 2nd main column
3. Bottom cord
4. Corridor
5. Long arch
6. Small arch
7. Top purlin
8. Gutter
9. Side purlin
10. Corridor purlin
11. Insect net
12. Apron
13. Door
14. Brassing
15. UV stabilized Plastic film
16. Cross brassing
17. Curtain handle
18. Corridor support
19. Gutter purlin

Annexure 5 D

SUGGESTIVE TECHNICAL SPECIFICATION OF GREENHOUSE WITH FAN AND PAD (EVAPORATIVE) COOLING SYSTEM (Type-1)		
Sr. No.	**Items**	**Description/Specification**
1	Product	Greenhouse with Fan & Pad cooling system
2	Size	500 m^2/1000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6 m to 6.5 m depending upon the climatic conditions and wind
5	Gutter height	4m - 4.5m from floor area
6	Gutter slope	2% slope need be provided in civil foundation work/ structure
7	Gutter material	20 gauge or 2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint
8	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2. There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
9	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 3.2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2.9 mm thick
	Trusses member/Top arches	48 mm OD, 2.9 mm thick
	Purlins	Top purlins 48/42 mm OD, 2.6 mm thick
	Purlins member & other	33/25 mm, 2.3 mm thick
	Foundation	Insert GI pipes of minimum 60 mm with 2.9 mm thick to have foundation depth of 75 mm with 3.2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).
10	Entrance room & Door	One entrance room of size 3 m x 3 m x 3 m { L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fiber reinforced plastic) sheets mounted in suitable frame.
11	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS 15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR thermic, light diffusion and optional properties like Anti-sulphur, anti-virus, UV blocking and also having minimum 80%

		level of light transmittance.
12	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
13	Spring insert	*Zigzag h*igh carbon steel spring action wire of 2-3 mm diameter must
		be inserted for fixing shade net into Aluminum Profile.
14	Co-axial fan	Co - axial fan (ISI mark) of minimum 1200 mm diameter containing 6 numbers of GI sheet blades, mounted in a GI frame followed by aluminum louver.
15	Cellulose pad for cooling	Cellulose pad of thickness 4" - 6" thick, height: 5'-6', width as desired equipped with Anodized Aluminum frame with necessary fittings and fixtures for its operation.
16	Circular pump with accessories for cooling pad	Circular pump with required capacity & accessories to be provided for wetting & circulating the pad area.
17	Digital controller with sensory devices	The necessary digital controller with sensory device & accessories of standard quality should be provided to operate the fan & pad system to control temperature & humidity inside the Greenhouse, thefabricator should ascertain the same.
18	Electric wiring inside greenhouse	Use copper wire to withstand desired load of required electrical gadgets/appliances with IS1 mark.
19	Net	UV stabilized 50% with motor and manually operated mechanism for expanding and retracting. Size of net should be equal to the floor areaof greenhouse.
20	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. Thesuggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve,Throttle Valve, Flush Valve, Venturi Injector with manifold, PV Cpipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse Applicable only BIS standards for all irrigation components as well as(water tank).
21	Footpath	Not required.
22	Curtain wall/Apron	Suitable plastic sheet should be provided as apron
Note: *Optional items-Provision to be made for opening & closing of ventilation system in case of power failure*		
23	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided upto 3.5 m height on all sides having motor operated crank mechanism for opening and closing of curtains However, provision for manual opening and closing of curtains need also be provided in case of no power. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains. Anti-flapping strips are suggested to ensure smooth functioning of the curtain
24	Testing All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute of quality assurance (if required).	
Note: **In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profile. However the cost of the apron should be computed on the basis of material used.*		
Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph		

flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 E

4. SUGGESTIVE TECHNICAL SPECIFICATION OF GREENHOUSE WITH FAN AND PAD (EVAPORATIVE) COOLING SYSTEM (Type-2)- 2mm thickness of structural members		
Sr. No.	**Items**	**Description/Specification**
1	Product	Greenhouse with Fan & Pad cooling system
2	Size	500 m^2/1000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6 m to 6.5 m depending upon the climatic conditions and wind
5	Gutter height	4m - 4.5m from floor area
6	Gutter slope	2% slope need be provided in civil foundation work/structure
7	Gutter material	20 gauge or 2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint
8	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2.There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
9	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming toIndian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2 mm thick
	Trusses member/Top arches	48 mm OD, 2 mm thick
	Purlins	Top purlins 48/42 mm OD, 2 mm thick
	Purlins member &other	33/25 mm, 2 mm thick
	Foundation	Insert GI pipes of minimum 60 mm with 2 mm thick to have foundation depth of 75 mm with 2 mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120GSM).
10	Entrance room &Door	One entrance room of size 3 m x 3 m x 3 m { L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fiber reinforced plastic) sheets mounted in suitable frame.
11	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards
		(IS 15827:2009) having properties like Anti dust, Anti-drip, Anti-
		fog, IR thermic, light diffusion and optional properties like Anti-
		sulphur, anti-virus, UV blocking and also having minimum 80%
		level of light transmittance.

12	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
13	Spring insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must be inserted for fixing shade net into Aluminum Profile 6
14	Co-axial fan	. Co - axial fan (ISI mark) of minimum 1200 mm diameter containing numbers of GI sheet blades, mounted in a GI frame followed by aluminum louver.
15	Cellulose pad for cooling	Cellulose pad of thickness 4" - 6" thick, height: 5'-6', width as desired equipped with Anodized Aluminum frame with necessary fittings and fixtures for its operation
16	Circular pump with accessories for cooling pad	Circular pump with required capacity & accessories to be provided for wetting & circulating the pad area.
17	Digital controller with sensory devices	The necessary digital controller with sensory device & accessories of standard quality should be provided to operate the fan & pad system to control temperature & humidity inside the Greenhouse, the fabricator should ascertain the same.
18	Electric wiring inside greenhouse	Use copper wire to withstand desired load of required electrical gadgets/appliances with IS1 mark.
19	Net	UV stabilized 50% with motor and manually operated mechanism for expanding and retracting. Size of net should be equal to the floor area of greenhouse.
20	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse (Applicable only BIS standards for all irrigation components as well as water tank).
21	Footpath	Not required
22	Curtain wall/Apron	Suitable plastic sheet should be provided as apron
Note: *Optional items-Provision to be made for opening & closing of ventilation system in case of power failure*		
23	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having motor operated crank mechanism for opening and closing of curtains However, provision for manual opening and closing of curtains need also be provided in case of no power. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains. Anti-flapping strips are suggested to ensure smooth functioning of the curtain
24	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute of quality assurance (if required)
Note: **In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profile. However the cost of the apron should be computed on the basis of material*		

used.
• Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 F

5.	**SUGGESTIVE TECHNICAL SPECIFICATIONS OF NET HOUSE (Type-1)**	
Sr.No.	**Particulars**	**Descriptions/ Specifications**
1	Product	Flat roof net house/ Gable roof net house
2	Size	500 sqm./1000 sqm/2000 sqm/4000 sqm/ (Bay size 4 x 4 m for Gable/parabolic roof and 6 x 4 m / 6 m x 6 m for others)
3	Height	4-4.5 m from floor area. If gable roof, the side height should be in between 3 m - 3.5 m and Centre height 4 m - 4.5 m.
4	Structural design	The structural design must withstand wind speed of minimum 130 km/hr. and withstand crop load up to 25 kg/m^2 crop load. The structure must have the provision for opening one portion at either side for entries of small tractor/ power tiller for inter-cultural operations. The aerodynamics shape should be preferred to avoid wind load.
5	Structure	Complete structure should be made of galvanized steel tubular pipes or equivalent section of light class conforming Indian Standards IS: 1161-1998, the structural member should be joined with fasteners properly.
6	Columns	60 mm OD, 2.9 mm thick
	Trusses, purlins and hockey Member for Truss, purlins &others	48 mm OD, 2.9 mm thick 42 mm OD, 2.6mm thick
7	Entrance room &Door	Two entrance room of size 2.5 m x 2.5 m x 2.5 m(L x W x H)made of GI square pipe size 38mm x 38 mm having minimum wall thickness 2.6 mm or Aluminum profile need to be provided and covered with UV stabilized net. Two hinge lockable doors of size 2.5 m width & 2.5 m height double leaf made in plastic/FRP sheets mounted in suitable strong frame
8	Cladding material	UV stabilized shade net having 50 % shading factors having minimum wt. of **70-80 GSM**. The selection of shade net colour depends on the selection of crops. For insect net house **GSM should be minimum 120**, of 40-50 mesh size insect net, may be used to cover the structure.
9	Fixing of cladding materials	All ends/joints of net house to be fixed with two way aluminum profile with suitable locking arrangement such as zigzag high carbon steel with spring action wire of 2-3 mm diameter. Wooden batons or PVC grippers must not be used.
10	Civil work	Depth of foundation need be kept at 60 mm or more depending upon
		soil type and prevailing wind conditions. GI pipes of 48 mm light class
		conforming to Indian Standards IS: 1161-1998 or equivalent sections
		should be grouted in cement concrete mixture with 1:2:4 ratios.
11	Floor	-
12	Plinth	1 feet plinth protection around the structure
13	Drip irrigation	Drip irrigation system inside greenhouse need to be selected based on

	System with fogging &misting facility	crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves Bypass Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories (applicable only BIS standards for all irrigation components as well as water tank).
14	Footpath	Not required
15	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).
Note: Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr		

Annexure 5 G

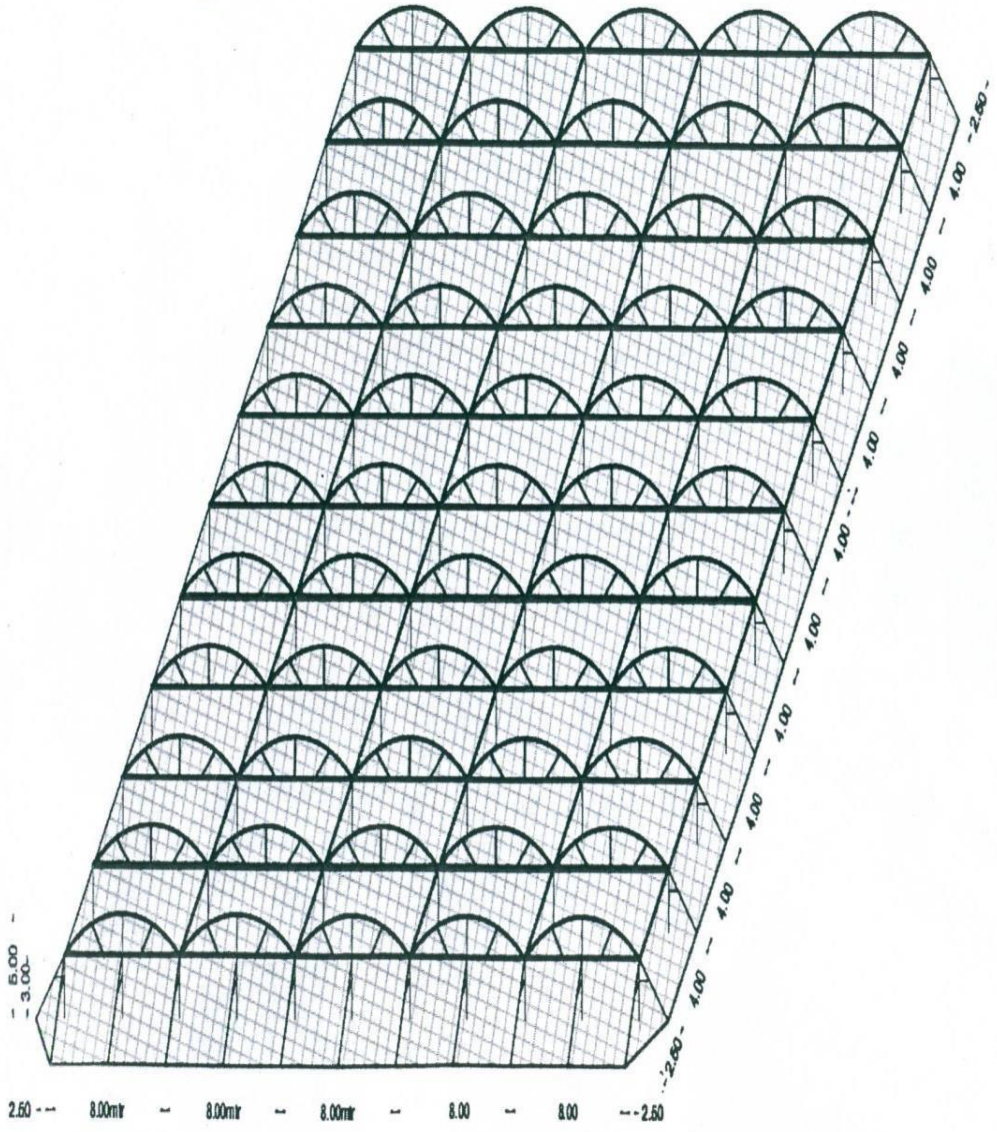
SUGGESTIVE TECHNICAL SPECIFICATIONS OF NET HOUSE (Type-2)- 2mm thickness of structural members

Sr.No.	Particulars	Descriptions/Specifications
1	Product	Flat roof net house/Gable roof net house
2	Size	500 sqm./1000 sqm/2000 sqm/4000 sqm (Bay size 4 x 4 m for Gable/parabolic roof and 6 x 4 m / 6 m x 6 m for others)
3	Height	4-4.5 m from floor area. If gable roof, the side height should be in between 3 m - 3.5 m and Centre height 4 m - 4.5 m.
4	Structural design	The structural design must withstand wind speed of minimum 130 km/hr. and withstand crop load up to 25 kg/m^2 crop load. The structure must have the provision for opening one portion at either side for entries of small tractor/ power tiller for inter-cultural operations. The aerodynamics shape should be preferred to avoid wind load. W support should be provided to strengthen arch frame
5	Structure	Complete structure should be made of galvanized steel tubular pipes or equivalent section of light class conforming Indian Standards IS: 1161-1998, the structural member should be joined with fasteners properly.
6	Columns	60 mm OD, 2 mm thick
	Trusses, purlins and hockey Member for Truss, purlins &others	48 mm OD, 2 mm thick 42 mm OD, 2 mm thick
7	Entrance room &Door	Two entrance room of size 2.5 m x 2.5 m x 2.5 m(L x W x H)made of GI square pipe size 38mm x 38 mm having minimum wall thickness 2.6 mm or Aluminum profile need to be provided and covered with UV stabilized net. Two hinge lockable doors of size 2.5 m width & 2.5 m height double leaf made in plastic/FRP sheets mounted in suitable strong frame.
8	Cladding material	UV stabilized shade net having 50 % shading factors having minimum wt. of 70-80 GSM. The selection of shade net colour depends on the selection of crops. For insect net house GSM should be minimum 120, of 40-50 mesh size insect net, may be used to cover the structure.
9	Fixing of cladding materials	All ends/joints of net house to be fixed with two way aluminum profile with suitable locking arrangement such as zigzag high carbon steel with spring action wire of 2-3 mm diameter. Wooden batons or PVC grippers must not be used.
10	Civil work	Depth of foundation need be kept at 60 mm or more depending upon
		soil type and prevailing wind conditions. GI pipes of 48 mm light class
		conforming to Indian Standards IS: 1161-1998 or equivalent sections
		should be grouted in cement concrete mixture with 1:2:4 ratios.
11	Floor	-
12	Plinth	1 feet plinth protection around the structure

13	Drip irrigation System with	Drip irrigation system inside greenhouse need to be selected based on
		crop spacing along with fogging and misting facilities. The suggested
	fogging &	bill of materials must have Sand Filter, Screen Filter, Control Valves,
	misting facility	Bypass Assembly, Air Release Valve, Non Return Valve, Throttle Valve,
		Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane
		lateral, Emitting pipe, foggers & misters to be fixed w.r.t design.
		Water tank and fittings & accessories (applicable only BIS standards
		for all irrigation components as well as water tank).
14	Footpath	Not required
15	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).

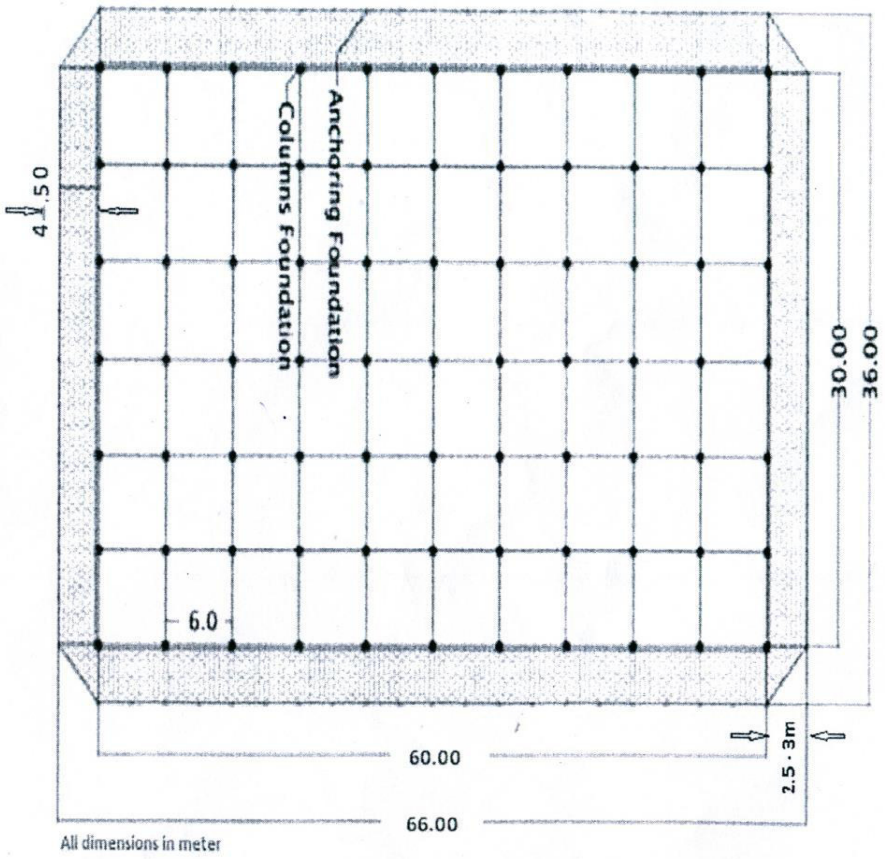
- **Note:** Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

National Committee on Plasticulture Applications in Horticulture (NCPAH)



Gable/parabolic roof type Shadenet house

National Committee on Plasticulture Applications in Horticulture (NCPAH)



Flat roof type Shadenet house

Note: The suggestive technical specifications can be modified wrt agro- climatic conditions, locations etc. However the cost per square varies with the type of structure.

Annexure 5 H

7. Suggested technical specifications of poly tunnels:		
Sr. No.	**Item**	**Indicative Specifications**
I	**Structures: Structure should withstand to 120 km/hour wind velocity, without weld.**	
1.	Main Column	Tubular structure: Size 48 OD, Thickness 2.0 mm, Length- 4 m, or Square Closed Pipe structure: Size 40 mm × 40 mm, thickness 2.0 mm, Length- 4 m; Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
2.	Purlins	Tubular structure: Size 33/32 OD, Thickness 2.0 mm, length- 4 m, Channel/Square Closed Pipe Structure: Size 37 mm, thickness 1.8 mm, Length-4 mm Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
3.	Trusses	Tubular structure: Bottom horizontal 42/43 mm OD/2.0 mm thick, top chords and truss members 32 mm OD 2.0 mm thick, Bracing 25 mm OD/2.0 mm thick. Channel/Square Closed Pipe Structure: Bottom horizontal 40 mm ×20 mm/2.0 mm thick, top chords, truss & bracing members 37 mm× 37 mm/1.8 mm thick. Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
4.	Height	Centre height 4.5 meter, dome type structure.
5.	Profile	C type Aluminum/GI profile to fix plastic film to the structure by means of self-tapping screws. Weight of aluminum/GI profile is200-220/400-450 GSM.
6.	Spring Insert	Zigzag spring insert to fix shade net to Aluminum profile 2.3 mm diameter of spring wire with cold galvanization/enamel coated. Wire
7.	Side wall curtain	1.5 meter & above with rolling flap of poly film 200 micron thick, U.V. stabilized, diffused, thermic, anti-drip and anti -dust made up of multi layer plastics. All the sides, 40-50 mesh uv stabilized white insect net having minimum 120 gsm
8.	Bottom apron	Woven polythene 160 GSM/200 micron plastic sheet, UV stabilized, 0.50 mtr. Heght
9.	Entrance	Double doors, Polycarbonate sheet door with 2 m width and 2 m height and another door of 1 m × 2 m Box section frame is embedded inside for the strength.
II	Film & Nets	
1.	Poly film	200 micron thick, U.V. stabilized, diffused, thermic, anti-drip and anti-dust made up of multi layer plastics conforming Plastics films conforming Indian Standards (IS 15827: 2009).
2.	Insect Proof Net	40-50 mesh and white in colour on both sides of ventilation portion. Gsm 120 ; VU stabilized
III.	Trellis System	Support Up to 30 kg/m hanging load. thik GI wire, 2 mm main wire to the plant and 4 mm cross wire to support the trellis system The GI Wire shall move parallel as per the design and orientation of structure. The plant support wire should be parallel and above the plantation bed-to and fro, 120 cm apart or as per bed width.

