

GOVERNMENT OF JHARKHAND
DEPT OF AGRICULTURE & SUGARCANE DEVELOPMENT
KRISHI BHAWAN CAMPUS, KANKE ROAD, RANCHI

**INVITATION OF BIDS FOR FACILITATING PROCUREMENT OF
AGRICULTURE IMPLEMENTS/ MACHINERY FOR PROMOTING
AGRICULTURE MECHANIZATION IN JHARKHAND**

1. GENERAL INFORMATION

During the year 2010-11 under several Central /state Sector Scheme, Agricultural Implements need to be distributed among the farmers in 24 districts of Jharkhand on subsidy basis.

The Government has decided to facilitate procuring of various equipments for promoting Agriculture Mechanization in Jharkhand.

Accordingly, proposals were invited from reputed **manufacturers/ Authorized dealers only** for supply of Agriculture Implement/ Machinery, having at least 5 (Five) years' experience in manufacturing/ marketing of such equipments.

Tender Procedure

1. The Bidders should submit the proposals in two parts:
 - (a) Technical Bid
 - (b) Financial Bid
2. Technical part should contain all such details as mentioned in the Bid Document.
3. Financial part should contain the financial bid inclusive of all admissible taxes, duties and levies, etc. The details of the financial bid should also be included for better appreciation of the bid.
4. These two parts should be submitted in separate sealed and superscribed envelopes.

5. Both the envelopes should then be sealed in a third envelope marked as “TENDER FOR FACILITATING PROCUREMENT OF AGRICULTURE IMPLEMENTS/ MACHINERY”. The firm should also super scribe on the top of the envelope the name of the firm, tender notice number, name of the materials offered, date of opening and details of earnest money deposited.
6. A complete set of Bid Document may be purchased by interested eligible Bidders on the submission of a written application to the Director, SAMETI, Jharkhand upon payment of a non-refundable fee of **Rs. 500/-** (Rupees five Hundred only) in the form of **Demand Draft in favour of The Director, SAMETI, Jharkhand**, payable at Ranchi.
7. The Bid Document may be purchased personally during office hours on all working days from 16.11.2010 to 04.12.2010 It may also be downloaded from www.sameti.org in which case, the fee in the form of demand draft should be enclosed with the bid document at the time of submission.
8. The last date for submission of bid is 06.12.2010 up to **1400** hrs
9. All tenders should be addressed to the Director, SAMETI, Jharkhand, and sent to the following address:

DIRECTOR SAMETI, JHARKHAND
Krishi Bhawan Campus, Kanke Road,
Ranchi-834008, Jharkhand

10. The technical bid shall be opened on 06.12.2010 at **1530** hrs before the duly constituted committee. The bidder or his authorized representative may remain present during the opening of such bid.

11. Tender can be submitted by hand or by post. If the tender is sent by post, the department will not be responsible for delay in postal transit.
12. On the date of opening, only Part-I (Technical Bid) will be opened. Part-II (Financial Bid) shall be opened subsequently only of those tenders, whose Technical Bid qualifies as per the laid norms of this tender.
13. Tenders received after due date and time will be rejected.

Sd/-

Director
SAMETI, Jharkhand

Sd/-

Director Agriculture
Jharkhand, Ranchi

**SAMETI, JHARKHAND
KRISHI BHAWAN CAMPUS, KANKE ROAD, RANCHI**

GENERAL TERMS AND CONDITIONS

1. GENERAL INFORMATION

- 1.1. All tenders should be addressed to Director, SAMETI, Jharkhand and sent to the following address: -

Director
SAMETI, Jharkhand
Krishi Bhawan Campus, Kanke Road, Ranchi-834008
Jharkhand

- 1.2. Tender are invited from reputed manufacturers/ authorized dealers having at least five (5) years experience as per the tender document.
- 1.3. The specifications of some of the implement/machinery mentioned in the tender document are illustrative and not specific.**

2. SCOPE OF WORK

The scope of work shall be complete supply of implement for promoting Agriculture Mechanization as mentioned in this document. The Agricultural implements will be purchased by the beneficiaries in the respective districts at the rate & quality decided by the government of Jharkhand through this tendering process. The role of the government of Jharkhand is to facilitate the purchase of quality agricultural implements by the beneficiaries of different government schemes.