IV	Civil Works	
1.	Foundation	Columns area fitted over gr insert pipe of 3.0 mm thickness. Length of insert 1/10 meter, PCC of CM ratio 1:2:4 of 40 cm × 40 cm × 100 cm sizes & filling the pit with 1:2:4 concrete mixed with appropriate grade cement. It is clarified that in case of round filling the diameter of foundation will be 40 cm.
V	Drip Irrigation System with fogging & misting facility	Drip irrigation system under poly tunnel should match design on spacing 30cm x 30 cm along with fogging facilities. Assembly with manifold, PVC pipe 63 mm/6 kg cm^2, PVC pipe 50 mm/6 kg/cmsq, PE plane lateral 16 mm, Emitting pipe lateral 16mm- @0.30 m spacing, hanging type micro sprinkler nozzle (four-way take off assembly) for very fine water particles (anti leak foggers) to be fixed in PE pipe of diameter 16mm, Water tank of capacity 500 liter and fittings & all necessary accessories also 10 HP submersible three phase motor should be provided. Roof Sprinkler System to wash the plastic film with uniform overlapping
General terms and conditions for construction of different structures:		
	1. The installation of micro Irrigation system should be through the firms registered with the Corporation. 2. Area of structure means cultivable area/useful area for cultivation. 3. **Rain Water Harvesting** –Gutter should be provided with funnel and plastic PVC pipe from top to the bottom for rain water harvesting	

ANNEXURE-5 (I)

LIST OF COMPONENT, INDIAN STANDARDS AND INDICATIVE SUPPLIER OF MATERIAL			
Sr.	**Component**	**Minimum Standard/specification to be followed**	**Name of Comp**
1	GI Pipes	IS 1161:1998 however 2 mm **thickness of pipes can be allowed only for Type-2 structures**	1. Tata Structures, 2. Jindal Pipes Ltd., Mumbai 3. Asian Tubes Ltd., Gujarat 4. Swastik Pipes Ltd., Ahmedabad 5. Surya Roshni Ltd. New Delhi 6. Bhusan Power & Steel Ltd., UP. 7. APL Apollo Tubes, Gujarat 8. JTL Infra Ltd., Delhi 9. GI Pipes India Ltd., UP.
2	Polythene	IS 15827:2009 *Refer Note- 3*	1. Ginegar, Israel 2. Politive 3. Agripolyane, France 4. PlasticaKritis , (mktd by SPA Banglore) 5. Hyplast, Belgium 6. Essen Multipack Ltd, Rajkot
3	Shade Net/ Agri Net	IS 16008: 2012	*Refer Note-1*
4	Insect Net	*Refer Note-2*	
(II)	Clamps	As per the prescribed guideline and the clamps to be used should be galvanised	GI sheet to be used for clamps should be made from IS standard material to be sourced from: 1. TATA shaktee, Kolkata 2. JSW Steel, Mumbai 3. SAIL, New Delhi 4. Asian Tubes Ltd, Gujarat 5. Bhushan Steel, New Delhi
III)	Brackets & cleats	As per the prescribed guideline for design	
	Foundation	As per the prescribed guideline for design	Cement to be sourced from: 1. Ambuja Cements Ltd. 2. Siddhi, Cement Ltd. 3. Ultratech Cement Ltd. 4. J K Lakshmi, 5. Sanghi Cement Ltd. 6. Binani Cement Ltd. 7. Birla Corporation 8. JK cement 9. JP cement etc.

7	Micro Irrigation System and component	To be sourced from Agencies empanelled with GGRC.	7

1. *Note-1:* For Shade Net and Agri Net majority of the companies are manufacturing the goods as specified in the IS standard, it is learnt that few manufacturers have started process for getting IS standard for their products. At present following Indian companies are having good presence in Domestic market CTM Agrotech, Rishi Tectex, TuflexIndia, Neocorp International Ltd., Essen Multipack Ltd., Satva Agrishade Net, Kasturi Agro Net, Kwality Nets, Agro net, etc. There are few Importers/Traders who are supplying Shade net/Agri net/Insect net of International Standard in India. The foreign companies such as Polysack, Growell, Meteor Agriculture Nets, etc. are represented by its dealers in the country.
2.
3. **2.** *Note-2:*

Insect Net Specifications				
Mesh	GSM	Yarn Diameter	Knitting Grid	U.V. Life
50 Mesh	130	0.24 mm	50 x 24	5 Yrs
40 Mesh	120	0.24 mm	40 x 24	5 Yrs
25Mesh	130	0.28 mm	25 x 24	5 Yrs

• Variance (+-) range of 3 to 5% in above specs.
 Use of Air Circulating Fans is mandatory with 50Mesh Insect Net.

3. *Note-3*

Foreign companies such as Gineagar, Polysack, AgriPolyane etc. are represented by its dealer in the country. For Polythene, majority of the companies are manufacturing the goods as specified in the IS standard, it is learnt that few manufacturers have started process for getting IS standard for their products.

ANNEXURE-5 (J)

SPECIFICATION OF MIS COMPONENTS

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
1	**Non Return Valve, Low Friction**			
	a	1.5”	GM	778
	b	2”	GM	778
	c	2.5”	GM	778
	d	3”	GM	778
	e	4”	CI	14846
	f	5”	CI	14846
	g	6”	CI	14846
2		**Sand Filter with backwash assembly**		
	a	10 m3/hr x 1.5”/2/2.5”	MS	14606
	b	20m3/hr x 2”/2.5/3”	MS	14606
	c	25m3/hr x 2”/2.5/3”	MS	14606
	d	30m3/hr x 2.5”/3”/4	MS	14606
	e	40m3/hr x 2.5 “/3”/4’	MS	14606
	f	50 m3/hr x 3 “/4”	MS	14606
3		**Disc Filter**		
	a	10 m3/hr x 1.5”/2/2.5”	Metal / Plastic	12785
	b	20m3/hr x2”/2.5/3”		12785
	c	25m3/hr x2”/2.5/3”		12785
	d	40m3/hr x2.5”/3”/4’		12785
	e	50 m3/hr x 3 “/4”		12785
4		**Screen Filter/Semi auto clean SF**		
	a	10 m3/hr x 1.5”/2/2.5”	Metal / Plastic	12785
	b	20m3/hr x 2”/2.5/3”		12785
	c	25m3/hr x 2 “/2.5/3”		12785
	d	30m3/hr x 2.5”/3”/4		12785
	e	40m3/hr x 2.5”/3”/4’		12785
	g	50 m3/hr x 3 “/4”		12785
5		**Hydro-Cyclone Filter**		
	a	20m3/hr x 2 “/2.5/3”	MS	14743
	b	25m3/hr x 2 “/2.5/3”	MS	14743
	c	30m3/hr x 2.5”/3”/4	MS	14743
	d	40m3/hr x 2.5”/3”/4’	MS	14743
	e	50 m3/hr x 3 “/4”	MS	14743
6		**Pressure Gauge 2”**	Metal	3624
7		**By Pass Assembly**		
	a	1.5 “x 1.5”	MS/GM/ PVC	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	2 " x 1.5 "	MS/GM/ PVC	As Specified
	c	2.5" x2"	MS/GM/ PVC	As Specified
	d	3 " x 1.5 "	MS/GM/ PVC	As Specified
	e	3 " x 2 "	MS/GM/ PVC	As Specified
7A		**By Pass Tee (Flange End)**		
	a	2"	GI/MS	As Specified
	b	2.5"	GI/MS	GI/MS
	c	3"	GI/MS	GI/MS
	d	4"	GI/MS	GI/MS
	e	5"	GI/MS	GI/MS
7B		**By Pass Tee (Flange End) – PP**		
	a	2"	PP/ PP30% GF	As Specified
	b	2.5"		As Specified
	c	3"		As Specified
	d	4"		As Specified
8		**Water Meter**		
	a	1.5"	Metal	4064
	b	2"	Metal	4064
	c	2.5"	Metal	4064
	d	3"	Metal	4064
	e	4"	Metal	4064
9		**C.I. Sluice Valves**		
	a	4"	CI	5312
	b	6"	CI	5312
10		**Butterfly Valve**		
	a	2"	CI/MS	13095
	b	2.5"	CI/MS	13095
	c	3"	CI/MS	13095
	d	4"	CI/MS	13095
	e	5"	CI/MS	13095
	f	6"	CI/MS	13095
11		**Pressure Relief Valve**	Metal	As Specified
		2"		As Specified
12		**Pressure Regulating Valve**		
	a	1.5"		As Specified
	B	2"		As Specified
13	a	**Header Assembly – MS**		
	a	2"size x 1 filter	MS	As Specified
	b	2.5"size x 1 filter	MS	As Specified
	d	3"size x 1 filter	MS	As Specified

Sr.		Name of the System	Raw material used	ISI No/ Brand
	e	3"size x 2 filter	MS	As Specified
	f	4"size x 2/3 filter	MS	As Specified
	h	5"size x 2/3 filter	MS	As Specified
	i	6"size x ¾ filter	MS	As Specified
	b	**Inlet Manifold (PP) for HA (Dia x Min. Length)**		
	b	2.5"x 300 mm for Single Filter		
	d	3" x 315 mm for Single Filter		
	e	3"x 575 mm for Double Filters		
	f	4"x 600 mm for Double / Triple filters		
	c	**Outlet Manifold (PP) for HA (Dia x Min. Length) with flanges**		
	a	2" x 170 mm for Single Filter	PP/ PP30% GF	As Specified
	b	2.5"x 182 mm for Single Filter		As Specified
	d	3" x 190 mm for Single Filter		As Specified
	e	3"x 385 mm for Double Filters		As Specified
	f	4"x 385 mm for Double / Tripple filters		As Specified
14		**PVC Ball Valve / Control Valve**		
	a	40 mm	PVC	As Specified
	b	50 mm	PVC	As Specified
	c	63 mm	PVC	As Specified
	d	75 mm	PVC	As Specified
	e	90 mm	PVC	As Specified
15		**PP Ball Valve / Control Valve**		
	a	32 mm	PP	As Specified
	a	40 mm	PP	As Specified
	b	50 mm	PP	As Specified
	c	63 mm	PP	As Specified
	d	75 mm	PP	As Specified
	e	90 mm	PP	As Specified
	f	110 mm	PP	As Specified
16		**PP Ball Valve with Flange Ends**		
	a	2" Flange End	PP	As Specified
	b	2.5" Flange End	PP	As Specified
	c	3" Flange End	PP	As Specified
	d	4" Flange End	PP	As Specified
17		**Air Release Valve**		As Specified
	a	½"	Plastic	As Specified
	b	1"	Plastic	As Specified
	c	1 ½ "	CI	14845
18		**Fertilizer Tank with Assembly**		
	a	30 Litres	MS	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	60 Litres	MS	As Specified
	c	90 Litres	MS	As Specified
19		**Venturi Injector Assembly with Valve & without manifold**		
	a	¾”	Plastic	14483
	b	1”	Plastic	14483
	c	1.25”	Plastic	14483
	d	1.5”	Plastic	14483
	e	2”	Plastic	14483
20		**Gun Metal Throttle Valve**		
	a	½”	Gun Metal	1239
	b	¾”		1239
	c	1.5”		1239
	d	2”		1239
	e	2.5”		1239
	f	3”		1239
	A	**Throttle Valve – PP**		
	a	2”	PP/ PP30% GF	As Specified
	b	2.5”		As Specified
	c	3”		As Specified
	d	4”		As Specified
21		**PVC Pipe for Main and Sub-main Pipelines**		
	a	32mm x 10 kg/cm2	PVC	4985
	b	40 mm x 6 Kg/cm2	PVC	4985
	c	50 mm x 6 Kg/cm2	PVC	4985
	d	63 mm x 6 Kg/cm2	PVC	4985
	e	75 mm x 6 Kg/cm2	PVC	4985
	f	90 mm x 6 Kg/cm2	PVC	4985
	g	110 mm x 6 Kg/cm2	PVC	4985
	h	140 mm x 6 Kg/cm2	PVC	4985
	I	160 mm x 6 Kg/cm2	PVC	4985
	j	180 mm x 6 Kg/cm2	PVC	4985
	k	63 mm x 4 Kg/cm2	PVC	4985
	l	75 mm x 4 Kg/cm2	PVC	4985
	m	90 mm x 4 Kg/cm2	PVC	4985
	n	110 mm x4 Kg/cm2	PVC	4985
	o	140 mm x 4 Kg/cm2	PVC	4985
	P	160 mm x 4 Kg/cm2	PVC	4985
	q	180 mm x 4 Kg/cm2	PVC	4985
	r	200 mm x 4 Kg/cm2	PVC	4985
22		**HDPE Pipe for Drip Main / Submain**		
	a	40 mm (6 Kg/cm2)	HDPE	14151

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	50 mm (6 Kg/cm2)	HDPE	14151
	c	63 mm (3.2 Kg/cm2)	HDPE	14151
	d	75 mm (2.5 Kg/cm2)	HDPE	14151
	e	90mm (2.5 Kg/cm2)	HDPE	14151
	f	110 mm (2.5 Kg/cm2)	HDPE	14151
	g	63 mm (4 Kg/cm2)	HDPE	14151
	h	75 mm (4 Kg/cm2)	HDPE	4984
	i	90 mm (4 Kg/cm2)	HDPE	4984
	j	110 mm (4 Kg/cm2)	HDPE	4984
23		**LLDPE Plain Laterals**		
	a	12 mm diameter, 2.5Kg/cm2 – Class II	LLDPE	12786
	b	16 mm diameter, 2.5Kg/cm2 – Class II	LLDPE	12786
	c	20mm diameter,2 .0 kg/cm2-class-I	LLDPE	12786
	d	25 mm diameter- Class II	LLDPE	12786
	e	32 mm diameter- Class II	LLDPE	12786
24		**On line Dripper**		
	a	2 LPH	PP	13487
	b	4LPH	PP	13487
	c	8 LPH	PP	13487
	d	2 LPH (Pressure compensating)	PP	13487
	e	4 LPH (Pressure compensating)	PP	13487
	f	8 LPH (Pressure compensating)	PP	13487
	f	16/20 mm, 1to4 LPH, 90cm	LLDPE	13488
	g	16/20 mm, 1to4 LPH, 100cm	LLDPE	13488
	h	16/20 mm, 1to4 LPH, 150cm	LLDPE	13488
27		**Emitting Pipe (Integral Drip Lateral-PC) 16mm-Class II/20mm-Class I**		
	a	16/20 mm, 1to4 LPH, 30cm	LLDPE	As Specified
	b	16/20 mm, 1to4 LPH, 40cm	LLDPE	As Specified
	c	16/20 mm, 1to4 LPH, 50cm	LLDPE	As Specified
	d	16/20 mm, 1to4 LPH, 60cm	LLDPE	As Specified
	e	16/20 mm, 1to4 LPH, 75cm	LLDPE	As Specified
	f	16/20 mm, 1to4 LPH, 90cm	LLDPE	As Specified
	g	16/20 mm, 1to4 LPH, 100cm	LLDPE	As Specified
	h	16/20 mm, 1to4 LPH, 150cm	LLDPE	As Specified
28		**Flush Valve**		
	a	40 mm	PVC	As Specified
	b	50 mm	PVC	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	c	63 mm	PVC	As Specified
	d	75 mm	PVC	As Specified
	e	90 mm	PVC	
29		**Vacuum Breaker Valve 0.5 “**	PP	As Specified
30		**Grommet**		As Specified
	a	12 mm	LLDPE	As Specified
	b	16/20 mm	LLDPE	
31		**Barbed Start Connector / Jointer /Take off / Nipple**		
	a	12 mm	PP	As Specified
	b	16/20mm	PP	As Specified
32		Nipple 17 x 17 mm/20 x 20mm	PP	As Specified
33		**Reducer**		As Specified
	a	Reducer 17 x 16 mm/20 x 16mm	PP	As Specified
	b	Reducer 16 x 12 mm	PP	As Specified
	c	Reducer 17 x 12 mm	PP	As Specified
34		**Tee**		
	a	Tee 16x16 / 16x12/20x 16	PP	As Specified
	b	Tee 12 x 12	PP	As Specified
35		**End Cap (Line End)**		
	a	12 mm	PP	As Specified
	b	16 mm/20mm	PP	As Specified
36		**Spaghetti/Extension Tube(6 mm x 4 mm)**	LLDPE	As Specified
37		**Spaghetti/Extension Tube Barbed Connector**	PP	As Specified
38		**Dripper Plug**	PP	As Specified
39		**Winder – Drip line**	MS	As Specified
40		**Start Connector Belt Type**	HDPE	As Specified
41		**Micro tube**		
	a	1.2 mm ID	LLDPE(2 2PA002 &20FS0 10)	As Specified
	b	1.3 mm ID		As Specified
	c	1.5 mm ID		As Specified
	d	1.8 mm ID		As Specified
	e	2.0 mm ID		As Specified
42		**Porous Pipe**		
	a	9 mm	Crumb Rubber + LLDPE/ Thermo plastic Resin	As Specified
	b	12 mm		As Specified
	c	16 mm		As Specified
	d	22 mm		As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
43		**Mini (Impact) Sprinkler**		
	a	Double Nozzle – full Circle	Enginee ring Plastic	IS 12232 (Part 1):1996 &(Part 2): 1987
	b	Single Nozzle –Adjustable Arc and full Circle		
	c	M / F Adaptor ½"	PVC	As Specified
44		Extension / Connecting Tube (1.2 m long)		
	a	12mm	PVC	As Specified
	b	13mm	PVC	
	c	12mm	PE	
	d	13mm	PE	
45		Male / Female connector (9/12mm)	PVC	As Specified
46		Plug (9/12mm)	PVC	As Specified
47		**Installation Stake**		
	a	1 Meter long (5mm Dia)	MS rod with zink coating	As Specified
	b	1 Meter long (8 mm Dia)		
	c	1.2 Meter long (5 mm Dia)		
	d	1.2 Meter long (8 mm Dia)		
48		**Threaded Elbow (Compression)**		
	a	**20** mm	PP	As Specified
	b	**25** mm	PP	
	c	**32** mm	PP	
	d	**40** mm	PP	
49		**Male Threaded Adopter (Compression)**		
	a	20 mm "	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
	e	75 mm	PP	
	f	90 mm	PP	
	g	110 mm	PP	
50		**Tee (Compression)**		
	a	20 mm	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
51		**Coupler / Joiner (Compression)**		

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	a	20 mm	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
52		**End plug (Compression)**		
	a	25 mm	PP	As Specified
	b	32 mm	PP	
	c	40 mm	PP	
53		**Service Saddle**		
	a	63 mm	PP	As Specified
	b	75 mm	PP	
	c	90 mm	PP	
	d	110 mm	PP	
54		**Sprinkler Nozzles (1.7 to 2.8 Kg/cm2) 5 to 40 Litres/Minute Capacity**		
	a	20mm-Brass	Brass	IS 12232 (Part 1):1996 &(Part 2): 1987
	b	20mm-Plastic	Enginee ring Plastic	
55		**End Plug with Quick Action Coupler**		
	a	50 mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
56		**Tee with Quick Action coupler**		
	a	50 mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
57		**HDPE Pipes with Quick Action Coupler (6m Long)**		
	a	50 mm (4 Kg/cm2)	HDPE	14151
	b	63 mm (3.2 Kg/cm2)	HDPE	14151
	c	75 mm (2.5 Kg/cm2)	HDPE	14151
	d	90 mm (2.5 Kg/cm2)	HDPE	14151
58		**Sprinkler Coupler with Foot Batten Assembly Quick Action**		
	a	50 mm	HDPE	14151
	b	63 mm	HDPE	14151
	c	75 mm	HDPE	14151
59		Riser Pipe 20mm Diameter x 75 cm Long	GI	1239/3601
60		Bend with Quick Action coupler		

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	a	50mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
61		Pump Connecting Coupler/Nipple with Quick Action		
	a	50 mm	GI/HDPE	As Specified
	b	63 mm	GI/HDPE	As Specified
	c	75 mm	GI/HDPE	As Specified
	d	90 mm	GI/HDPE	As Specified
62		Micro Sprayer/Jet	PP	14605
63		Micro Sprinkler Set	PP	14605
64		GI Fittings	GI	1879
65		PVC/HDPE Fittings	PVC/HDPE	7834(PVC)
66		Secondary Transportation for DIS		
67		Installation Charges		
68		Agronomical Consultancy		
69		Drip Tape		
	a	12.5 mm diameter (0.400 mm wall thickness)	LLDPE/MDPE	As specified
	b	15.875 mm diameter (0.508 mm wall thickness)	LLDPE/MPE	ISO 9261
	c	15.875 mm Diameter (0.635 mm wall thickness)	LLDPE/MDPE	ISO 9261
	d	16.5 mm diameter (0.400 mm wall thickness)	LLDPE/MDPE	As specified
70		Drip Tape Take Off		
	a	12.5 mm/15.875 mm/16.50 mm	PP	As specified
71		Drip Tape Gromate		
	a	12.5 mm	Rubber	As specified
	b	15.875 mm/16.50 mm	Rubber	
72		Drip Tape Connector/Joiner		
	a	12.50 mm/15.875 mm/16.50 mm	PP	As specified
73		Lateral Drip Tape Connector		
	a	12.50 mm/15.875 mm/16.50 mm	PP	As specified
74		Rain Gun Sprinkler		
	a	1.25” female threaded connection	Aluminium	IS 12232 Part 1:1996
	b	1.5” female threaded connection	Aluminium	

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
75		Tripod with adaptor to feeder line		
	a	1.25”x1.5 mt	GI	As specified
	b	1.25”x2.0 mt	GI	
	c	1.5” x 1.5mt.	GI	
	d	1.5”x 2.0 mt	GI	
76		MS Head Unit Platform	As specified	
	a	For accommodating Sand Filter + Disc/Screen Filter	MS	
	b	For accommodating Hydro Cyclone Filter + Disc/Screen Filter	MS	
	c	For accommodating Disc/Screen Filter		

Annexure 6

FINANCIAL OFFER

01. NAME OF THE OFFERER

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Sl. NO	Item Description	VARIETY	Quantity	Units	BASIC RATE in Rs.	GST AMOUNT	TOTAL AMOUNT Without Taxes In	TOTAL AMOUNT With	TOTAL AMOUNT In words
1	2	3	4	5	13	15	53	54	55
1	**Greenhouse –Naturally Ventilated (Type-1) 500Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							
2	**Greenhouse –Naturally Ventilated (Type-1) 1000 Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
3	**Greenhouse – Naturally Ventilated (Type-1) 2000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
4	**Greenhouse – Naturally Ventilated (Type-1) 4000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

Sl. NO	Item Description	VARIETY	Quantity	Units	BASIC RATE inRs	GST AMOUNT	TOTAL AMOUNT Without Taxes In Rs	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In words
1	2	3	4	5	13	15	53	54	55
5	**Greenhouse –Naturally Ventilated (Type-2) 500Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							
6	**Greenhouse –Naturally Ventilated (Type-2) 1000 Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
7	**Greenhouse – Naturally Ventilated (Type-2) 2000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
8	**Greenhouse – Naturally Ventilated (Type-2) 4000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
9	**Greenhouse – Fan and Pad 500 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
10	**Greenhouse – Fan and Pad 1000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
11	**Greenhouse – Fan and Pad 2000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
12	**Greenhouse – Fan and Pad 4000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net,curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
13	**Greenhouse – Fan and Pad 500 Sq mtr Type (Type-2)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
14	**Greenhouse – Fan and Pad 1000 Sq mtr Type (Type-2)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
15	**Greenhouse – Fan and Pad 2000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
16	**Greenhouse – Fan and Pad 4000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net,curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
17	**Net house with Gable roof(Type-1) 500 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
18	**Net house with Gable roof(Type-1) 1000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
19	**Net house with Gable roof(Type-1) 2000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
20	**Net house with Gable roof(Type-1) 4000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
21	**Net house with Flat roof(Type-2) 500 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
22	**Net house with Flat roof(Type-2) 1000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
23	**Net house with Flat roof(Type-2) 2000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
24	**Net house with Flat roof(Type-2) 4000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
25	**Poly tunnel** 800 sq Mt	Structure							
		Polythene (polythenealong with installationmechanism)							
		Shade Net (shade net,curtains, insect screenalong with installation mechanism)							
		Drip System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

Seal and Sign of .....

AUTHORISED SIGNATORY

ANNEXURE- 7

AFFIDAVIT

We.....hereby offer for the supply of ---------- Conforming to the Specifications as mentioned in RCO.

We undertake to supply such quantities of material as per Specification as mentioned in RCO, as we may be called upon to supply and under the conditions here-to enclosed during the allotted period from the date of execution of the agreement on the rates agreed upon, at the places to be specified by the M.P. State Agro Industries Development Corporation Limited within the specified delivery period.

We undertake that our firm has neither been Blacklisted/Debarred by any Government / Government Undertaking /Bank nor penalized on the same ground. We also undertake that no legal proceeding is pending in any Courts on the same grounds.

We undertake that the rates given to the Corporation are the lowest price, in accordance to the prevailing rates of the Company / their other authorized dealer & market condition. In case of any dispute or discrepancy in the submitted rates we will be sole responsible. In such cases the Corporation will be free to recover the losses or impose penalties as decided by the Managing Director of the Corporation.

We hereby agree to abide by and fulfill all the terms and conditions of contract annexed hereto and in default thereof to forfeit and pay to the M.P. State Agro Industries Development Corporation Limited, the penalties or sum of money mentioned in the said conditions.

I have read and fully understood the terms and conditions of supplies etc. mentioned in the documents.

Name :.....
Designation:.....
Signature with Office Seal..)

Witness:

1.

2.

Note: To be submitted on non judicial stamp of Rs 1000.00

ANNEXURE-8

Applicant COMPANY PROFILE

Sr.	Particular	Detail
1	Name of Organisation	
2	Nature of the Organisation	
a	In case of Public/Pvt. Ltd company (Certified copy of Certificate of incorporation for companies & Memorandum and Articles of Associations)	
b	In case of Partnership Firm (Partnership deed)	
c	In case of Proprietorship (Registration certificate, Factory registration, DIC – industrial registration)	
d	In case of society (Certified copy of registration deed with objects of constitution of society)	
e	In case of Corporation (Authenticated copy of the parent statute)	
3	Address with Phone No. and Fax No	
4	E mail	
5	Name and Contact details of the Authorised Person	
6	Any other details in support of your office	
7	PAN (attach attested copy)	
8	TIN	

Seal and Sign of .....

AUTHORISED SIGNATORY

ANNEXURE-9

TO WHOM SO EVER IT MAY CONCERN
CHARTERED ACCOUNTANT CERTIFICATE

(TO BE SUBMITTED IN ORIGINAL ON LETTER HEAD OF C.A.)

On the basis of verification of books of accountants and other documents produced before us and maintained by the Company, we certify that M/s _____ is engaged in construction of greenhouse/net house/poly house/ poly tunnel. This is to certify that they have turn over from construction activities of greenhouse/net house/poly house/ poly tunnel as under for the last 3 years.

Sr No	Financial Year	Turnover (Rs. in lakhs)
1	2018-19	
2	2019-20	
3	2020-21	
	Average of above	

ANNEXURE-10

FORMAT FOR NO. OF GREENHOUSE/NET HOUSE/POLY HOUSE/POLY TUNNEL WORK COMPLETED IN LAST THREE YEARS FOR SUBSIDISED CASES

This is to certify that M/s_____ has executed greenhouse/net house/ poly house/poly tunnel projects in the State of _____ as follows:

Project Executed In Nos. (Area in Sq. M) Please give both the figures i.e. Number and Area								
Year	Green House 1	Green House 2	Net house 1	Net house 2	Poly house 1	Poly house 2	Poly tunnel 1	Poly tunnel 2
2018-19								
2019-20								
2020-21								

Note:
(1.) Name of Beneficiary for whom the Project is executed in the State.
(2) Area of Project

Applicant/ Offerer has to submit separately for each state where work is executed

Name of Authority of State Nodal Agency:

Counter signed by AUTHORISED SIGNATORY

ANNEXURE-11

FORMAT FOR NO. OF GREENHOUSE/NET HOUSE/POLY HOUSE / POLY TUNNEL WORK COMPLETED IN LAST THREE YEARS UNDER SUBSIDY SCHEMES			
TO WHOMSO EVER IT MAY CONCERN			
This is to certify that M/s_____ has executed green-house/net-house/poly-house/poly tunnel projects in the State of _____ as follows:			
No	**Project Executed**	Name and address of Beneficiary	**(in Nos.)**

State Nodal Department/Nodal Agency

Counter signed by AUTHORISED SIGNATORY

ANNEXURE-12

DETAILS OF COMPETENT PERSONNEL

Sr.	Name of Person	Qualification	Exp. in years in providing agronomical services	Contact No.	Signature
1					

Seal and Sign of .....

AUTHORISED SIGNATORY

Annexure 13

DRAFT AGREEMENT

This agreement made at Bhopal this ..... day of .....between Madhya Pradesh State Agro-Industries Development Corporation, 'Panchanan, 3rd Floor, Malviya Nagar, Bhopal, M.P. hereinafter referred to as the 'Corporation' which expression shall unless repugnant to the context or meaning there of includes its successors and assigns on the one part.

AND

M/s. ..... having its office at ..... through Shri ..... designation .....(hereinafter referred to as the Supplier whose expression unless repugnant to the context and meaning thereof includes its assigns, successors and administrations on the other part.

WHEREAS the Corporation invited Rate Contract Offer (RCO) for supply of ---------- ---------- on the terms and conditions envisaged in the terms schedule issued with the Rate Contract Offer Document and purchased by the supplier.

AND WHEREAS the supplier has accepted each and every term and condition contained in the Rate Contract Offer Document, while submitting his offer.

AND WHEREAS the Corporation accepted the offer submitted by the supplier vide its letter of acceptance no. .....dated ..... in consideration of the premises and the mutual premises and undertakings hereinafter specified and for other good and valuable consideration this agreement witness and is hereby agreed on the conditions of the Tender. The following documents shall form and be constructed a part of the Agreement Deed:-

a. The Tender submitted by the supplier including all the annexure attached thereto.
b. Specifications(**Bill of Material**) for supply of ---------- (Attached)
c. The letter of acceptance dated --------- issued by the Corporation.
d. The offer submitted by the supplier.
e. The rates mentioned in annexure to agreement.

The aforesaid documents shall be taken as complementary and mutually explanatory of one another but in case of discrepancies and ambiguities shall take precedence in the order set out above. In this regard the decision of Managing Director, M.P. State Agro-Industries Development Corporation Limited shall be final.

IN WITNESS WHEREOF the parties hereto have signed this agreement on the day and year referred to above.

For Supplier	For
.....	M.P. STATE AGRO INDUSTRIES
.....	DEVELOPMENT CORPORATION LIMITED
Signature with Office Seal	DEPUTY GENERAL MANAGER (Horticulture)
Witnesses	Witnesses
1.	1.
2.	2.

ANNEXURE - 14

LETTER OF ACCEPTANCE

I ..... dasignation ..... of M/s. ..... address ..... given hereby consent on behalf of the offerer that following Bank Guarantee submitted in favor of Director Horticulture and farm forestry Government of Madhya Pradesh, can be utilized against the RCO called by the Corporation if required to do so as per terms of RCO. We further undertake a fresh Bank Guarantee will be submitted in favour of the Corporation the expiry of the Bank Gurantee.

Sr.No.	ISSUING BANK AND BRANCH	BG NUMBER	DATE OF ISSUE	VALID UP TO	AMOUNT

SEAL AND SIGNATURE OF AUTHORISED PERSON

Annexure 15

Authority to submit Tender

(On Producer company's letterhead)

To,

The Managing Director

M.P.State Agro Industries Development Corporation Ltd.

Panchanan Bhawan, 3rd Flore ,

Malviya Nagar,

Bhopal

Sub : Authority to submit Rate Contract Offer

Dear Sir,

I……Designation ..... hereby authorize M/s ……to submit Rate Contract Offer M.P. State Agro Industries Corporation Ltd on behalf of the company due on 11.11.2019

We hereby undertake that the Company shall abide by all the terms and conditions as mentioned in Tender Document.

I further certify that I am authorized to issue this certificate on behalf of the company.

If an order is placed with the authorized company as above, the company undertakes to supply the order as per terms and condition of RCO.

(Signature)

Name
Designation
Tel No
Mobile No
E mail

THE MADHYA PRADESH STATE AGRO INDUSTRIES DEVELOPMENT CORPORATION LIMITED
"PANCHANAN" 3rd FLOOR, MALAVIYA NAGAR, BHOPAL
Phone (0755)- 2556857 EMAIL: mpagrohobpl @gmail.com

RATE CONTRACT OFFER (RCO) DOCUMENT

FOR SUPPLY OF

PROTECTED CULTIVATION INFRASTRUCTURES

(Green house / Shade net House / Poly house/ Poly Tunnel structure)

FOR THE

YEAR 2021-22 and 2021-22 and Onwards

DUE DATE 16-12-2021

THE MADHYA PRADESH STATE AGRO INDUSTRIES DEVELOPMENT CORPORATION LIMITED
"PANCHANAN" 3rd FLOOR, MALAVIYA NAGAR, BHOPAL
Phone (0755)- 2556857

HO/ HORTI /2021-22/ Bhopal Dated 23-11-2021

NOTICE
INVITING ONLINE RATE CONTRACT OFFER (RCO)

On-line Rate Contract Offer (RCO) is invited under e-tendering system for SUPPLY AND INSTALLATION of Protected cultivation infrastructures (Green House, Net House and Low Tunnel) up to 2.00 PM on 16.12.2021 along with Earnest Money Deposit, from eligible suppliers as detailed in the RCO document. RCO document is available at www.mpagro.org and www.mptenders.gov.in. Amendments if any, will be published on above website. No further notification will be published in the news paper.

Manager
(Horticulture)

THE MADHYA PRADESH STATE AGRO INDUSTRIES DEVELOPMENT CORPORATION LIMITED
"PANCHANAN" 3rd FLOOR, MALAVIYA NAGAR, BHOPAL
Phone (0755)- 2556857 EMAIL: mpagrohobpl @gmail.com

RATE CONTRACT OFFER DOCUMENT FOR SUPPLY OF

PROTECTED CULTIVATION INFRASTRUCTURES

(GREEN HOUSE, NET HOUSE AND LOW TUNNEL)

This document contains 77 pages as below:

Meaning of the words in the document

	The Corporation	M.P. State Agro Industries Development Corporation Ltd.
	RCO	Rate Contract Offer
	Beneficiary/ Consignee	The person / department who wish to purchase the items through this Corporation
	Application forms/ the document	Application forms and all other relevant annexure documents
	Applicant /Offerer	The Manufacturer / Authorized Distributor who submit offers for Rate contract for supply and installation of Items as per document
	The supplier	Firm whose rates are approved and an agreement for supply & installation has been executed with the Corporation under this RCO
	EMD	Earnest Money Deposit
	SD	Security Deposit
	Department	Directorate of Horticulture and Farm Forestry and Directorate of Sericulture Govt. of Madhya Pradesh. Or any other department of government of Madhya Pradesh
	Managing Director	Managing Director of M P State Agro Industries Development Corporation Ltd Bhopal
	PROTECTED CULTIVATION INFRASTRUCTURES	GREEN HOUSE, NET HOUSE AND LOW TUNNEL

Annexure 1

A. **DISCLAIMER**

Though adequate care has been taken in the preparation of this RCO document, the Offerer should satisfy himself that the documents are complete in all respect. Intimation of discrepancy, if any, should be given to M.P. Agro before pre-bid or date mention under this RCO. If M.P. Agro receives no intimation, it shall be deemed that the Offerer are satisfied that the document is complete in all respects.

B. RATE CONTRACT OFFER PROCESS

The Rate Contract Offer (RCO) is invited under E- Tender system and bidding process will have following steps:

RCO Fee	Rs 11900 (Including Tax shall be paid online)
EMD	Rs 5,00,000/-

Stages of Bidding

Process	Scheduled date	Scheduled time
Purchase of RCO	From 24.11.21 2:00 pm to 16.12.21 before 2:00 pm	-----
Due date for receipt of Queries or suggestions from Applicant (offerer) if any pertaining to terms & conditions mentioned in RCO	6.12.2021	2.00 PM
Pre Bid Meeting	6.12.2021	2.00 PM
Due date for uploading reply to queries or suggestions	8.12.2021	5.00 PM
Closing of bid	16.12.2021	2.00 PM
Date and time for submission of hard copies of signed RCO documents with required Annexures / documents under RCO	16.12.2021	5.00 PM
Opening of Technical Bid	17.12.2021	3.30 PM
Opening of Financial (Price) Bid	Date & time will be communicated to eligible bidders	

Each stage will take place on the date and time mentioned against them.

C. Prologue :

The State Government aimed to double farmer's income. Directorate of Horticulture and Farm Forestry is very keen to encourage farmers to adopt protected method of cultivation by implementing High Tech Cultivation Technologies such as Green house / Shade net House / Poly house/ Poly Tunnel structure with the following purposes:

1) Provides favorable micro climatic conditions for the plants.
2) Cultivation in all seasons is possible.
3) Higher yield with better quality per unit area.
4) Conserves moisture thus needs less irrigation.
5) More suitable for cultivating high value / off season crops .
6) Helps to control pest and diseases.
7) Helps in hardening of tissue cultured plants.
8) Helps in raising early nurseries.
9) Round the year propagation of planting material is possible.
10) Protects the crops from wind, rain, snow, Birds, hail etc.
11) Generates self-employment opportunities for educated youth.

For the purpose of motivating farmers and fast adoption of such technologies, Directorate of Horticulture and farm Forestry, is providing financial assistance to the farmers for establishment of Green-house / Poly house/ Net house/ Poly Tunnel under Mission on Integrated Development of Horticulture.

Financial Assistance

Financial assistance for Green house / Poly house /Shade Net house/ Poly Tunnel is to the extent of 50% of the total cost norms indicated below is admissible to all the beneficiaries for adoption of this technology by farmers with a maximum ceiling up to 4000 square meter per beneficiary.

Items	***Structure Size***	***Maximum permissible cost (Rs./Square meter)upto 4000 Square meter per beneficiary***
Poly house with Fan & Pad system	up to area 500 Sq. m	1650
	>500 Sq.m up to 1008 Sqm	1465
	>1008 Sq.m up to 2080 Sq.m	1420
	>2080 Sq. m upto 4000 Sq.m	1400
Naturally Ventilated Poly house	up to area 500 Sq. m	1060
	>500 Sq.m up to 1008 Sqm	935
	>1008 Sq.m up to 2080 Sq.m	890
	>2080 Sq. m upto 4000 Sq.m	844
Shade Net house	up to area 4000 Sq. m	710
Walk in tunnels	Up to 800 Sq. m	600

Maximum permissible cost (Rs./Square meter)upto 4000 Square meter per beneficiary indicated above is for calculation of financial assistance only. if actual cost is more than above limit, then financial assistance will be calculated on above norms

Following key points are needed to be addressed for successful large scale implementation of this scheme in the State.