3. DEPOSIT OF EARNEST MONEY

- 3.1 Tender must be accompanied with an earnest money Rs. 2.00 lakh (Rupees Two Lakhs only), failing which the tender will be rejected and Technical Bid will not be opened.
- 3.2 The Earnest Money should be deposited by way of account payee bank draft in favour of Director, SAMETI, Jharkhand on any Bank payable at Ranchi.
- 3.3 Cheque/Bank Guarantee/fixed deposit receipt money orders etc. are not acceptable towards deposit of earnest money.

- 3.4 In no case E/M will be accepted after opening of tender.
- 3.5 Details of E/M i.e. draft number and date should be indicated on the cover of the envelope otherwise the tender may not be opened and returned to the party.

4. GUIDELINES FOR SUBMISSION

4.1 Interested agencies with requisite experience, may submit required documents in two packets (Technical & Financial Bids) as detailed below:-

4.2 Packet – 1 (Technical Bid)

- i) Profile & Track Record of the company
- ii) Balance Sheet for last 3 financial years.
- iii) Photo copy of PAN No. issued by Income – Tax Department.
- iv) Photo copy of Service Tax Registration.
- v) Earnest Money Deposit (EMD) in the Form of Demand Draft from a Scheduled Bank as per the amount mentioned in paragraph 3, drawn in favour of the Director, SAMETI, Jharkhand
- vi) Tender Document Fee of Rs. 500/- in the form of Demand Draft from a Scheduled Bank drawn in favour of the Director, SAMETI, Jharkhand.

4.3 The technical bids submitted will be evaluated on the basis of the following criteria:

Essential for Eligibility: Registration/Certification from FMTTI, CIAI, Bhopal, SAU and BIS/ ISI Mark

Sl.	Criteria	Marking scale	Maximum marks
1	Availability of Sale & Service center in Jharkhand	10 Marks	10 Marks
2	Agreeability for Demonstration & Training to Farmers	5 Marks	5 Marks

3	Number of years in Agriculture Implement Manufacturing	2 marks for each additional year after three years.	20 marks
4	Number of single orders worth Rs. 50 lakh and above	2 marks for each such order.	20 marks
5	Bank Solvency Certificate	5 marks for each Rs. 50 lakhs	15 marks
6	Annual Turnover, which will be average of last three years on the basis of balance sheet.	5 marks for every 20 Lakh Rupees.	30 marks.

Relevant documents in support of the above criteria should be submitted along with proof, so as to enable appropriate marking.

5. **PACKET – 2 (FINANCIAL BID)**

- 5.1 The cost of each item/equipment should be distinctly quoted in figures as well as in words in the prescribed form attached. The rate/price quoted should be inclusive of Excise Duty, if any, and all taxes (CST, VAT), Freight, Insurance, etc.
- 5.2 The detailed financial cost should be put in an envelope sealed and superscribed as “**Financial Bid for facilitating procurement of Agriculture Implement/ Machinery**” and the envelope should carry the due date for submission along with the name, address, telephone number, e-mail address of the manufacturer/authorized supplier.
- 5.3 The covers containing both the technical and financial bids (sealed) should be put in a big cover, sealed and superscribed as “**Tender for facilitating procurement of Agriculture Implement/ Machinery**”. The big cover should be addressed to **Director, SAMETI, Jharkhand, Krishi Bhawan Campus, Kanke Road, Ranchi-834008**, and should be submitted on or before 06.12.2010 hrs. up to 14.00 hrs.

- 5.4 The firm should also superscribe on the top of the envelope the name of the firm, tender notice number, name of the materials offered, date of opening and details of earnest money deposited

6. **SELECTION PROCESS**

A nominated Committee will evaluate the technical bids received. Technical assessment will be based on technical evaluation criteria as mentioned in paragraph 4.3.

On the basis of technical assessment, top competitive manufacturer/ authorized dealers scoring more than 60% in technical assessment will be selected and the financial packet of these agencies only will be opened.

The financial proposal for supply of agriculture implement/ machinery for promoting farm mechanization in Jharkhand shall be considered separately on the basis of the financial bid submitted.

The job of supplying Agriculture Implements/ Machinery for promoting Agriculture Mechanization in Jharkhand, will be awarded to the manufacturer, who quotes the minimum price for the equipment as specified in the tender document.