1) **Ensuring supply of all components as per the minimum standards specified by National Committee on Plasticulture Application in Horticulture (NCPAH), Government of India and given in Rate Contract Offer.**

2) Ensuring quality of supply and installation of project components as specified in the guideline to safe guard farmers from future loss.

3) Assisting farmers in selection of suitable Supplier (manufacturer/fabricator) to implement Green house/ Poly house/ Net house/ Poly Tunnel based on their requirement.

4) Ensuring training of operation of project as well as the agronomical inputs to farmers to achieve overall objective of increasing productivity and thus improving their income.

5) Ensuring trouble free operation of Green House/ Poly House/ Shade net House/ Poly Tunnel, at least for 3 years after the project has been implemented.

6) To derive a reasonable cost for each type of technology through price discovery method. This will protect farmers from undue market practice.

D. **Scope of Work**

It covers Erection, Procurement and Commissioning, After Sales Services, Repair and Maintenance and Agronomical Services as under:

1 Erection, Procurement and Commissioning

i.) The Supplier shall supply the material and construct the Green house / Net house / Poly house /Poly Tunnel at farmer's field according to the guideline prescribed by NCPAH.

ii.) If there will be amendments in guideline during the period of agreement by the National Committee on Plasticulture Applications in Horticulture *(*NCPAH) and the specification as prescribed in this Rate Contract Offer, the Supplier shall follow the same.

iii.) The Supplier shall implement the project using material and components of minimum Indian standard prescribed or of the suggested companies only. The detail is given in **Annexure -5 (A to J).** The type of polythene/net is to be used based on the crop selected by the farmer, however the quality criteria should fall with the minimum standard suggested in the guideline**.**

v.) The Supplier shall construct the Green house/ Poly house/ Net house/ Poly Tunnel within the time period set by Managing Director.

vi.) The Supplier will take a trial run of the entire project and handover the same to farmer.

vii.) The Supplier must handover, after commissioning of Green-house/ Net house/Poly Tunnel, a complete and updated "Operational Manual" in local language.

2 After Sales Services, Repair and Maintenance

i.) The warranty period for the components/ equipment shall be for three years from the date of completion of the project.

ii.) The Supplier will provide after sales services for 3 years to the farmer.

iii.) The Supplier will provide free replacement of component/equipment/cladding material if damaged during the warranty period.

iv.) In the event of any instrument/ component gets broken or damaged during installation and trial run at the site before handing over the Green house/ Net house/ Poly Tunnel to the farmer the Supplier shall replace the same at free of cost.

3 Agronomical Services

i.) The Supplier shall provide operational training of minimum 15 days to the farmer or its nominated family member only.

ii.) For the successful implementation of the project and to ensure envisaged benefits out of this project, the Supplier shall provide agronomy services related with Green house/ Poly-house/ Net house/ Poly Tunnel cultivation technology to the beneficiary. The duration of the agronomy services will be for three years after the project completion date.

iii.) The agronomy services to be provided by the Supplier must include the advice for selection of crop, variety of seeds and other related agriculture inputs and also advise for taking best crop based on the prevailing market condition with an objective to maximize the earning of farmer. However, the decision regarding the selection of crop should be taken by farmer.

iv.) During this period, a competent person deputed by the Supplier, who will support the farmer and will visit/ contact at every fifteen days to the farmer from date of handing over the project up to first 3 months and visit site once in every two months during period of warranty. The supplier will provide details of competent person (including Mob no) to farmer. The list of competent person along with detail of qualification and experience has to be provided to the Managing Director as per the format given in **Annexure -12.**

v.) The Supplier will maintain records of such visit and submit the same to the Managing Director as and when required.

E. Terms of Reference for the applicant/ offerer /supplier

i.) The Corporation is dealing in supply of various Agriculture and Horticulture inputs to the farmers and Govt. Departments of the State. The Corporation wishes to enter into rate contract with the manufacturer of Green House & Net house, Low Tunnel. This RCO is therefore invited in prescribed documents.

ii.) The Managing Director of the Corporation will decide the modus operandi for the selection of Offerer for Rate Contract and Finalizing of Rates.

iii.) As it is a rate contract, the Corporation may give counter offer of lowest rates or counter offered rates as decided by the corporation to all the eligible applicant/ offerer/ suppliers.

iv.) Applicant can submit its credentials relevant to the eligibility criteria specified as per **Annexure-2**.

v.) The applicant irrespective of its rate contract shall not be granted approval for quantum of work in a year more than its average annual turnover of last three year indicated in its proposal up to the year ending on **March 31st, 2021**. The performance review would be done based on the quantum of work done, quality and no. of projects completed successfully in a year. Based on the performance review of the Supplier the Managing Director may extend the work limit.

vi.) The Applicant/ supplier can implement the project only for the farmer or any one of his/ her family member who has undergone the specific training related with protected cultivation methods conducted by Dy. Director Horticulture at district level. The suppliers whose rates has been approved, shall have to demonstrate equipment's used in construction of protected cultivation. The farmer has a choice to select supplier. After selection of supplier, the information will be posted on portal MPFSTS and intimation to farmer to deposit farmer's share within 7 days.

vii.) The subsidy shall be released by the Department in kind & will be made available to the Corporation after due verification of the structure as per the technical specifications and fulfillment of terms & conditions specified in the work order issued by the Corporation.

viii.) The Managing Director may levy a penalty on the supplier if found that supplied component are not conforming to minimum specifications. The cost of such component would be recovered from the bill of supplier or from the bank guarantee submitted for the particular project by supplier.

ix.) The Supplier shall ensure the insurance of green-house/ poly-house/ net house/ poly tunnel from a reputed Insurance company just after completion of construction work for one year and will have to submit the insurance certificate to the farmer. The Supplier shall ensure to renew insurance further up to warranty period i.e. for second and third year too. The cost of insurance has to be borne by Supplier.

x.) The Supplier should provide help to the farmer for settlement of insurance claim and assist in submitting prima facie report of the damages occurred within the scope of the insurance policy if required.

xi.) The Supplier shall not sub-contract the entire work of construction of green- house /net house/ poly-house/ poly tunnel to the associate dealer/ distributor/ other party. If Supplier is found to be sub-contracting the entire work of construction, the empanelment of such Supplier shall be cancelled by the Corporation along with forfeit of EMD and debarring to participate in RCO for further 2 years.

xii.) The Corporation has right to cancel the Rate Contract at any point of time during the contract period.

xiii.) The Corporation has right to terminate Rate Contract if found that work carried out by Supplier is not satisfactory.

xiv.) The work order for construction of green-house /poly-house/ net-house/ poly tunnel shall be issued by the Corporation to the supplier. The Corporation will carry out

inspection through its nominated official of the entire project as specified in **Annexure 5 (A-J).** On getting the inspection report and if the project will be found as per the norms of the Corporation payment will be released. **Rural Horticulture Extension officer shall visit & inspect the construction work from time to time for which separate instruction will be issued by the Department.**

xv.) On receipt of information regarding completion of work order, the same will be posted on portal MPFSTS and physical inspection will be carried out in presence of farmer by the committee headed by Joint Director Horticulture (members will be Dy. Director Horticulture, Sr Horticulture Development Officer, Rural Horticulture Development officer and District Manager of the Corporation). Action for Geo-tagging will be made after inspection

xvi.) The subsidy shall not be released if the structure or any component is not as per the specification mentioned.

F. INSTRUCTION OF OFFERERS :

The offers are invited under e-tendering system from the manufacturers to participate in this Rate Contract offer. The offerers are required to read carefully the terms and conditions and submit the document on website only after affixing their digital signatures as a token of acceptance.

All RCO and relevant documents shall be uploaded in JPG or PDF format only, in minimum resolution of 600 DPI. Document uploaded in other format will not be considered.

Scanned copies of all desired documents mentioned in Qualification Criteria and EMD must be uploaded on website. Offerer must submit hard copies of complete technical bid including qualification criteria and related documents/technical literature/Boucher duly signed (except Price Bid) along with proof of EMD. Hard copies of these documents must be dropped in e-Tender drop box placed at Office of the Managing Director M P State Agro Industries Development Corporation Limited, 3rd floor of Panchanan Bhawan, Malviya Nagar, Bhopal, before last date and time of submission of offer.

All documents uploaded on web site must be clear and readable. In case of any non clarity of uploaded documents or any dispute over documents uploaded online in E-Tender, the hard copies submitted by the offerer shall be treated final.

Offerers are advised to upload their offer well in time without waiting for last date of offer submission in order to avoid congestion or any other unforeseen circumstances.

Manager {Horticulture}

Annexure2

A. List of Mandatory Documents to be uploaded (Self Certified with Seal and signature)

S.No	TYPE OF DOCUMENTS
1	Document as Supplier of Green House / Net House/ Walk in Tunnel Registration with DTIC or Udyog Aadhar
2	Valid Permanent Account Number (PAN)
3	Valid GSTN.
4	Affidavit as per **Annexure 7**
5	CA certificate to establish experience of minimum three years in the field of Green-house/Poly-house/Net house/Poly Tunnel in supply, installation and maintenance. **Annexure 10**
6	Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 **Annexure 9 CA Certificate**
7	Constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel(40000sq mt.). in last 3 years **Annexure 10 duly countersigned by Nodal Department of respective States.**

ANNEXURE 3

ELIGIBILITY CRAITERIA

The following are the minimum eligibility criteria for submission of offer

a. An offerer should have valid registration as Supplier/ Manufacturer of Green House / Net House/ Walk in Tunnel with Department of Horticulture and Farm Forestry Madhya Pradesh.

Or

Document as Supplier/ Manufacturer of of Green House / Net House/ Walk in Tunnel registration with DTIC or Udyog aadhar will be considered.

b. An offerer should have valid PAN & TIN

c. Minimum 03 (three) years of experience in the field of Green house/Polyhouse/Net house/Poly Tunnel in supply, installation and maintenance. The Supplier has to submit a CA certificate to establish experience of minimum three years and format given at **Annexure 9**

d. The offerer should have Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 from construction activity of greenhouse/net house/poly house/ poly tunnel only. Nil Turnover in any of the above mentioned year will lead to disqualification. Annexure 9

e. The offerer should have constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel (40,000 sq mt) in last 3 years as on date 31st March 2021. **Annexure 10**

The offerer has to submit copy of all the relevant documents.

Note :

Beside this the Corporation may obtain third party inspection (before / after entering in agreement) for production capacity and production facilities of the applicant. (Expenses for this inspection will be born by supplier)

Manager {Horticulture}

ANNEXURE 4

GENERAL TERMS AND CONDITIONS

01- **PROCEDURE FOR RATE CONTRACT**

1.1 The Corporation invites Rate Contract offer for supply of items as specified in **Annexure 5 (A-J) who fulfils** eligibility criterion as per **Annexure 3**

1.2 Not more than one offer will be accepted from any Applicant/ Manufacturer. If any individual participating in the offer, representing more than one firm in one or different names and it comes to our knowledge at any point of time, all such offer will not be entertained and shall be liable for rejection.

02- AVAIBILITY OF RATE CONTRACT DOCUMENT (RCO)

As the document is available on website www.mpagro.org of the Corporation, the same can be submitted online through www.mptenders.gov.in

03- SUBMISSION OF RATE CONTRACT OFFER.

3.1 The Corporation invites online Rate Contract Offer for supply and installation of Green-house / Poly house/ Net house/ Poly Tunnel.

3.2 All the Mandatory Documents to be uploaded (Self Certified with Seal and signature) as per list in **Annexure 2** shall be uploaded in JPG or PDF format only, in minimum resolution of 600 DPI. Document uploaded in other format will not be considered.

3.3 Self-attested hard copies of all Mandatory Documents along with signed copy or RCO must be dropped in E-Tender drop box placed at Office of the Managing Director M P State Agro Industries Development Corporation Limited, IIIrd floor of Panchanan Bhawan, Malviya Nagar, Bhopal, before last date and time of submission of offer.

3.4 The Envelope of Hard Copies shall be submitted in a sealed cover super scribed with words "Rate Contract Offer for supply of and installation of Green house / Poly house/ Net house/ Poly Tunnel.

4. TECHNICAL INFORMATION REGARDING ELIGIBILITY.

4.1 Envelope should contain the following documents :-

4.1.1 RCO Document duly signed on each page by authorized signatory.

4.1.2 Registration Certificate /Document as Supplier of Green House / Net House/ Low Tunnel Udyog Aadhar/ Registration with DTIC.

4.1.3 Self-Certified Copy of Valid PAN and TIN (of Manufacturer and Authorized Distributor as the case may be).

4.1.4 Affidavit as per **Annexure 7**.

4.1.5 Minimum 03 (three) years of experience in the field of Green- house/Poly-house/Net house/Poly Tunnel in supply, installation and maintenance. The Supplier has to submit a CA certificate to establish experience of minimum three years and format given at **Annexure-9**

4.1.5 The offerer should have Minimum Average Annual Turnover of Rs. 1.00 crore in the last 3 years (i.e. 2018-19, 2019-20 and 2020-21 from construction activity of greenhouse/net house/poly house/ poly tunnel only. Nil Turnover in any of the above mentioned year will lead to disqualification. **Annexure-9**

4.1.6 The offerer should have constructed at least 10 numbers of Green-house / Net house / Poly house / Poly Tunnel (40,000 sq mt.) in last 3 years as on date 31st March 2021. **Annexure-10**

4.2 Hard Copies received in the offer box up to due date and time will be opened on due date and time as mentioned in page No - 6. In case of non clarity of uploaded document or any dispute over documents uploaded online in E-Tender, the hard copies submitted by the offerer shall be treated final.

The Corporation will not be responsible for any delay on any account in receipt of offer. If the offer is received after the specific date and time even if the delay in receipt was caused in postal transit or any other reason, whatsoever. On-line offer will be open on due date and time as mentioned in Annexure 1 point B in the presence of the representative of firms who wishes to be present. Date of opening of Financial Offer (price bid) will be intimated on notice board and online on www.mpagro.org.

05- RATE CONTRACT OFFER DOCUMENT

The Offerer is expected to read carefully all instructions, conditions of the Rate Contract Document, Performa agreement, Specifications, all annexure, etc Failure to comply with the requirements of offer submission will be at the offerer risk. Offers that are not substantially responsive to the requirements of the RCO documents will be rejected. The Offerer has to submit Affidavit as per **Annexure 7** on non-judicial stamp paper of Rs 1000.

06- EARNEST MONEY DEPOSIT (EMD):

Offerer has to deposit required Earnest Money Deposit (EMD) of Rupees 5,00,000 (Five Lakh) only online.

(i) Earnest Money of all unsuccessful Offerer will be returned. No interest is payable on the amount of EMD at the time of refund.

(ii) Earnest Money shall be forfeited if the offer is withdrawn.

a. At any time prior to its rejection,

b. Before or after the acceptance is communicated to the Offerer.

c. If the selected Offerer fails to execute the agreement within prescribed time limit.

d. If it is found that false documents/ information are submitted.

e. If supplier breaches any of all terms and conditions in this RCO or agreement.

(iii) The EMD will remain with the Corporation during the currency of the contract and/or till successful execution of all the order placed during the currency of the contract and will be refunded to the supplier without interest in case of no dispute.

(iv)- **Earnest money of successful Offerer will be adjusted against Security Deposit (SD) at the time of the execution of the agreement.**

07- SECURITY DEPOSIT (SD):

(i) The Security deposit will remain with the Corporation during the currency of the contract and will be refunded to the supplier without interest in case of no dispute.

(ii) Security deposit will be forfeited in case of failure of supply of the material as mentioned in the purchase order, in time and as per the approved specifications or for any breach of terms and condition of the agreement and RCO.

(iii) The security deposit will be refunded after the successful execution of all orders during currency of the contract period provided no dispute, claim or complaint exist for settlement without interest.

08- TECHNICAL SPECIFICATION:

Technical Specifications are given in **Annexure 5**. Supplier has to supply items as per the specification.

09- QUOATING OF RATES FOR RATE CONTRACT:

9.1 The Offerer must submit rates online only as per format given in **Annexure 6.** The rates should be inclusive of construction of greenhouse/ poly house/ net house/ poly Tunnel/ repair and maintenance and agronomical services as specified in the scope of work of this document.

9.2 Rates for Green House/ Net House / Low Tunnel Should be given on Turn Key Basis i:e the rates must include the cost of material, cost of installation, all the taxes whatsoever, Agronomy Service charges* (*as mentioned in clause no 21) and Corporation margin, F.O.R. destination. The rates must be given for specific size and type of Green house/ Net House and Low Tunnel

9.3 In this RCO the Offerer should quote final selling rates (F.O.R. destination) to customer through office of District Manager of this Corporation, inclusive of all applicable taxes duties,

9.4 Corporation will take 2% service and 0.5 % inspection Charges + GST as

applicable on total basic cost of the project (Complete Unit cost for Green house/ Polyhouse /Net house/Poly Tunnel constructed, etc as per **Annexure 6**). In case bill is raised by corporation the amount will be added in agro's bill accordingly/ In Case if supplier directly billing to farmer, Service Charges bill (2.5% of the unit cost) will be raised in name of the supplier and the amount will be adjusted at the time of payment to supplier.

9.5 The in M.P offerer should quote their lowest price, in accordance to the condition mentioned in clause No. 10. The Supplier shall have to offer consolidated price for each project component mentioned in the format for different sizes separately. The price should be inclusive of all except applicable taxes.

10- REASONABILITY OF RATES:

Offerer shall have to offer his lowest rates for the offered item and it should be strictly in accordance with the clause mentioned below (applicable from the date of Submission of RCO).

(i) The price charged for Items under this contract by the offerer shall in no event exceed the lowest price at which the identical items to any other person /Organization/ Government Department/ Govt. Corporation / or any Govt. body in M.P. during the period till completion of all orders issued during the currency of contract is completed.

(ii) If at any time during the said period the Supplier reduces the sales price of such offered items or sells such items to any other person/ organization at a price lower than the price chargeable under the contract, the Supplier shall forthwith notify such reduction in the rate to the Corporation. The price paid under the contract after such reduction in sale price, shall stand correspondingly reduced. The Corporation shall be entitled to recover such excess amount.

11- NEGOTIATIONS: It is clarified that normally, no rate negotiation will be done and therefore the offerer should quote their lowest prices only. However the Managing Director of the Corporation may decide to give counter offer of the rates decided by the Corporation to all eligible offerers.

12- VALIDITY OF APPLICATION: Application received in against this RCO are valid for acceptance for 6 months from the last date of Submission.

13- VALIDITY OF RATE CONTRACT: The Rate Contract against this RCO is valid up to 2022-23 (31.03.2023) and Onwards. The RCO can be extended after the expiry i.e 3103.2023 till the new Rates are circulated after finalizing the New RCO in this regards.

14- EXECUTION OF AGREEMENT:

(a) The successful offerer shall have to execute an agreement as per **Annexure 13** with the Corporation. The agreement will be executed on non-judicial stamp paper of Rs.

1000/- the cost of the same will be borne by the offerer.

(b) The Corporation shall intimate the successful offerer regarding acceptance of his offer and inform him to execute an agreement. In case the offerer fails to execute agreement within time limit the EMD deposited by offerer shall be forfeited. After executing agreement, the term **Offerer** will be replaced by the term **Supplier.**

15- PLACEMENT OF ORDER:

1. The Managing Director of the Corporation will decide ordering authority in the Corporation, accordingly Head office/ Regional Manager of the Corporation shall place purchase order to the supplier.

16- SCHEDULE AND MODE OF SUPPLY/ PAYMENT:

1. The supplier has to supply and install the ordered Green House/ Net House/ Low Tunnel within 60 days from the receipt of order of the Corporation.

2. In special case, supplier may request in writing to Dy. Director Horticulture of the district (under intimation to district office of the Corporation) for extension in time limit mentioned above (in point 16.1) . On receipt of such request, Dy. Director Horticulture may extend time limit and inform in writing to supplier as well as to the Corporation.

3. If supplier has not executed work order in time, penalty @ Rs 15/- per sq. mt. will be charged for delay of 15 days , @ Rs 30/- per sq mt will be charged for delay of 30 days and @ Rs 50/- per sq mt will be charged for delay of 45 days and will be deducted from supplier's bill. The penalty so deducted will be paid to beneficiary in his bank account by the Corporation.

4. Failure on the part of the supplier for supply/ installation, may lead to forfeiture of the Security Deposit and the rate contract shall stand cancelled and agreement terminated.

5. If any dispute regarding the quality/ quantity of the material supplied, the Corporation will make payment after settlement of the dispute only

17- PAYMENT

CASE 1 - If supplier is not willing to submit Bank Guarantee

1. On successful installation of protected cultivation infrastructure, the payment shall be released on "Payment after Payment" basis. (i:e on receipt of payment from consignee) The Corporation will make 95% payment of invoice to supplier.

2. Remaining 5% payment will be released after completion of warranty i.e. 3 years from date of installation of protected cultivation infrastructure.

CASE II - If supplier is willing to submit Bank Guarantee

1. Offerer have to submit Bank Guarantee of Rs. 17 lac for availing work order in which cultivator share is not exceeding Rs. 17 lacs, this includes all the protected cultivation infrastructures at one time. For availing more orders, wherein, cultivator's share is exceeding limit of Rs. 17 lac, offerer have to submit Bank Guarantee for the balance amount. For the purpose of Bank Guarantee Rs. 17 lac per 4000 sq. mt of Poly house is taken in to consideration. Bank Guarantee can be submitted up to, for 4 times of the amount i.e. 4000x4 sq. mtr. Rs. 68 lac (17x4). On completion of the work, fresh order will be issued by the Corporation, the aforesaid bank guarantee will be treated as revolving Bank Guarantee for next order.
2. Those offerer who have submitted Bank Guarantee with Directorate of Horticulture & Farm Forestry and valid upto 31-3-2023 will be considered under this Rate Contract Offer, provided offerer give consent in writing as per **Annexure 14**.
3. Those offerer who have not deposited Bank Guarantee as point 2 above will have to deposit bank guarantee as mentioned above at point 1.
4. This Rate Contract offer will be valid upto 31-03-2023 and onwards. In case of any extension of contract agreement, the supplier (the offerer with whom an agreement is signed by the Corporation) will have to revalidate bank guarantee for extended period will in advance.
5. Cultivator share under the Scheme will be deposited directly by the beneficiary in supplier's account to whom order has been placed. The subsidy amount will be disbursed as under.
   On receipt of subsidy amount from Department, the remaining amount of invoice shall be released from subsidy after deducting 5% amount of total invoice amount. The 5% amount will be released after completion of warrantee period.
6. Cultivator share under the scheme will be deposited to the corporation (M.P. Agro) the Corporation, on demand from supplier will release cultivator share on completion of civil foundation work and supplies of material i.e. structure and poly film at site. The subsidy amount will be disburse as under.
   On receipt of subsidy amount from Department, the remaining amount of invoice shall be released from subsidy after deducting 5% amount of total invoice amount. The 5% amount will be released after completion of warrantee period.

17- TARNSIT INSURANCE:

The Supplier will arrange for Transit Insurance and Material supplied should be covered under Transit insurance for Road Risk, Theft, Pilferage, and Non Delivery Risk (RRTPND).

18- WARRANTY

3 year warranty from the date of installation. The Supplier is responsible for damage if any accruing due to Corrosion, Sunlight, manufacturing defect. etc. in such case the supplier will replace/ repair such material on its own expenses within 10 days from the date of receipt of intimation. If the supplier fails to do so in the given time limit of 10 days, the department/ beneficiary will be free to repair/ replace the defective material from open market, in such case The Corporation is free to recover such expenditure whatsoever from pending payment / Security Deposit / Bank Guarantee.

19- TRAINING: Supplier should provide training to the Farmer / Beneficiary/ Consignee and officers of Horticulture & corporation (On cluster Basis). Suppliers has to provide Schedules of Training program to District horticulture office. Corporation will monitor the

training should be conducted as per schedule. During training, the supplier shall demonstrate items used in construction of protected cultivation infrastructure to the selected beneficiaries. Training Must Include technical guidance for running and maintenance of structure, selection and production technique of crop and selection of seed material etc. It is expected from the supplier to provide handholding support to beneficiaries for market linkages of the produce.

20- **AFTER SALE SERVICE:** The supplier shall be fully responsible for the satisfactory performance of the Green House / Net House for which supplier shall ensure prompt repair, maintenance and other sale service during the warranty period of 3 years.

21. **CONSULTANCY (Agronomy Services):** The supplier shall be fully responsible to provide technical consultancy (agronomy practices) for growing of the crops grown in Green House/ Net House/ low Tunnel for at least one year. The supplier has to provide proper technical guidance to the beneficiaries regarding sowing/ plantation, maintenance of crop uses of fertilizer/ pesticide proper handling and harvesting packaging and provide handholding support to beneficiaries for market linkages of the produce.

a. Supplier should arrange technical persons to visit the beneficiaries as per annexure 1 point D-3.iv (Page 9))

b. Once in every two months from 6^{th} to up to 12^{th} month from the date of construction. Date of visits may be decided as per mutual understanding of the beneficiaries and the supplier.

22- **TESTING FOR QUALITY**: 2 Samples of each component used in installation of protected cultivation infrastructures may be drawn by Corporation/ Department of Horticulture in presence of supplier's representative and beneficiary on as and when basis, which will be used for quality test in future.

Testing will be carried out by third party for which expenditure on testing will be borne by supplier. In case components found substandard in first testing, the supplier will be penalized as decided by the Managing Director of the Corporation. In case if components found substandard in 3 testing , the supplier will be debar from further supplies & will be blacklisted for 3 years. The Earnest money deposited by the supplier will be forfeited.

23- **FORCE MAJEURE CLAUSE**: If any time during the currency of contract the performance in whole or in part by either party or any obligation under this contract shall be prevented /delayed by reasons of any war, hostility, acts of the public enemy, civil commotions sabotage, fire, floods, explosions, epidemics, quarantine, restrictions, strike. lockouts or "circumstances beyond human control" (hereinafter referred to as eventualities) then neither party will be way of such eventuality be entitled to terminate this contract nor shall have any claim for damages against the other in respect of such nonperformance or delay in performance (provided notice of the happening of any such eventualities is given by either party to the other within 21 days from the date of occurrence thereof) Deliveries under this contract shall be resumed as soon as practicable after such eventualities has come to an end or ceased to exist.

23- Submission of RCO shall deem to be the acceptance by the Offerer of the all the terms and conditions contain herein.

24- The Managing Director of the Corporation reserves the right to accept or reject any or all the offers without assigning any reason whatsoever at any time prior to the award of the contract, without incurring any liability to the affected offerer and any obligation to inform the affected offerer of the grounds.

25- **PURCHASE PREFERANCE**: As per the policy of the State Govt. in respect of purchase of material for the use of Corporation purchase preference to the extent of 30% shall be given to those Manufacturers who belong to the SC/ST category. A self certified photocopy of certificate issued by competent Authority.

26- **INSPECTION:** The Managing Director may decide to inspect the Production / Quality Control Facilities of the Offerer before or after the execution of agreement. If any time it is found that the information submitted by Offerer/Supplier is not according to the documents submitted the Managing Director reserves the right to reject the offer or terminate the agreement.

27- **SELECTION OF FIRMS**: The Managing Director of the Corporation will decide the modus operandi for the selection of Offerer for Rate Contract. It should be noted that the Corporation may select one or any number of firms to get Rate contract. The decision of the Managing Director of the Corporation shall be final and binding to the Offerer.

28- The Managing Director of The Corporation reserves the right to impose penalties at his discretion for breach of the terms and conditions (commensurate with the losses incurred) which may be forfeiture of SD and/or debarring the supplier for maximum period of 5 years to supply all materials, whatsoever may be, through this Corporation.

29- Managing Director of the Corporation reserves the right to amend or replace or change any condition without any notice, in exigencies required to do so.

30- In case of any amendments including extension of due date will be published on Corporation's website www.mpagro.org, and www.mptenders.gov.in no further notification will be made in the news paper. Accordingly interested bidders are advised to keep close watch on the Corporation's website in their own interest. It is also to be noted that any such amendments will be a part of the Documents and will be binding on the bidder and it will be presume that the bidder has satisfied himself about such amendments

31- **Arbitration:** In case of any dispute arising between the supplier and Corporation the matter shall be referred to General Manager of the Corporation. In case the supplier is not satisfied with the decisions of General Manager the matter shall be referred to the Managing Director of the Corporation who will act as sole arbitrator finally passes his verdict, which will be binding, to supplier and Corporation.

32- For all legal proceedings the district court Bhopal will have jurisdiction.

33- It is the discretion of the Managing Director of the Corporation to accept/reject the application without assigning any reason thereof.

Manager {Horticulture}

ANNEXURE 5 A

Terminology used:

NATIONAL COMMITTEE ON PLASTICULTURE APPLICATION S IN HORTICULTURE (NCPAH)

Greenhouse - is a framed/inflated structure covered with a transparent/translucent material that allows sufficient sunlight to enter for the purpose of growing and maintaining the plants under partially and fully controlled conditions.

1. **Air Circulation** - The process of moving or mixing air within a greenhouse to control temperature, humidity and carbon dioxide distribution.
2. **Column** - A column providing the main structural support to individual frame member for a greenhouse that are spaced at regular intervals and set in concrete footings.
3. **Curtain wall** -The non-transparent lower portion of the side walls of a greenhouse.
4. **Design load** - The design load includes the weight of the structure {dead load), loads {equipment, etc) associated with building use (live load) and loads from snow and wind
5. **Energy curtains** - automated system utilizing fabrics to insulate the greenhouse as per
6. the crop requirements (day/night).
7. **Evaporative Pad** - Refers to the wetted part of cooling system through which air is drawn by exhaust fan. Heat is extracted from air to evaporate water in pad thereby lowering the air temperature.
8. **Even span** - a basic style of greenhouse in which rafters are equal in length.
9. **Fan-and-pad cooling system** - a system in which large exhaust fans draw air through a moistened cellulose pad mounted on the opposite end of the structure.
10. **Fan-tube ventilation** - fans bring in small amounts of cool outside air and mix it with the warm air.
11. **Fertilizer injector system** - equipment used for the irrigation of plants with exact proportions of fertilizers obtained from a concentrate of water-fertilizer and water.
12. **Fog-evaporative cooling system** - fog is generated inside; as the minute fog droplets
13. evaporate, heat is absorbed.
14. **Foundation** - Foundation is the structural element between the greenhouse super structure and the ground; It must safely transfer gravity, uplift and overturning loads to the ground such as those from snow, crops, and wind.
15. **Glazing** - It is the transparent or translucent material glass or plastic, used to cover the greenhouse which transmits the desired amount of illumination to the growing area in the greenhouse.
16. **Gothic arch** - Basic style of greenhouse with a pointed arch; trusses have been eliminated.
17. **Gutter** - In a multi-span greenhouse it is the lowest portion of the roof construction generally shaped in the form of a wide channel to drain off rain water and to permit people walking on it for maintenance.

18. **Gutter**- Connected Greenhouse-A series of two or more single span greenhouses joined together at the cave by a drain gutter. Interior walls are usually eliminated.
19. **Intermittent mist system** - watering method; tiny droplets delivered periodically keep plants moist.
20. **Life of Glazing Material** -The period for which a glazing material will retain most of its transmission qualities, optical and physical properties when continually exposed to naturally occurring weather elements.
21. **Light Transmittance** - The ratio of the light passing through a glazing material to the light incident upon it.
22. **Mechanical Ventilation** - Desirable air exchange which occurs through controlled openings when fans are used to move air into and exhaust air out, of the greenhouse. Fans may be located either at the inlet end (positive pressure) or the exhaust end (negative pressure); however, the most common location is the exhaust end.
23. **Multi Span Greenhouses** - A type of greenhouse construction where individual houses are combined at the gutters, usually to form one open area under the entire roof Gable shape, saw tooth or curved roof greenhouses are found economical for large areas of 500 to 10000 m2 under commercial cultivations. They are also called ridge and furrow greenhouses.
24. **Natural Ventilation** ~ Desirable air exchange which occurs in response to temperature and pressure variations inside and outside the greenhouse. These variations are created and maintained by solar energy, internal heat sources, and/or wind.
25. **Nets** - Is a UV stabilized knitted fabrics structure made of Polyethylene/ Polypropylene in the form of tape or monofilament that block certain amount of light.
26. **Orientation** - Refers to the positioning of greenhouses in such a way so that maximum winter light is transmitted to the plants. For greenhouses above 40"N latitude the ridge in either an individual greenhouse or a gutter connected range should run east-west. The potential for uneven growth in some plants because of gutters shading the same area during each day must be balanced against general reduction in winter light, if ridges run north-south.
27. **Overhead watering** - water is applied over the canopy of the plants with spray nozzles.
28. **Polyethylene films** - a petroleum-based flexible plastic used for cladding the greenhouse.
29. **Purlin** - A component of the greenhouse frame running the length of the greenhouse which connects the trusses together, adding more structural strength.
30. **Quonset** - basic style of greenhouse with curved roof with or without sidewalls
31. **Rafter** - A frame component spanning the space between the cave and the ridge.
32. **Ridge** - The highest part of the roof of a greenhouse usually forming a major structural component of greenhouse.

33. **Ridge and Furrow Greenhouse** - A ridge and furrow greenhouse is a structure that consists of a number of greenhouses connected along the length of the houses. The shared side walls create a large interior space.
34. **Rigid structured sheet** - a type of covering used in greenhouses commonly made of polycarbonate and acrylic; it is rigid and resistant to weathering.
35. **Short-day curtains** - automated system utilizing fabrics to insulate the greenhouse as per the crop requirements (day/night).
36. **Trusses** - composed of rafters, chords, and struts that support the roof.
37. **Ultra-Violet (UV) stabilization** - The plastic covers being susceptible Lu photo degradation, both polyethylene and vinyl films are affected by ultra-violet light. They become brittle and tear when exposed to solar radiation. Stabilizers are mixed to make polyethylene UV Stabilized.
38. **Uneven span** - basic style of greenhouse in which rafters are of unequal length.
39. **Ventilation Rate** - The volume of air exchanged per unit time per unit floor area. Ventilation rate is often expressed as m3/s.m2 of greenhouse floor area (alternatively, as internal air volume changes per unit of time).
40. **Ventilation** - The process of exchanging air inside the greenhouse with outside air to control greenhouse temperature, humidity, oxygen and carbon dioxide levels.

    Ventilators - moveable units of a greenhouse to allow for natural air flow
42. **Weather ability** - It is the resistance of a greenhouse glazing material to degradation due to weather effects.

Annexure 5 B

SUGGESTIVE TECHNICAL SPECIFICATIONS OF GREENHOUSE/ POLYHOUS/ NET HOUSE AND WALK IN TUNNEL.

1. NATURALLY VENTILATED GREENHOUSE (TYPE-I)

Sr. No.	Items	Description/Specifications
1	Product	**Naturally Ventilated Greenhouse**
2	Size	500 m^2/l000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6.5m to 7m depending upon the climatic conditions and wind
5	Ridge Vent	1m - 1.2m opening fixed with 40 mesh insect Net. Provision should be kept to close the vent with plastic film with manual mechanism for opening & closing the vent. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost
6	Gutter height	4m - 4.5m from floor area
7	Gutter slope	2% slope need be provided in civil foundation work/ structure
8	Gutter frame	16 gauge or 1.2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint having provision of rain water harvesting system
9	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2 There should be provision for opening one portion at either side for entry of small. tractor/power tiller for intercultural practices
10	Structure	Complete structure made of galvanized steel tubular pipes /C- channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 3.2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2.9 mm thick
	Trusses member/Top arches	48 mm OD, 2.9 mm thick
	Purlins	Top purlins 48/42 mm OD, 2.6 mm thick
	Purlins member& others Foundations	33/25 mm, 2.3 mm thick Insert GI pipes of minimum 60 mm with 2.9 mm thick to have foundation depth of 75 mm with 3.2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).

11	Entrance room& Door	One entrance room of size 3 m x 3 m x 3 m (L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size2m width & 2.5 m height double leaf made in plastic/FRP (fibre reinforced plastic) sheets mounted in suitable frame.
12	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR thermic, light diffusion and optional properties like Anti-sulphur, anti- virus, UV blocking and also having minimum 80% level of light transmittance.
13	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
14	Spring Insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must be inserted for fixing shade net into Aluminum Profile.
15	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having Manual operated crank mechanism for opening and closing of curtains. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains, Anti-flapping strips are suggested to ensure smooth functioning of the curtain
16	Shade Net	Use UV stabilized Mono Tap of 50% shade factor with motor operated mechanism for expanding and retracting. Size of net should be equal to the floor area of greenhouse.
17	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse (Applicable only BIS standards for all irrigation components as well as water tank).
18	Footpath	not required
19	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).

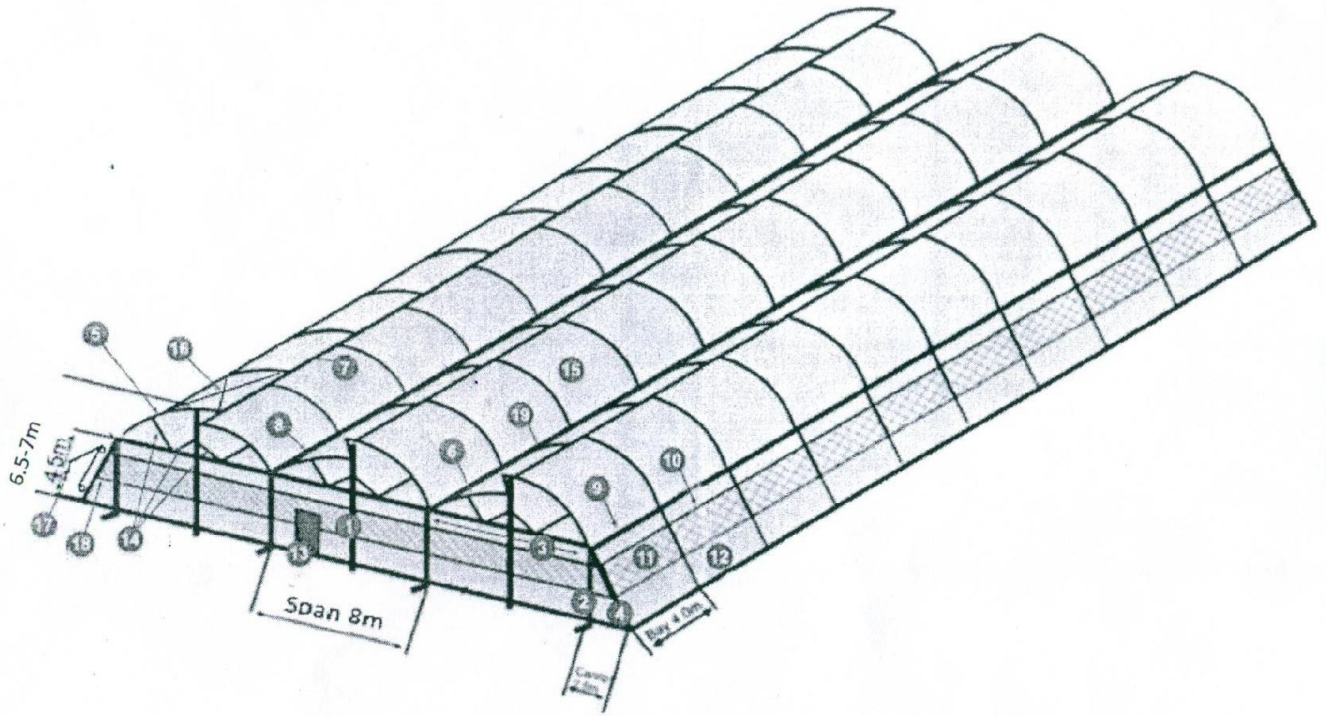
Note:

- In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profil. However the cost of the apron should be computed on the basis of material used.
- Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 C

NATURALLY VENTILATED GREENHOUSE (Type-2) 2mm thickness of structural		
Sr. No.	**Items**	**Description/Specifications**
1	Product	**Naturally Ventilated Greenhouse**
2	Size	500 m^2/l000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6.5m to 7m depending upon the climatic conditions and wind
5	Ridge Vent	1m - 1.2m opening fixed with 40 mesh insect Net. Provision should be kept to close the vent with plastic film with manual mechanism for opening & closing the vent. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost.
6	Gutter height	4m - 4.5m from floor area
7	Gutter slope	2% slope need be provided in civil foundation work/ structure
8	Gutter frame	16 gauge or 1.2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint having provision of rain water harvesting system.
9	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2. There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
10	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2 mm thick
	Trusses member/Top arches	48 mm OD, 2 mm thick
	Purlins	Top purlins 48/42 mm OD, 2 mm thick
	Purlins member & others	33/25 mm, 2 mm thick
	Foundations	Insert GI pipes of minimum 60 mm with 2 mm thick to have foundation depth of 75 mm with 2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).