7. **SELECTION OF MANUFACTURER/AUTHORISED DEALER**

The manufacturer/authorised dealer quoting the lowest rate for any agriculture implement/machinery would be selected, who have to ensure availability of such implements/machinery through their authorised dealers in various districts as per the requirement of the district within the specified time limit.

8. TERMS OF PAYMENT

- 8.1 Payment will be made after successful certification of successful installation and commissioning of the equipment supplied as per the ordered quantity.

9. VALIDITY PERIOD

Tenderers should specify the validity period of their offer which should be for a period of at least 365 days from the date of opening of tender.

10. OTHER IMPORTANT INFORMATION

- 10.1 The firm must be capable of providing operational support to the users and must provide free of cost training to at least twenty farmers from the State to operate all these Agriculture Implement/ Machinery.
- 10.2 All other necessary accessories should be provided for ensuring smooth operation, the cost of which should be included in overall cost of the Implement / machinery.
- 10.3 The Competent Authority is not bound to accept the lowest or any tender or to assign any reason for non-acceptance. The Competent Authority reserves its right to accept the tender either in full or in part. Conditional Bids will be rejected outright.
- 10.4 The Competent Authority reserves the right to summarily reject an offer received from any agency on national security considerations, without any intimation to the bidder.
- 10.5 The Competent Authority reserves the right to place an order for the full or part quantities under any items of work indicated above.

11. PENALTY CLAUSE

Any delay from the stipulated schedule would invite a penalty of Rs. 500/- per day as enumerated in the Scope of Work indicated above.

12. QUANTITY

The requirement mentioned in the tender document is tentative and subject to increase or decrease at the time of finalization of tender/work/supply.

13. TEST CERTIFICATE

Test certificates, where applicable should be furnished in triplicate.

14. GUARANTEE

14.1 The tenderer shall give the following guarantee, in respect of the agriculture implement/ machinery supplied/work executed by them:

14.1.1 For a period of twelve (12) calendar months of reliable regular working of the implement/ system supplied. The tenderer shall be liable to replace any parts that may fail or show signs of defects in case of his own supplies/services under the condition provided for by the contract and under proper use arising from faulty designs, materials or workmanship or from any act of omission of the tenderer.

14.1.2 All such replacements of defective parts mentioned above shall be made free of cost at site by the tenderer and taking the return of the defective parts of the tenderer's works shall be tenderer's responsibility and shall be made at his own expense.

14.2. The requirement mentioned in the tender notice is tentative and is subject to increase or decrease at the time of finalization of tender. The tender should be submitted in duplicate in the enclosed tender proforma.

14.3. Tender which is not submitted in prescribed proforma shall be rejected. Any additional particulars can be furnished in the accompanied letter of statement.

14.4. Tender which does not contain full details regarding technical particulars, test certificates, delivery period, etc. will not be considered.

14.5. The undersigned reserves the rights to reject whole or part of any or all of the tenders without assigning any reason.

15. **CANCELLATION OF ORDER**

The authority issuing the order reserves the right to cancel whole or part of the supply orders of those suppliers, who are found to be defaulter for delayed supply of the job or the supply of non-standard quality of materials.

16. **TERMINATION BY DEFAULT**

The Authority reserves the right to terminate the contract of any agency/agencies in case of changes in the Government procedures or unsatisfactory services.

17. **FORCE MAJEURE**

Neither party will be liable in respect of failure to fulfill its obligations, if the said failure is entirely due to Acts of God, Governmental restrictions or instructions, natural calamities or catastrophe, epidemics or disturbances in the country.

The party affected by an event of Force Majeure will immediately notify the other party of such an event and will also notify the unaffected party on cessation of disability resulting from such Force Majeure act.

18. **ARBITRATION**

Venue of arbitration will be Ranchi and will be governed by provisions of the Indian Arbitration & Reconciliation Act.

19. **JURISDICTION OF COURT**

The Civil Court, Ranchi shall alone have an exclusive jurisdiction to decide any difference, dispute and claim for and against DEPARTMENT OF AGRICULTURE / BIDDER arising out in respect of the said NIT.

The competent authority reserves the right to accept or reject any or all tenders without assigning any reason.

Details of Agriculture Implement / Machinery to be supplied (Apx.)