11	Entrance room & Door	One entrance room of size 3 m x 3 m x 3 m (L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fibre reinforced plastic) sheets mounted in suitable frame.
12	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS
		15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR
		thermic, light diffusion and optional properties like Anti-sulphur, anti-
		virus, UV blocking and also having minimum 80% level of light
		transmittance.
13	Fixing of	All ends/joints of plastic film need to be fixed with two way
	cladding	aluminum profiles with suitable locking arrangement along with curtain
	materials	top. Wooden batons or PVC grippers need not be used for fixing the
		cladding materials.
14	Spring Insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must
		be inserted for fixing shade net into Aluminum Profile.
15	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having Manual operated crank mechanism for opening and closing of curtains. However, if the farmer wants the motorized operation of the same, the Supplier should implement the same on charging additional cost. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains, Anti-flapping strips are suggested to ensure smooth functioning of the curtain.
16	Shade Net	Use UV stabilized Mono tap of 50% shade factor with motor
		operated mechanism for expanding and retracting. Size of net should be
		equal to the floor area of greenhouse.
17	Drip Irrigation System	Drip irrigation system inside greenhouse need to be selected based on crop
	with fogging &	spacing along with fogging and misting facilities. The suggested bill of
	misting facility	materials must have Sand Filter, Screen Filter, Control Valves, By-pass
		Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush
		Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral,
		Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank
		and fittings & accessories. Provision for micro sprinklers need be kept
		for top of the vents of the greenhouse (Applicable only BIS standards for
		all irrigation components as well as water tank).
18	Footpath	not required
19	Testing	All plastic materials used in the greenhouse to be tested by the CIPET
		or any other testing Institute for quality assurance (if required).
Note: *In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profil. However the cost of the apron should be computed on the basis of material used*		
Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr		



1. Main column
2. 2nd main column
3. Bottom cord
4. Corridor
5. Long arch
6. Small arch
7. Top purlin
8. Gutter
9. Side purlin
10. Corridor purlin
11. Insect net
12. Apron
13. Door
14. Brassing
15. UV stabilized Plastic film
16. Cross brassing
17. Curtain handle
18. Corridor support
19. Gutter purlin

Annexure 5 D

SUGGESTIVE TECHNICAL SPECIFICATION OF GREENHOUSE WITH FAN AND PAD (EVAPORATIVE) COOLING SYSTEM (Type-1)		
Sr. No.	**Items**	**Description/Specification**
1	Product	Greenhouse with Fan & Pad cooling system
2	Size	500 m^2/1000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6 m to 6.5 m depending upon the climatic conditions and wind
5	Gutter height	4m - 4.5m from floor area
6	Gutter slope	2% slope need be provided in civil foundation work/ structure
7	Gutter material	20 gauge or 2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint
8	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2. There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
9	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming to Indian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 3.2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2.9 mm thick
	Trusses member/Top arches	48 mm OD, 2.9 mm thick
	Purlins	Top purlins 48/42 mm OD, 2.6 mm thick
	Purlins member & other	33/25 mm, 2.3 mm thick
	Foundation	Insert GI pipes of minimum 60 mm with 2.9 mm thick to have foundation depth of 75 mm with 3.2mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120 GSM).
10	Entrance room & Door	One entrance room of size 3 m x 3 m x 3 m { L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fiber reinforced plastic) sheets mounted in suitable frame.
11	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards (IS 15827:2009) having properties like Anti dust, Anti-drip, Anti-fog, IR thermic, light diffusion and optional properties like Anti-sulphur, anti-virus, UV blocking and also having minimum 80%

		level of light transmittance.
12	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
13	Spring insert	*Zigzag h*igh carbon steel spring action wire of 2-3 mm diameter must
		be inserted for fixing shade net into Aluminum Profile.
14	Co-axial fan	Co - axial fan (ISI mark) of minimum 1200 mm diameter containing 6 numbers of GI sheet blades, mounted in a GI frame followed by aluminum louver.
15	Cellulose pad for cooling	Cellulose pad of thickness 4" - 6" thick, height: 5'-6', width as desired equipped with Anodized Aluminum frame with necessary fittings and fixtures for its operation.
16	Circular pump with accessories for cooling pad	Circular pump with required capacity & accessories to be provided for wetting & circulating the pad area.
17	Digital controller with sensory devices	The necessary digital controller with sensory device & accessories of standard quality should be provided to operate the fan & pad system to control temperature & humidity inside the Greenhouse, thefabricator should ascertain the same.
18	Electric wiring inside greenhouse	Use copper wire to withstand desired load of required electrical gadgets/appliances with IS1 mark.
19	Net	UV stabilized 50% with motor and manually operated mechanism for expanding and retracting. Size of net should be equal to the floor areaof greenhouse.
20	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. Thesuggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve,Throttle Valve, Flush Valve, Venturi Injector with manifold, PV Cpipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse Applicable only BIS standards for all irrigation components as well as(water tank).
21	Footpath	Not required.
22	Curtain wall/Apron	Suitable plastic sheet should be provided as apron
Note: *Optional items-Provision to be made for opening & closing of ventilation system in case of power failure*		
23	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided upto 3.5 m height on all sides having motor operated crank mechanism for opening and closing of curtains However, provision for manual opening and closing of curtains need also be provided in case of no power. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains. Anti-flapping strips are suggested to ensure smooth functioning of the curtain
24	Testing All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute of quality assurance (if required).	
Note: **In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profile. However the cost of the apron should be computed on the basis of material used.*		
Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph		

flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 E

4. SUGGESTIVE TECHNICAL SPECIFICATION OF GREENHOUSE WITH FAN AND PAD (EVAPORATIVE) COOLING SYSTEM (Type-2)- 2mm thickness of structural members		
Sr. No.	**Items**	**Description/Specification**
1	Product	Greenhouse with Fan & Pad cooling system
2	Size	500 m^2/1000 m^2/2000 m^2/4000 m^2
3	Bay size	8m x 4m, width of greenhouse should be at least 35 % of the desired length.
4	Ridge height	6 m to 6.5 m depending upon the climatic conditions and wind
5	Gutter height	4m - 4.5m from floor area
6	Gutter slope	2% slope need be provided in civil foundation work/structure
7	Gutter material	20 gauge or 2mm thick GI sheet with perimeter of 0.5 m or more preferably of single length without joint
8	Structural design	The structural design need to be sound enough to withstand wind speed minimum 140km/hr and having trellis mechanism to withstand minimum crop load of 25kg/m^2.There should be provision for opening one portion at either side for entry of small tractor/power tiller for intercultural practices.
9	Structure	Complete structure made of galvanized steel tubular pipes /C-channel of light class or equivalent section conforming toIndian Standards IS 1161: 1998 and the structural member should be joined with fasteners properly. Welding of structure is not recommended.
	Columns	76 mm OD, 2 mm thick
	Trusses/Corridor	Bottom chord 60 mm OD, 2 mm thick
	Trusses member/Top arches	48 mm OD, 2 mm thick
	Purlins	Top purlins 48/42 mm OD, 2 mm thick
	Purlins member &other	33/25 mm, 2 mm thick
	Foundation	Insert GI pipes of minimum 60 mm with 2 mm thick to have foundation depth of 75 mm with 2 mm thick depending upon soil type and prevailing wind velocity, grouting of foundation column with cement concrete mixture of 1:2:4 using telescopic insertion of column is recommended.
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized (120GSM).
10	Entrance room &Door	One entrance room of size 3 m x 3 m x 3 m { L x W x H) need be provided, covered with 200 micron UV stabilized transparent plastic film conforming Indian Standards (IS 15827: 2009). Two hinge doors of size 2m width & 2.5 m height double leaf made in plastic/FRP (fiber reinforced plastic) sheets mounted in suitable frame.
11	Cladding material	UV stabilized 200 micron PE film conforming to Indian standards
		(IS 15827:2009) having properties like Anti dust, Anti-drip, Anti-
		fog, IR thermic, light diffusion and optional properties like Anti-
		sulphur, anti-virus, UV blocking and also having minimum 80%
		level of light transmittance.

12	Fixing of cladding materials	All ends/joints of plastic film need to be fixed with two way aluminum profiles with suitable locking arrangement along with curtain top. Wooden batons or PVC grippers need not be used for fixing the cladding materials.
13	Spring insert	Zigzag high carbon steel spring action wire of 2-3 mm diameter must be inserted for fixing shade net into Aluminum Profile 6
14	Co-axial fan	. Co - axial fan (ISI mark) of minimum 1200 mm diameter containing numbers of GI sheet blades, mounted in a GI frame followed by aluminum louver.
15	Cellulose pad for cooling	Cellulose pad of thickness 4" - 6" thick, height: 5'-6', width as desired equipped with Anodized Aluminum frame with necessary fittings and fixtures for its operation
16	Circular pump with accessories for cooling pad	Circular pump with required capacity & accessories to be provided for wetting & circulating the pad area.
17	Digital controller with sensory devices	The necessary digital controller with sensory device & accessories of standard quality should be provided to operate the fan & pad system to control temperature & humidity inside the Greenhouse, the fabricator should ascertain the same.
18	Electric wiring inside greenhouse	Use copper wire to withstand desired load of required electrical gadgets/appliances with IS1 mark.
19	Net	UV stabilized 50% with motor and manually operated mechanism for expanding and retracting. Size of net should be equal to the floor area of greenhouse.
20	Drip Irrigation System with fogging & misting facility	Drip irrigation system inside greenhouse need to be selected based on crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves, By-pass Assembly, Air Release Valve, Non Return Valve Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories. Provision for micro sprinklers need be kept for top of the vents of the greenhouse (Applicable only BIS standards for all irrigation components as well as water tank).
21	Footpath	Not required
22	Curtain wall/Apron	Suitable plastic sheet should be provided as apron
Note: *Optional items-Provision to be made for opening & closing of ventilation system in case of power failure*		
23	Curtains and insect screen	Roll up UV stabilized 200 micron transparent plastic film as curtains need be provided up to 3.5 m height on all sides having motor operated crank mechanism for opening and closing of curtains However, provision for manual opening and closing of curtains need also be provided in case of no power. 40 mesh nylon insect proof nets (UV stabilized) of equivalent size need to be fixed inside the curtains. Anti-flapping strips are suggested to ensure smooth functioning of the curtain
24	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute of quality assurance (if required)
Note: **In place of curtain wall apron, UV stabilized 200 micron transparent sheet can be used and anchored with zigzag high carbon steel with spring action wire of 2-3 mm diameter using aluminum profile. However the cost of the apron should be computed on the basis of material*		

used.
• Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

Annexure 5 F

5.	**SUGGESTIVE TECHNICAL SPECIFICATIONS OF NET HOUSE (Type-1)**	
Sr.No.	**Particulars**	**Descriptions/ Specifications**
1	Product	Flat roof net house/ Gable roof net house
2	Size	500 sqm./1000 sqm/2000 sqm/4000 sqm/ (Bay size 4 x 4 m for Gable/parabolic roof and 6 x 4 m / 6 m x 6 m for others)
3	Height	4-4.5 m from floor area. If gable roof, the side height should be in between 3 m - 3.5 m and Centre height 4 m - 4.5 m.
4	Structural design	The structural design must withstand wind speed of minimum 130 km/hr. and withstand crop load up to 25 kg/m^2 crop load. The structure must have the provision for opening one portion at either side for entries of small tractor/ power tiller for inter-cultural operations. The aerodynamics shape should be preferred to avoid wind load.
5	Structure	Complete structure should be made of galvanized steel tubular pipes or equivalent section of light class conforming Indian Standards IS: 1161-1998, the structural member should be joined with fasteners properly.
6	Columns	60 mm OD, 2.9 mm thick
	Trusses, purlins and hockey Member for Truss, purlins &others	48 mm OD, 2.9 mm thick 42 mm OD, 2.6mm thick
7	Entrance room &Door	Two entrance room of size 2.5 m x 2.5 m x 2.5 m(L x W x H)made of GI square pipe size 38mm x 38 mm having minimum wall thickness 2.6 mm or Aluminum profile need to be provided and covered with UV stabilized net. Two hinge lockable doors of size 2.5 m width & 2.5 m height double leaf made in plastic/FRP sheets mounted in suitable strong frame
8	Cladding material	UV stabilized shade net having 50 % shading factors having minimum wt. of **70-80 GSM**. The selection of shade net colour depends on the selection of crops. For insect net house **GSM should be minimum 120**, of 40-50 mesh size insect net, may be used to cover the structure.
9	Fixing of cladding materials	All ends/joints of net house to be fixed with two way aluminum profile with suitable locking arrangement such as zigzag high carbon steel with spring action wire of 2-3 mm diameter. Wooden batons or PVC grippers must not be used.
10	Civil work	Depth of foundation need be kept at 60 mm or more depending upon
		soil type and prevailing wind conditions. GI pipes of 48 mm light class
		conforming to Indian Standards IS: 1161-1998 or equivalent sections
		should be grouted in cement concrete mixture with 1:2:4 ratios.
11	Floor	-
12	Plinth	1 feet plinth protection around the structure
13	Drip irrigation	Drip irrigation system inside greenhouse need to be selected based on

	System with fogging &misting facility	crop spacing along with fogging and misting facilities. The suggested bill of materials must have Sand Filter, Screen Filter, Control Valves Bypass Assembly, Air Release Valve, Non Return Valve, Throttle Valve, Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane lateral, Emitting pipe, foggers & misters to be fixed w.r.t design. Water tank and fittings & accessories (applicable only BIS standards for all irrigation components as well as water tank).
14	Footpath	Not required
15	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).
Note: Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr		

Annexure 5 G

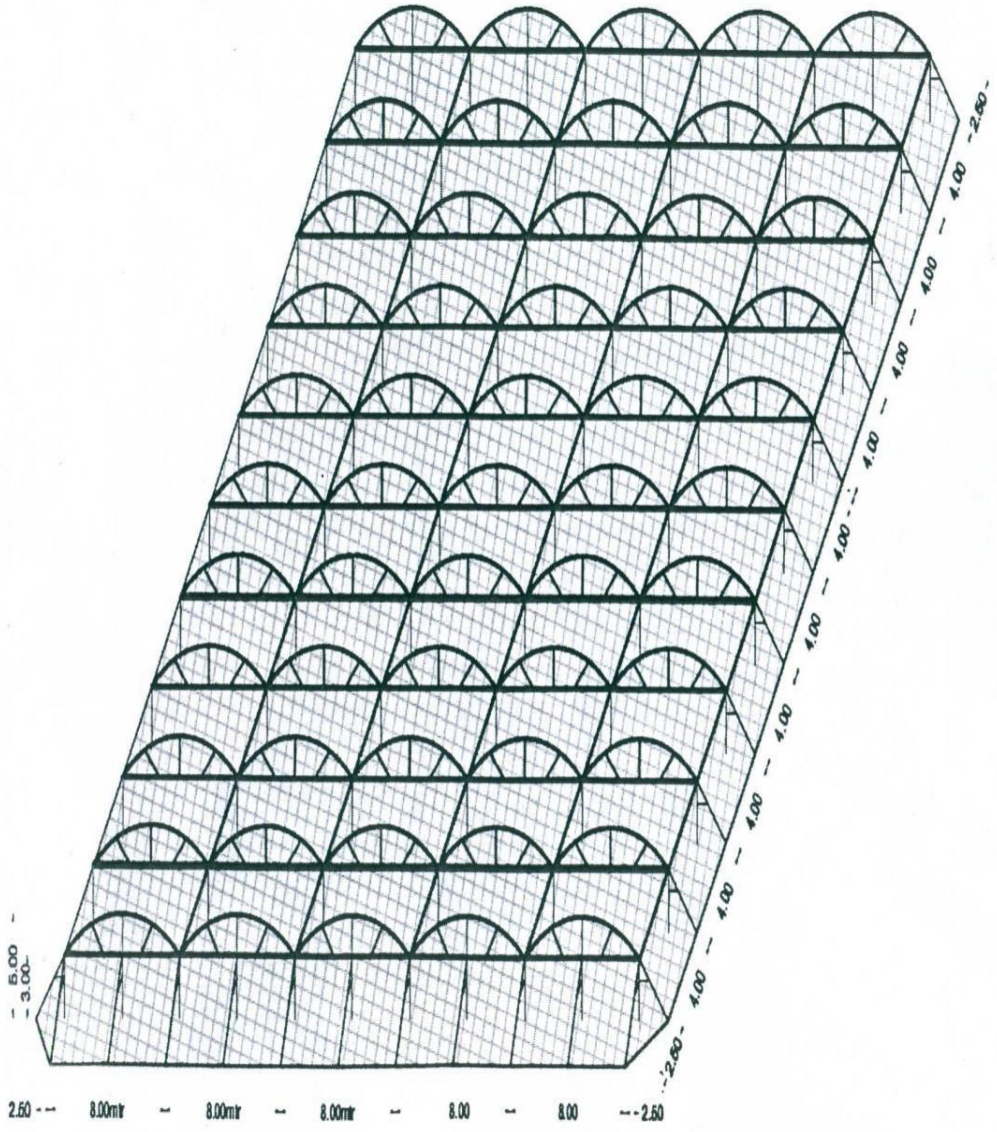
SUGGESTIVE TECHNICAL SPECIFICATIONS OF NET HOUSE (Type-2)- 2mm thickness of structural members

Sr.No.	Particulars	Descriptions/Specifications
1	Product	Flat roof net house/Gable roof net house
2	Size	500 sqm./1000 sqm/2000 sqm/4000 sqm (Bay size 4 x 4 m for Gable/parabolic roof and 6 x 4 m / 6 m x 6 m for others)
3	Height	4-4.5 m from floor area. If gable roof, the side height should be in between 3 m - 3.5 m and Centre height 4 m - 4.5 m.
4	Structural design	The structural design must withstand wind speed of minimum 130 km/hr. and withstand crop load up to 25 kg/m^2 crop load. The structure must have the provision for opening one portion at either side for entries of small tractor/ power tiller for inter-cultural operations. The aerodynamics shape should be preferred to avoid wind load. W support should be provided to strengthen arch frame
5	Structure	Complete structure should be made of galvanized steel tubular pipes or equivalent section of light class conforming Indian Standards IS: 1161-1998, the structural member should be joined with fasteners properly.
6	Columns	60 mm OD, 2 mm thick
	Trusses, purlins and hockey Member for Truss, purlins &others	48 mm OD, 2 mm thick 42 mm OD, 2 mm thick
7	Entrance room &Door	Two entrance room of size 2.5 m x 2.5 m x 2.5 m(L x W x H)made of GI square pipe size 38mm x 38 mm having minimum wall thickness 2.6 mm or Aluminum profile need to be provided and covered with UV stabilized net. Two hinge lockable doors of size 2.5 m width & 2.5 m height double leaf made in plastic/FRP sheets mounted in suitable strong frame.
8	Cladding material	UV stabilized shade net having 50 % shading factors having minimum wt. of 70-80 GSM. The selection of shade net colour depends on the selection of crops. For insect net house GSM should be minimum 120, of 40-50 mesh size insect net, may be used to cover the structure.
9	Fixing of cladding materials	All ends/joints of net house to be fixed with two way aluminum profile with suitable locking arrangement such as zigzag high carbon steel with spring action wire of 2-3 mm diameter. Wooden batons or PVC grippers must not be used.
10	Civil work	Depth of foundation need be kept at 60 mm or more depending upon
		soil type and prevailing wind conditions. GI pipes of 48 mm light class
		conforming to Indian Standards IS: 1161-1998 or equivalent sections
		should be grouted in cement concrete mixture with 1:2:4 ratios.
11	Floor	-
12	Plinth	1 feet plinth protection around the structure

13	Drip irrigation System with	Drip irrigation system inside greenhouse need to be selected based on
		crop spacing along with fogging and misting facilities. The suggested
	fogging &	bill of materials must have Sand Filter, Screen Filter, Control Valves,
	misting facility	Bypass Assembly, Air Release Valve, Non Return Valve, Throttle Valve,
		Flush Valve, Venturi Injector with manifold, PVC pipes, LDPE plane
		lateral, Emitting pipe, foggers & misters to be fixed w.r.t design.
		Water tank and fittings & accessories (applicable only BIS standards
		for all irrigation components as well as water tank).
14	Footpath	Not required
15	Testing	All plastic materials used in the greenhouse to be tested by the CIPET or any other testing Institute for quality assurance (if required).