S No.	Name of Item (s)	Approximate Quantity in No (s)	Technical Standard
1	Zero Till Seed Drill	1279	
2	Seed Cum Fertilizer Drill	470	
3	Rotavator	810	
4	Conoweeder, Marker & Wheel Hoe	14700	Satisfactory testing Certification from FMTTI/ CIAI, Bhopal/ SAU or Certificate issued from Small industries.
5	Plastic Drum Seeder	2340	
6	Paddy Transplanter	370	
7	Knapsack Sprayers	18100	
8	Reaper	470	
9	Paddy Thresher	2170	
10	Multi crop Thresher	100	
11	Rice Rubber Sheller	135	
12	Animal Drawn Multicrop Planter	63	
13	Diesel Pump set(1.95-8.0 bhp)	4800	
14	Sprinkler Set	900	
15	Metal seed bean of 'Q' mark of SSI (2q,10q & 20q)	As per requirement	
16	Tractor /Mini Tractor (18-50 bhp)	”	
17	Seed grader with 2 & 4screen type	”	
18	Diesel generator set (5KVA,10 KVA & 50 KVA) silent feature type	”	
19	Mini Dal mill	”	
20	Winnowing fan	”	
21	Rocker (Gator) sprayer	”	
22	Power sprayer	”	
23	Foot sprayer	”	
24	Hand Sprayer	”	
25	Battery operated back pack sprayer	”	
26	Hand Rotary Duster	”	
27	Tree Sprayer	”	
28	Tree Pruner	”	
29	Pruning Saw	”	
30	Rotating Disc Mower	”	
31	Power operated earth Auger Digger	”	

32	Post Hole Digger	”	
33	Leafy Vegetable Harvester	”	
34	Tomato Seed Extructer/ Tomato puree maker	”	
35	Chilli Seed Extructer	”	
36	PVC Pipe 4kg/cm ² pressure (4” & 6” dia)	”	
37	HDPE PIPE 63 mm dia 3.2kg/cm ² pressure & 75mm dia 2.5kg/cm ²	”	

FORM – T 1

1. Name of Firm ;
2. Nature of the Firm
(Proprietorship/Partnership/Pvt. Ltd.
Company/Any other firm) :
3. Address with telephone no., fax no. &
E-mail id
4. Details of registration / Certification with FMTTI,
CIAI, SAU& Small industries :
5. Status of financial position
(Certificates from concerned Banks :
Should be enclosed)
ii. Are you Income Tax/Sales Tax/
Vat payee, if so, Clearance
Certificate of I.T. & S.T. Regn. may
be furnished.
7. Income Tax Permanent A/c. No. :
8. Sales Tax/VATNo. :
9. Phone/Mobile No. :

I do hereby enclose the Bank Draft/Pay Order as Earnest Money for Rs.(Rupees.....) only vide Bank Draft/Pay Order No.....dated on Ranchi Bank endorsed in favour of Director, SAMETI, Jharkhand.

I also hereby enclose the “Technical Bid”, other relevant details and documents to support my work details given above.

Documents related to the rates in the form of “Financial Bid” in separate sealed covers.

I do hereby declare that the above particulars furnished by me are true to my knowledge and belief. I do hereby undertake to abide by all terms and conditions of Tender. I enclose the following documents and certificates:

- i. Copy of PAN Card & Latest I.T. Return
- ii. Copy of VAT Registration Certificate
- iii. Certificate of Bank regarding status of financial position.
- iv. Others (Please specify)

Terms and conditions duly accepted and signed are also enclosed.

Dated:_____(Signature of the Tenderer with designation and Official Seal)

FORM – F1**FINANCIAL BID**

Sl.	Name of item	Price (Inclusive of all applicable taxes, F.O.R. destination)
1	Zero Till Seed Drill	
2	Seed Cum Fertilizer Drill	
3	Rotavator	
4	Conoweeder, Marker & Wheel Hoe	
5	Plastic Drum Seeder	
6	Paddy Transplanter	
7	Knapsack Sprayers	
8	Reaper	
9	Paddy Thresher	
10	Multi crop thresher	
11	Rice Rubber Sheller	
12	Animal Drawn Multicrop Planter	
13	Diesel Pump set (1.95-8.0 bhp)	
14	Sprinkler Set	
15	Metal seed bean of 'Q' mark of SSI (2q,10q & 20q)	
16	Tractor / Mini Tractor (18-50 bhp)	
17	Seed grader 2 & 4 Screen type	
18	Diesel generator set (5KVA,10 KVA & 50 KVA) silent feature type	
19	Mini Dal mill	
20	Winnowing fan	
21	Rocker (Gator) sprayer	
22	Power sprayer	
23	Foot sprayer	
24	Hand Sprayer	
25	Battery operated back pack sprayer	
26	Hand Rotary Duster	
27	Tree Sprayer	
28	Tree Pruner	