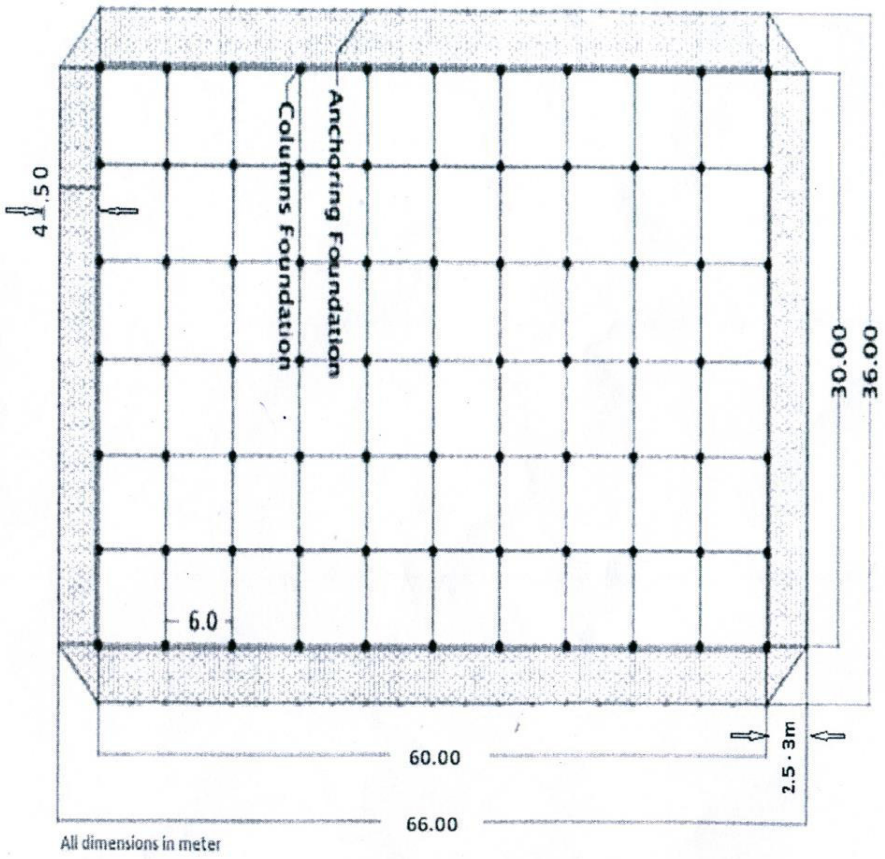
- **Note:** Fogging System: suitable as per the crop, in consist of four way anti leak fogger 10-28 lph flow rate (working pressure should be mentioned at which it be able to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16 mm lateral class-3, PVC pipe 6kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensors etc. complete application rate 3 mm/hr.

National Committee on Plasticulture Applications in Horticulture (NCPAH)



Gable/parabolic roof type Shadenet house

National Committee on Plasticulture Applications in Horticulture (NCPAH)



Flat roof type Shadenet house

Note: The suggestive technical specifications can be modified wrt agro- climatic conditions, locations etc. However the cost per square varies with the type of structure.

Annexure 5 H

7. Suggested technical specifications of poly tunnels:		
Sr. No.	**Item**	**Indicative Specifications**
I	**Structures: Structure should withstand to 120 km/hour wind velocity, without weld.**	
1.	Main Column	Tubular structure: Size 48 OD, Thickness 2.0 mm, Length- 4 m, or Square Closed Pipe structure: Size 40 mm × 40 mm, thickness 2.0 mm, Length- 4 m; Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
2.	Purlins	Tubular structure: Size 33/32 OD, Thickness 2.0 mm, length- 4 m, Channel/Square Closed Pipe Structure: Size 37 mm, thickness 1.8 mm, Length-4 mm Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
3.	Trusses	Tubular structure: Bottom horizontal 42/43 mm OD/2.0 mm thick, top chords and truss members 32 mm OD 2.0 mm thick, Bracing 25 mm OD/2.0 mm thick. Channel/Square Closed Pipe Structure: Bottom horizontal 40 mm ×20 mm/2.0 mm thick, top chords, truss & bracing members 37 mm× 37 mm/1.8 mm thick. Made up of Hot dip galvanized having minimum 300 GSM Zinc galvanizing
4.	Height	Centre height 4.5 meter, dome type structure.
5.	Profile	C type Aluminum/GI profile to fix plastic film to the structure by means of self-tapping screws. Weight of aluminum/GI profile is200-220/400-450 GSM.
6.	Spring Insert	Zigzag spring insert to fix shade net to Aluminum profile 2.3 mm diameter of spring wire with cold galvanization/enamel coated. Wire
7.	Side wall curtain	1.5 meter & above with rolling flap of poly film 200 micron thick, U.V. stabilized, diffused, thermic, anti-drip and anti -dust made up of multi layer plastics. All the sides, 40-50 mesh uv stabilized white insect net having minimum 120 gsm
8.	Bottom apron	Woven polythene 160 GSM/200 micron plastic sheet, UV stabilized, 0.50 mtr. Heght
9.	Entrance	Double doors, Polycarbonate sheet door with 2 m width and 2 m height and another door of 1 m × 2 m Box section frame is embedded inside for the strength.
II	Film & Nets	
1.	Poly film	200 micron thick, U.V. stabilized, diffused, thermic, anti-drip and anti-dust made up of multi layer plastics conforming Plastics films conforming Indian Standards (IS 15827: 2009).
2.	Insect Proof Net	40-50 mesh and white in colour on both sides of ventilation portion. Gsm 120 ; VU stabilized
III.	Trellis System	Support Up to 30 kg/m hanging load. thik GI wire, 2 mm main wire to the plant and 4 mm cross wire to support the trellis system The GI Wire shall move parallel as per the design and orientation of structure. The plant support wire should be parallel and above the plantation bed-to and fro, 120 cm apart or as per bed width.

IV	Civil Works	
1.	Foundation	Columns area fitted over gr insert pipe of 3.0 mm thickness. Length of insert 1/10 meter, PCC of CM ratio 1:2:4 of 40 cm × 40 cm × 100 cm sizes & filling the pit with 1:2:4 concrete mixed with appropriate grade cement. It is clarified that in case of round filling the diameter of foundation will be 40 cm.
V	Drip Irrigation System with fogging & misting facility	Drip irrigation system under poly tunnel should match design on spacing 30cm x 30 cm along with fogging facilities. Assembly with manifold, PVC pipe 63 mm/6 kg cm^2, PVC pipe 50 mm/6 kg/cmsq, PE plane lateral 16 mm, Emitting pipe lateral 16mm- @0.30 m spacing, hanging type micro sprinkler nozzle (four-way take off assembly) for very fine water particles (anti leak foggers) to be fixed in PE pipe of diameter 16mm, Water tank of capacity 500 liter and fittings & all necessary accessories also 10 HP submersible three phase motor should be provided. Roof Sprinkler System to wash the plastic film with uniform overlapping
General terms and conditions for construction of different structures:		
	1. The installation of micro Irrigation system should be through the firms registered with the Corporation. 2. Area of structure means cultivable area/useful area for cultivation. 3. **Rain Water Harvesting** –Gutter should be provided with funnel and plastic PVC pipe from top to the bottom for rain water harvesting	

ANNEXURE-5 (I)

LIST OF COMPONENT, INDIAN STANDARDS AND INDICATIVE SUPPLIER OF MATERIAL			
Sr.	**Component**	**Minimum Standard/specification to be followed**	**Name of Comp**
1	GI Pipes	IS 1161:1998 however 2 mm **thickness of pipes can be allowed only for Type-2 structures**	1. Tata Structures, 2. Jindal Pipes Ltd., Mumbai 3. Asian Tubes Ltd., Gujarat 4. Swastik Pipes Ltd., Ahmedabad 5. Surya Roshni Ltd. New Delhi 6. Bhusan Power & Steel Ltd., UP. 7. APL Apollo Tubes, Gujarat 8. JTL Infra Ltd., Delhi 9. GI Pipes India Ltd., UP.
2	Polythene	IS 15827:2009 *Refer Note- 3*	1. Ginegar, Israel 2. Politive 3. Agripolyane, France 4. PlasticaKritis , (mktd by SPA Banglore) 5. Hyplast, Belgium 6. Essen Multipack Ltd, Rajkot
3	Shade Net/ Agri Net	IS 16008: 2012	*Refer Note-1*
4	Insect Net	*Refer Note-2*	
(II)	Clamps	As per the prescribed guideline and the clamps to be used should be galvanised	GI sheet to be used for clamps should be made from IS standard material to be sourced from: 1. TATA shaktee, Kolkata 2. JSW Steel, Mumbai 3. SAIL, New Delhi 4. Asian Tubes Ltd, Gujarat 5. Bhushan Steel, New Delhi
III)	Brackets & cleats	As per the prescribed guideline for design	
	Foundation	As per the prescribed guideline for design	Cement to be sourced from: 1. Ambuja Cements Ltd. 2. Siddhi, Cement Ltd. 3. Ultratech Cement Ltd. 4. J K Lakshmi, 5. Sanghi Cement Ltd. 6. Binani Cement Ltd. 7. Birla Corporation 8. JK cement 9. JP cement etc.

7	Micro Irrigation System and component	To be sourced from Agencies empanelled with GGRC.	7

1. *Note-1:* For Shade Net and Agri Net majority of the companies are manufacturing the goods as specified in the IS standard, it is learnt that few manufacturers have started process for getting IS standard for their products. At present following Indian companies are having good presence in Domestic market CTM Agrotech, Rishi Tectex, TuflexIndia, Neocorp International Ltd., Essen Multipack Ltd., Satva Agrishade Net, Kasturi Agro Net, Kwality Nets, Agro net, etc. There are few Importers/Traders who are supplying Shade net/Agri net/Insect net of International Standard in India. The foreign companies such as Polysack, Growell, Meteor Agriculture Nets, etc. are represented by its dealers in the country.
2.
3. **2.** *Note-2:*

Insect Net Specifications				
Mesh	GSM	Yarn Diameter	Knitting Grid	U.V. Life
50 Mesh	130	0.24 mm	50 x 24	5 Yrs
40 Mesh	120	0.24 mm	40 x 24	5 Yrs
25Mesh	130	0.28 mm	25 x 24	5 Yrs

- Variance (+-) range of 3 to 5% in above specs.
- Use of Air Circulating Fans is mandatory with 50Mesh Insect Net.

3. *Note-3*

Foreign companies such as Gineagar, Polysack, AgriPolyane etc. are represented by its dealer in the country. For Polythene, majority of the companies are manufacturing the goods as specified in the IS standard, it is learnt that few manufacturers have started process for getting IS standard for their products.

ANNEXURE-5 (J)

SPECIFICATION OF MIS COMPONENTS

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
1	**Non Return Valve, Low Friction**			
	a	1.5”	GM	778
	b	2”	GM	778
	c	2.5”	GM	778
	d	3”	GM	778
	e	4”	CI	14846
	f	5”	CI	14846
	g	6”	CI	14846
2		**Sand Filter with backwash assembly**		
	a	10 m3/hr x 1.5”/2/2.5”	MS	14606
	b	20m3/hr x 2”/2.5/3”	MS	14606
	c	25m3/hr x 2”/2.5/3”	MS	14606
	d	30m3/hr x 2.5”/3”/4	MS	14606
	e	40m3/hr x 2.5 “/3”/4’	MS	14606
	f	50 m3/hr x 3 “/4”	MS	14606
3		**Disc Filter**		
	a	10 m3/hr x 1.5”/2/2.5”	Metal / Plastic	12785
	b	20m3/hr x2”/2.5/3”		12785
	c	25m3/hr x2”/2.5/3”		12785
	d	40m3/hr x2.5”/3”/4’		12785
	e	50 m3/hr x 3 “/4”		12785
4		**Screen Filter/Semi auto clean SF**		
	a	10 m3/hr x 1.5”/2/2.5”	Metal / Plastic	12785
	b	20m3/hr x 2”/2.5/3”		12785
	c	25m3/hr x 2 “/2.5/3”		12785
	d	30m3/hr x 2.5”/3”/4		12785
	e	40m3/hr x 2.5”/3”/4’		12785
	g	50 m3/hr x 3 “/4”		12785
5		**Hydro-Cyclone Filter**		
	a	20m3/hr x 2 “/2.5/3”	MS	14743
	b	25m3/hr x 2 “/2.5/3”	MS	14743
	c	30m3/hr x 2.5”/3”/4	MS	14743
	d	40m3/hr x 2.5”/3”/4’	MS	14743
	e	50 m3/hr x 3 “/4”	MS	14743
6		**Pressure Gauge 2”**	Metal	3624
7		**By Pass Assembly**		
	a	1.5 “x 1.5”	MS/GM/ PVC	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	2 " x 1.5 "	MS/GM/ PVC	As Specified
	c	2.5" x2"	MS/GM/ PVC	As Specified
	d	3 " x 1.5 "	MS/GM/ PVC	As Specified
	e	3 " x 2 "	MS/GM/ PVC	As Specified
7A		**By Pass Tee (Flange End)**		
	a	2"	GI/MS	As Specified
	b	2.5"	GI/MS	GI/MS
	c	3"	GI/MS	GI/MS
	d	4"	GI/MS	GI/MS
	e	5"	GI/MS	GI/MS
7B		**By Pass Tee (Flange End) – PP**		
	a	2"	PP/ PP30% GF	As Specified
	b	2.5"		As Specified
	c	3"		As Specified
	d	4"		As Specified
8		**Water Meter**		
	a	1.5"	Metal	4064
	b	2"	Metal	4064
	c	2.5"	Metal	4064
	d	3"	Metal	4064
	e	4"	Metal	4064
9		**C.I. Sluice Valves**		
	a	4"	CI	5312
	b	6"	CI	5312
10		**Butterfly Valve**		
	a	2"	CI/MS	13095
	b	2.5"	CI/MS	13095
	c	3"	CI/MS	13095
	d	4"	CI/MS	13095
	e	5"	CI/MS	13095
	f	6"	CI/MS	13095
11		**Pressure Relief Valve**	Metal	As Specified
		2"		As Specified
12		**Pressure Regulating Valve**		
	a	1.5"		As Specified
	B	2"		As Specified
13	a	**Header Assembly – MS**		
	a	2"size x 1 filter	MS	As Specified
	b	2.5"size x 1 filter	MS	As Specified
	d	3"size x 1 filter	MS	As Specified

Sr.		Name of the System	Raw material used	ISI No/ Brand
	e	3"size x 2 filter	MS	As Specified
	f	4"size x 2/3 filter	MS	As Specified
	h	5"size x 2/3 filter	MS	As Specified
	i	6"size x ¾ filter	MS	As Specified
	b	**Inlet Manifold (PP) for HA (Dia x Min. Length)**		
	b	2.5"x 300 mm for Single Filter		
	d	3" x 315 mm for Single Filter		
	e	3"x 575 mm for Double Filters		
	f	4"x 600 mm for Double / Triple filters		
	c	**Outlet Manifold (PP) for HA (Dia x Min. Length) with flanges**		
	a	2" x 170 mm for Single Filter	PP/ PP30% GF	As Specified
	b	2.5"x 182 mm for Single Filter		As Specified
	d	3" x 190 mm for Single Filter		As Specified
	e	3"x 385 mm for Double Filters		As Specified
	f	4"x 385 mm for Double / Tripple filters		As Specified
14		**PVC Ball Valve / Control Valve**		
	a	40 mm	PVC	As Specified
	b	50 mm	PVC	As Specified
	c	63 mm	PVC	As Specified
	d	75 mm	PVC	As Specified
	e	90 mm	PVC	As Specified
15		**PP Ball Valve / Control Valve**		
	a	32 mm	PP	As Specified
	a	40 mm	PP	As Specified
	b	50 mm	PP	As Specified
	c	63 mm	PP	As Specified
	d	75 mm	PP	As Specified
	e	90 mm	PP	As Specified
	f	110 mm	PP	As Specified
16		**PP Ball Valve with Flange Ends**		
	a	2" Flange End	PP	As Specified
	b	2.5" Flange End	PP	As Specified
	c	3" Flange End	PP	As Specified
	d	4" Flange End	PP	As Specified
17		**Air Release Valve**		As Specified
	a	½"	Plastic	As Specified
	b	1"	Plastic	As Specified
	c	1 ½ "	CI	14845
18		**Fertilizer Tank with Assembly**		
	a	30 Litres	MS	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	60 Litres	MS	As Specified
	c	90 Litres	MS	As Specified
19		**Venturi Injector Assembly with Valve & without manifold**		
	a	¾”	Plastic	14483
	b	1”	Plastic	14483
	c	1.25”	Plastic	14483
	d	1.5”	Plastic	14483
	e	2”	Plastic	14483
20		**Gun Metal Throttle Valve**		
	a	½”	Gun Metal	1239
	b	¾”		1239
	c	1.5”		1239
	d	2”		1239
	e	2.5”		1239
	f	3”		1239
	A	**Throttle Valve – PP**		
	a	2”	PP/ PP30% GF	As Specified
	b	2.5”		As Specified
	c	3”		As Specified
	d	4”		As Specified
21		**PVC Pipe for Main and Sub-main Pipelines**		
	a	32mm x 10 kg/cm2	PVC	4985
	b	40 mm x 6 Kg/cm2	PVC	4985
	c	50 mm x 6 Kg/cm2	PVC	4985
	d	63 mm x 6 Kg/cm2	PVC	4985
	e	75 mm x 6 Kg/cm2	PVC	4985
	f	90 mm x 6 Kg/cm2	PVC	4985
	g	110 mm x 6 Kg/cm2	PVC	4985
	h	140 mm x 6 Kg/cm2	PVC	4985
	I	160 mm x 6 Kg/cm2	PVC	4985
	j	180 mm x 6 Kg/cm2	PVC	4985
	k	63 mm x 4 Kg/cm2	PVC	4985
	l	75 mm x 4 Kg/cm2	PVC	4985
	m	90 mm x 4 Kg/cm2	PVC	4985
	n	110 mm x4 Kg/cm2	PVC	4985
	o	140 mm x 4 Kg/cm2	PVC	4985
	P	160 mm x 4 Kg/cm2	PVC	4985
	q	180 mm x 4 Kg/cm2	PVC	4985
	r	200 mm x 4 Kg/cm2	PVC	4985
22		**HDPE Pipe for Drip Main / Submain**		
	a	40 mm (6 Kg/cm2)	HDPE	14151