29	Pruning Saw	
30	Rotating Disc Mower	
31	Power operated earth Auger Digger	
32	Post Hole Digger	
33	Leafy Vegetable Harvester	
34	Tomato Seed Extracter/ Tomato puree maker	
35	Chilli Seed Extracter	
36	PVC Pipe 4kg/cm ² pressure (4" & 6" dia)	
37	HDPE PIPE 63 mm dia 3.2kg/cm ² pressure & 75mm dia 2.5kg/cm ² pressure	

FORM – F -2

AFFIDAVIT

I, ----- S/o -----
Director/ Proprietor of M/s..... having its
Registered Office at do hereby solemnly affirm
and declare as follows:

1. That I have been authorised to execute this affidavit on behalf of this Company/Firm by the Board of Directors vide its Resolution passed on
2. That the Director Agriculture/ Director, SAMETI, Jharkhand vide Advertisement published in had invited offers for supply of equipments for promoting Agriculture Mechanization in Jharkhand.
3. That in response to the said Advertisement as stated in paragraph (2) above, our firm has submitted its Technical & Financial proposals to the Director Agriculture/ Director, SAMETI, Jharkhand on
4. That Technical proposal of our firm M/s..... containing necessary information and particulars furnished as per given proforma, detailing therein:
 - a) Firm’s general experience and achievements in the field of supplying agriculture implements for promoting farm mechanization in Jharkhand.
 - b) The Qualification and Competency of the manufacturers for the Assignment.
5. That the statements made in paragraphs 1 to 4 of the foregoing Affidavit as above are true to my knowledge and belief and if anything is found contrary, I stand liable to be prosecuted under appropriate Act/Laws in force.

Solemnly affirmed by the said
..... at on
this theday of2008.

Deponent:

Identified by me:

FORM F- 3

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, certify that I am the Secretary of the Corporation organized under the laws of..... and that..... who signed the above tender as authorized to bind the Corporation by authority of its Governing Body.

Secretary

Date & Seal

ANNEXURE

1 & 2. Zero Till Seed Drill & Seed cum Fertilizer Drill

Specification:

Length	:	1960-2310
Width (mm)	:	970-1560
Height (mm)	:	1070-1350
Power Source (hp)	:	35, tractor
Seed metering mechanism	:	Fluted roller or Bhadson type
Fertilizer metering mechanism	:	Gravity feed or corrugated roller type.
Power transmission	:	Through Chain and sprockets
Number of furrow opener	:	9-13/9-11
Furrow opener	:	Reversible shovel
Size of feed shaft (mm)	:	16-19
Size (diameter) and number of flutes	:	42.7 -49.2 and 9-13
Diameter of fluted roller	:	42.7
Size of fertilizer shaft (mm)	:	20-22.3
Seed box capacity (cm ³)	:	66241-10308
Fertilizer box capacity (cm ³)	:	63310-10141
Ground wheel diameter (mm)	:	390-450
Weight (kg)	:	224-328

3. Rotavator

Specification

Power Source (hp)	:	35 or above, Tractor
Length (mm)	:	1760-2080
Width (mm)	:	950-1050
Height (mm)	:	935-1110

Working width of rotavator (mm)	:	1000-2000
Shape of Blade	:	L-Shape
Orientation of Blade (degrees)	:	45-47
Length of blade along the flange (mm)	:	160-170
Length of blade along the rotor shaft (mm)	:	115-130
Thickness of blade (mm)	:	7-10
Distance between consecutive flanges (mm)	:	213-220
Total number of flanges	:	6-8
Number of blades per flange	:	6
Diameter of rotor shaft (mm)	:	70-90
Rotor diameter (mm)	:	420-435
Revolution of rotor shaft (rpm)	:	210-237
Weight (kg)	:	280-415