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	b	50 mm (6 Kg/cm2)	HDPE	14151
	c	63 mm (3.2 Kg/cm2)	HDPE	14151
	d	75 mm (2.5 Kg/cm2)	HDPE	14151
	e	90mm (2.5 Kg/cm2)	HDPE	14151
	f	110 mm (2.5 Kg/cm2)	HDPE	14151
	g	63 mm (4 Kg/cm2)	HDPE	14151
	h	75 mm (4 Kg/cm2)	HDPE	4984
	i	90 mm (4 Kg/cm2)	HDPE	4984
	j	110 mm (4 Kg/cm2)	HDPE	4984
23		**LLDPE Plain Laterals**		
	a	12 mm diameter, 2.5Kg/cm2 – Class II	LLDPE	12786
	b	16 mm diameter, 2.5Kg/cm2 – Class II	LLDPE	12786
	c	20mm diameter,2 .0 kg/cm2-class-I	LLDPE	12786
	d	25 mm diameter- Class II	LLDPE	12786
	e	32 mm diameter- Class II	LLDPE	12786
24		**On line Dripper**		
	a	2 LPH	PP	13487
	b	4LPH	PP	13487
	c	8 LPH	PP	13487
	d	2 LPH (Pressure compensating)	PP	13487
	e	4 LPH (Pressure compensating)	PP	13487
	f	8 LPH (Pressure compensating)	PP	13487
	f	16/20 mm, 1to4 LPH, 90cm	LLDPE	13488
	g	16/20 mm, 1to4 LPH, 100cm	LLDPE	13488
	h	16/20 mm, 1to4 LPH, 150cm	LLDPE	13488
27		**Emitting Pipe (Integral Drip Lateral-PC) 16mm-Class II/20mm-Class I**		
	a	16/20 mm, 1to4 LPH, 30cm	LLDPE	As Specified
	b	16/20 mm, 1to4 LPH, 40cm	LLDPE	As Specified
	c	16/20 mm, 1to4 LPH, 50cm	LLDPE	As Specified
	d	16/20 mm, 1to4 LPH, 60cm	LLDPE	As Specified
	e	16/20 mm, 1to4 LPH, 75cm	LLDPE	As Specified
	f	16/20 mm, 1to4 LPH, 90cm	LLDPE	As Specified
	g	16/20 mm, 1to4 LPH, 100cm	LLDPE	As Specified
	h	16/20 mm, 1to4 LPH, 150cm	LLDPE	As Specified
28		**Flush Valve**		
	a	40 mm	PVC	As Specified
	b	50 mm	PVC	As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	c	63 mm	PVC	As Specified
	d	75 mm	PVC	As Specified
	e	90 mm	PVC	
29		**Vacuum Breaker Valve 0.5 “**	PP	As Specified
30		**Grommet**		As Specified
	a	12 mm	LLDPE	As Specified
	b	16/20 mm	LLDPE	
31		**Barbed Start Connector / Jointer /Take off / Nipple**		
	a	12 mm	PP	As Specified
	b	16/20mm	PP	As Specified
32		Nipple 17 x 17 mm/20 x 20mm	PP	As Specified
33		**Reducer**		As Specified
	a	Reducer 17 x 16 mm/20 x 16mm	PP	As Specified
	b	Reducer 16 x 12 mm	PP	As Specified
	c	Reducer 17 x 12 mm	PP	As Specified
34		**Tee**		
	a	Tee 16x16 / 16x12/20x 16	PP	As Specified
	b	Tee 12 x 12	PP	As Specified
35		**End Cap (Line End)**		
	a	12 mm	PP	As Specified
	b	16 mm/20mm	PP	As Specified
36		**Spaghetti/Extension Tube(6 mm x 4 mm)**	LLDPE	As Specified
37		**Spaghetti/Extension Tube Barbed Connector**	PP	As Specified
38		**Dripper Plug**	PP	As Specified
39		**Winder – Drip line**	MS	As Specified
40		**Start Connector Belt Type**	HDPE	As Specified
41		**Micro tube**		
	a	1.2 mm ID	LLDPE(2 2PA002 &20FS0 10)	As Specified
	b	1.3 mm ID		As Specified
	c	1.5 mm ID		As Specified
	d	1.8 mm ID		As Specified
	e	2.0 mm ID		As Specified
42		**Porous Pipe**		
	a	9 mm	Crumb Rubber + LLDPE/ Thermo plastic Resin	As Specified
	b	12 mm		As Specified
	c	16 mm		As Specified
	d	22 mm		As Specified

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
43		**Mini (Impact) Sprinkler**		
	a	Double Nozzle – full Circle	Enginee ring Plastic	IS 12232 (Part 1):1996 &(Part 2): 1987
	b	Single Nozzle –Adjustable Arc and full Circle		
	c	M / F Adaptor ½"	PVC	As Specified
44		Extension / Connecting Tube (1.2 m long)		
	a	12mm	PVC	As Specified
	b	13mm	PVC	
	c	12mm	PE	
	d	13mm	PE	
45		Male / Female connector (9/12mm)	PVC	As Specified
46		Plug (9/12mm)	PVC	As Specified
47		**Installation Stake**		
	a	1 Meter long (5mm Dia)	MS rod with zink coating	As Specified
	b	1 Meter long (8 mm Dia)		
	c	1.2 Meter long (5 mm Dia)		
	d	1.2 Meter long (8 mm Dia)		
48		**Threaded Elbow (Compression)**		
	a	**20** mm	PP	As Specified
	b	**25** mm	PP	
	c	**32** mm	PP	
	d	**40** mm	PP	
49		**Male Threaded Adopter (Compression)**		
	a	20 mm "	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
	e	75 mm	PP	
	f	90 mm	PP	
	g	110 mm	PP	
50		**Tee (Compression)**		
	a	20 mm	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
51		**Coupler / Joiner (Compression)**		

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	a	20 mm	PP	As Specified
	b	25 mm	PP	
	c	32 mm	PP	
	d	40 mm	PP	
52		**End plug (Compression)**		
	a	25 mm	PP	As Specified
	b	32 mm	PP	
	c	40 mm	PP	
53		**Service Saddle**		
	a	63 mm	PP	As Specified
	b	75 mm	PP	
	c	90 mm	PP	
	d	110 mm	PP	
54		**Sprinkler Nozzles (1.7 to 2.8 Kg/cm2) 5 to 40 Litres/Minute Capacity**		
	a	20mm-Brass	Brass	IS 12232 (Part 1):1996 &(Part 2): 1987
	b	20mm-Plastic	Enginee ring Plastic	
55		**End Plug with Quick Action Coupler**		
	a	50 mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
56		**Tee with Quick Action coupler**		
	a	50 mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
57		**HDPE Pipes with Quick Action Coupler (6m Long)**		
	a	50 mm (4 Kg/cm2)	HDPE	14151
	b	63 mm (3.2 Kg/cm2)	HDPE	14151
	c	75 mm (2.5 Kg/cm2)	HDPE	14151
	d	90 mm (2.5 Kg/cm2)	HDPE	14151
58		**Sprinkler Coupler with Foot Batten Assembly Quick Action**		
	a	50 mm	HDPE	14151
	b	63 mm	HDPE	14151
	c	75 mm	HDPE	14151
59		Riser Pipe 20mm Diameter x 75 cm Long	GI	1239/3601
60		Bend with Quick Action coupler		

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
	a	50mm	HDPE	As Specified
	b	63 mm	HDPE	
	c	75 mm	HDPE	
	d	90 mm	HDPE	
61		Pump Connecting Coupler/Nipple with Quick Action		
	a	50 mm	GI/HDPE	As Specified
	b	63 mm	GI/HDPE	As Specified
	c	75 mm	GI/HDPE	As Specified
	d	90 mm	GI/HDPE	As Specified
62		Micro Sprayer/Jet	PP	14605
63		Micro Sprinkler Set	PP	14605
64		GI Fittings	GI	1879
65		PVC/HDPE Fittings	PVC/HDPE	7834(PVC)
66		Secondary Transportation for DIS		
67		Installation Charges		
68		Agronomical Consultancy		
69		Drip Tape		
	a	12.5 mm diameter (0.400 mm wall thickness)	LLDPE/MDPE	As specified
	b	15.875 mm diameter (0.508 mm wall thickness)	LLDPE/MPE	ISO 9261
	c	15.875 mm Diameter (0.635 mm wall thickness)	LLDPE/MDPE	ISO 9261
	d	16.5 mm diameter (0.400 mm wall thickness)	LLDPE/MDPE	As specified
70		Drip Tape Take Off		
	a	12.5 mm/15.875 mm/16.50 mm	PP	As specified
71		Drip Tape Gromate		
	a	12.5 mm	Rubber	As specified
	b	15.875 mm/16.50 mm	Rubber	
72		Drip Tape Connector/Joiner		
	a	12.50 mm/15.875 mm/16.50 mm	PP	As specified
73		Lateral Drip Tape Connector		
	a	12.50 mm/15.875 mm/16.50 mm	PP	As specified
74		Rain Gun Sprinkler		
	a	1.25” female threaded connection	Aluminium	IS 12232 Part 1:1996
	b	1.5” female threaded connection	Aluminium	

Sr.		**Name of the System**	**Raw material used**	**ISI No/ Brand**
75		Tripod with adaptor to feeder line		
	a	1.25”x1.5 mt	GI	As specified
	b	1.25”x2.0 mt	GI	
	c	1.5” x 1.5mt.	GI	
	d	1.5”x 2.0 mt	GI	
76		MS Head Unit Platform	As specified	
	a	For accommodating Sand Filter + Disc/Screen Filter	MS	
	b	For accommodating Hydro Cyclone Filter + Disc/Screen Filter	MS	
	c	For accommodating Disc/Screen Filter		

Annexure 6

FINANCIAL OFFER

01. NAME OF THE OFFERER

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Sl. NO	Item Description	VARIETY	Quantity	Units	BASIC RATE in Rs.	GST AMOUNT	TOTAL AMOUNT Without Taxes In	TOTAL AMOUNT With	TOTAL AMOUNT In words
1	2	3	4	5	13	15	53	54	55
1	**Greenhouse –Naturally Ventilated (Type-1) 500Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							
2	**Greenhouse –Naturally Ventilated (Type-1) 1000 Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
3	**Greenhouse – Naturally Ventilated (Type-1) 2000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
4	**Greenhouse – Naturally Ventilated (Type-1) 4000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

Sl. NO	Item Description	VARIETY	Quantity	Units	BASIC RATE inRs	GST AMOUNT	TOTAL AMOUNT Without Taxes In Rs	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In words
1	2	3	4	5	13	15	53	54	55
5	**Greenhouse –Naturally Ventilated (Type-2) 500Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							
6	**Greenhouse –Naturally Ventilated (Type-2) 1000 Sq mt**	Structure	NO						
		Polythene (polythene along with installation mechanism)	NO						
		Shade Net (shade net, curtains, insect screen along with installation mechanism)	NO						
		Fogging System	NO						
		Misting System	NO						
		MI system	NO						
		Agronomical Services	Job						
		Total Cost in Rs. Lakhs	NO						
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
7	**Greenhouse – Naturally Ventilated (Type-2) 2000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
8	**Greenhouse – Naturally Ventilated (Type-2) 4000 Sq mt**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
9	**Greenhouse – Fan and Pad 500 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
10	**Greenhouse – Fan and Pad 1000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
11	**Greenhouse – Fan and Pad 2000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
12	**Greenhouse – Fan and Pad 4000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net,curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
13	**Greenhouse – Fan and Pad 500 Sq mtr Type (Type-2)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
14	**Greenhouse – Fan and Pad 1000 Sq mtr Type (Type-2)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
15	**Greenhouse – Fan and Pad 2000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net, curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
16	**Greenhouse – Fan and Pad 4000 Sq mtr Type (Type-1)**	Structure							
		Polythene (polythene along with installation mechanism)							
		Shade Net (shade net,curtains, insect screen alongwith installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
17	**Net house with Gable roof(Type-1) 500 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
18	**Net house with Gable roof(Type-1) 1000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
19	**Net house with Gable roof(Type-1) 2000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
20	**Net house with Gable roof(Type-1) 4000 Sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
21	**Net house with Flat roof(Type-2) 500 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
22	**Net house with Flat roof(Type-2) 1000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
23	**Net house with Flat roof(Type-2) 2000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							
24	**Net house with Flat roof(Type-2) 4000 sq mtrs**	Structure							
		Shade Net (shade net, curtains, insect screen curtains, insect screen along with installation mechanism)							
		Fogging system							
		Misting system							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

1	2	3	4	5	13	15	53	54	55
25	**Poly tunnel** 800 sq Mt	Structure							
		Polythene (polythenealong with installationmechanism)							
		Shade Net (shade net,curtains, insect screenalong with installation mechanism)							
		Drip System							
		Misting System							
		MI system							
		Agronomical Services							
		Total Cost in Rs. Lakhs							
		MP Agro service charges and Inspection Charges 2.5 %							

Seal and Sign of .....

AUTHORISED SIGNATORY

ANNEXURE- 7

AFFIDAVIT

We.....hereby offer for the supply of ---------- Conforming to the Specifications as mentioned in RCO.

We undertake to supply such quantities of material as per Specification as mentioned in RCO, as we may be called upon to supply and under the conditions here-to enclosed during the allotted period from the date of execution of the agreement on the rates agreed upon, at the places to be specified by the M.P. State Agro Industries Development Corporation Limited within the specified delivery period.

We undertake that our firm has neither been Blacklisted/Debarred by any Government / Government Undertaking /Bank nor penalized on the same ground. We also undertake that no legal proceeding is pending in any Courts on the same grounds.

We undertake that the rates given to the Corporation are the lowest price, in accordance to the prevailing rates of the Company / their other authorized dealer & market condition. In case of any dispute or discrepancy in the submitted rates we will be sole responsible. In such cases the Corporation will be free to recover the losses or impose penalties as decided by the Managing Director of the Corporation.

We hereby agree to abide by and fulfill all the terms and conditions of contract annexed hereto and in default thereof to forfeit and pay to the M.P. State Agro Industries Development Corporation Limited, the penalties or sum of money mentioned in the said conditions.

I have read and fully understood the terms and conditions of supplies etc. mentioned in the documents.

Name :.....
Designation:.....
Signature with Office Seal..)

Witness:

1.

2.

Note: To be submitted on non judicial stamp of Rs 1000.00

ANNEXURE-8

Applicant COMPANY PROFILE

Sr.	Particular	Detail
1	Name of Organisation	
2	Nature of the Organisation	
a	In case of Public/Pvt. Ltd company (Certified copy of Certificate of incorporation for companies & Memorandum and Articles of Associations)	
b	In case of Partnership Firm (Partnership deed)	
c	In case of Proprietorship (Registration certificate, Factory registration, DIC – industrial registration)	
d	In case of society (Certified copy of registration deed with objects of constitution of society)	
e	In case of Corporation (Authenticated copy of the parent statute)	
3	Address with Phone No. and Fax No	
4	E mail	
5	Name and Contact details of the Authorised Person	
6	Any other details in support of your office	
7	PAN (attach attested copy)	
8	TIN	

Seal and Sign of .....

AUTHORISED SIGNATORY

ANNEXURE-9

TO WHOM SO EVER IT MAY CONCERN
CHARTERED ACCOUNTANT CERTIFICATE

(TO BE SUBMITTED IN ORIGINAL ON LETTER HEAD OF C.A.)

On the basis of verification of books of accountants and other documents produced before us and maintained by the Company, we certify that M/s _____ is engaged in construction of greenhouse/net house/poly house/ poly tunnel. This is to certify that they have turn over from construction activities of greenhouse/net house/poly house/ poly tunnel as under for the last 3 years.

Sr No	Financial Year	Turnover (Rs. in lakhs)
1	2018-19	
2	2019-20	
3	2020-21	
	Average of above	

ANNEXURE-10

FORMAT FOR NO. OF GREENHOUSE/NET HOUSE/POLY HOUSE/POLY TUNNEL WORK COMPLETED IN LAST THREE YEARS FOR SUBSIDISED CASES

This is to certify that M/s_____ has executed greenhouse/net house/ poly house/poly tunnel projects in the State of _____ as follows:

Project Executed In Nos. (Area in Sq. M) Please give both the figures i.e. Number and Area								
Year	Green House 1	Green House 2	Net house 1	Net house 2	Poly house 1	Poly house 2	Poly tunnel 1	Poly tunnel 2
2018-19								
2019-20								
2020-21								

Note:
(1.) Name of Beneficiary for whom the Project is executed in the State.
(2) Area of Project

Applicant/ Offerer has to submit separately for each state where work is executed

Name of Authority of State Nodal Agency:

Counter signed by AUTHORISED SIGNATORY

ANNEXURE-11

FORMAT FOR NO. OF GREENHOUSE/NET HOUSE/POLY HOUSE / POLY TUNNEL WORK COMPLETED IN LAST THREE YEARS UNDER SUBSIDY SCHEMES			
TO WHOMSO EVER IT MAY CONCERN			
This is to certify that M/s_____ has executed green-house/net-house/poly-house/poly tunnel projects in the State of _____ as follows:			
No	**Project Executed**	Name and address of Beneficiary	**(in Nos.)**

State Nodal Department/Nodal Agency

Counter signed by AUTHORISED SIGNATORY

ANNEXURE-12

DETAILS OF COMPETENT PERSONNEL

Sr.	Name of Person	Qualification	Exp. in years in providing agronomical services	Contact No.	Signature
1					

Seal and Sign of .....

AUTHORISED SIGNATORY

Annexure 13

DRAFT AGREEMENT

This agreement made at Bhopal this ..... day of .....between Madhya Pradesh State Agro-Industries Development Corporation, 'Panchanan, 3rd Floor, Malviya Nagar, Bhopal, M.P. hereinafter referred to as the 'Corporation' which expression shall unless repugnant to the context or meaning there of includes its successors and assigns on the one part.

AND

M/s. ..... having its office at ..... through Shri ..... designation .....(hereinafter referred to as the Supplier whose expression unless repugnant to the context and meaning thereof includes its assigns, successors and administrations on the other part.

WHEREAS the Corporation invited Rate Contract Offer (RCO) for supply of ---------- ---------- on the terms and conditions envisaged in the terms schedule issued with the Rate Contract Offer Document and purchased by the supplier.

AND WHEREAS the supplier has accepted each and every term and condition contained in the Rate Contract Offer Document, while submitting his offer.

AND WHEREAS the Corporation accepted the offer submitted by the supplier vide its letter of acceptance no. .....dated ..... in consideration of the premises and the mutual premises and undertakings hereinafter specified and for other good and valuable consideration this agreement witness and is hereby agreed on the conditions of the Tender. The following documents shall form and be constructed a part of the Agreement Deed:-

a. The Tender submitted by the supplier including all the annexure attached thereto.
b. Specifications(**Bill of Material**) for supply of ---------- (Attached)
c. The letter of acceptance dated --------- issued by the Corporation.
d. The offer submitted by the supplier.
e. The rates mentioned in annexure to agreement.

The aforesaid documents shall be taken as complementary and mutually explanatory of one another but in case of discrepancies and ambiguities shall take precedence in the order set out above. In this regard the decision of Managing Director, M.P. State Agro-Industries Development Corporation Limited shall be final.

IN WITNESS WHEREOF the parties hereto have signed this agreement on the day and year referred to above.

For Supplier	For
.....	M.P. STATE AGRO INDUSTRIES
.....	DEVELOPMENT CORPORATION LIMITED
Signature with Office Seal	DEPUTY GENERAL MANAGER (Horticulture)
Witnesses	Witnesses
1.	1.
2.	2.

ANNEXURE - 14

LETTER OF ACCEPTANCE

I ..... dasignation ..... of M/s. ..... address ..... given hereby consent on behalf of the offerer that following Bank Guarantee submitted in favor of Director Horticulture and farm forestry Government of Madhya Pradesh, can be utilized against the RCO called by the Corporation if required to do so as per terms of RCO. We further undertake a fresh Bank Guarantee will be submitted in favour of the Corporation the expiry of the Bank Gurantee.

Sr.No.	ISSUING BANK AND BRANCH	BG NUMBER	DATE OF ISSUE	VALID UP TO	AMOUNT

SEAL AND SIGNATURE OF AUTHORISED PERSON

Annexure 15

Authority to submit Tender

(On Producer company's letterhead)

To,

The Managing Director

M.P.State Agro Industries Development Corporation Ltd.

Panchanan Bhawan, 3rd Flore ,

Malviya Nagar,

Bhopal

Sub : Authority to submit Rate Contract Offer

Dear Sir,

I……Designation ..... hereby authorize M/s ……to submit Rate Contract Offer M.P. State Agro Industries Corporation Ltd on behalf of the company due on 11.11.2019

We hereby undertake that the Company shall abide by all the terms and conditions as mentioned in Tender Document.

I further certify that I am authorized to issue this certificate on behalf of the company.

If an order is placed with the authorized company as above, the company undertakes to supply the order as per terms and condition of RCO.

(Signature)

Name
Designation
Tel No
Mobile No
E mail