4. Conoweeder

Specification

Type	:	Manually operated
Number of rotors	:	Two
Number of operators	:	One
Overall dimensions	:	37 cm x 1.4 m
Weight	:	5 to 6 kg

5. Plastic Drum Seeder

Specification

Length (mm)	:	2000
Width (mm)	:	1500
Height (mm)	:	640
Number of rows sown	:	6 & 8
Row to Row spacing (mm)	:	200
Number of seed metering holes	:	9

Diameter of the metering holes (mm)	:	10
Number of floats	:	2
Weight (kg)	:	10
Capacity (ha/day)	:	1.1

6 Paddy Transplanter Specification

Type	:	Single Wheel driven
Length (mm)	:	2410
Width (mm)	:	2130
Height (mm)	:	1300
Engine (hp)	:	4.0, air cooled diesel
Number of rows	:	8
Row Spacing (mm)	:	238
Hill-to-hill spacing (mm)	:	100-200
Working Speed (Km/h)	:	1.5 -2.0
Speed of travel on road (km/h)	:	8.24
Field capacity (ha/h)	:	0.13 -0.20
Weight (kg)	:	320

7. Knapsack Sprayer

Specification

Power Required	:	One Person
Tank Capacity (l)	:	9-22.5
Pump Cylinder inner dia (mm)	:	39-42
Number of piston in pump cylinder	:	one
Pressure chamber capacity (ml)	:	572-660
Displacement volume (ml)	:	87.24
Number of delivery spout	:	1
Type of delivery spout	:	Threaded

Cut off valve passage diameter (mm)	:	5
Lance length (mm)	:	725
Nozzle type	:	Hollow cone
Spray angle	:	78 degree
Size of filling hole (mm)	:	94.9
Pump discharge (ml/min)	:	610-896

8. Self Propelled Riding type Reaper

Specification

Length	:	3185
Width (mm)	:	1900
Height (mm)	:	1450
Weight (kg)	:	1530
Operating Speed (km/h)	:	3.0 – 3.5
Total Grain Losses (%)	:	5.0-5.9
Field Capacity (ha/h)	:	0.25-0.30
Fuel consumption (l/h)	:	0.90-1.15
Field efficiency (%)	:	60-70
Labour requirement (man-h/ha)	:	5-6

9. Paddy Thresher

Specification:

Power source (hp)	:	35, tractor pto
Length (mm)	:	2030
Width (mm)	:	3050
Height (mm)	:	1960
Feeding device	:	Feeding chute, manually
Length of feeding chute (mm)	:	905
Width of feeding chute (mm)	:	110
Type of cylinder	:	Spike tooth
Cylinder size, tip diameter x length (mm)	:	770 x 1500

Length of concave (mm)	:	840
Width of concave (mm)	:	570
Concave clearance (mm)	:	18-21
Beater (spikes) size (mm)	:	12.5 diameter x 50 length
Number of spikes	:	80
Type, size and number of blowers	:	Aspirator type, two blowers of 400 mm diameter and 160 mm width
Length x Width of upper sieve (mm)	:	1050x640
Length x width of lower sieve (mm)	:	1050x645
Weight (kg)	:	730

10. Multi crop thresher:

Specification

Dimension l x w x h (m)	:	1.95x1.65x1.45
Weight (kg)	:	450
Cylinder size, (mm)	:	500 dia x 584 length
No. of Beater (spikes) & size (mm)	:	92nos., 25 x 8 x 80 mm flats
No. of Blower & size (mm)	:	1 nos., 672mm dia 4 bladed
Power required (hp)	:	5.0

11. Rice Rubber Sheller

Specification

Dimension l x b x h (mm)	:	720x670x1300
Capacity (kg/h)	:	1000
Length of rubber roll sieve (mm)	:	154
Dia. Of rubber roll sieve (mm)	:	220
Gross weight (kg)	:	200
Power required (kW)	:	2.2

12. Animal Drawn Multicrop Planter

Specification

Dimensions (1xwxh) (mm)	:	1350x850x750
Weight (kg)	:	80
No. of rows	:	Three
Seed metering	:	Cell type plastic rollers
Fertilizer metering	:	Agitator with opening.
Power transmission	:	Through chain and sprocket
Furrow Opener	:	Chisel Type
Placement of fertilizer	:	50 mm away and 50 mm below the seeds
Seed hopper capacity (kg)	:	12

13. Diesel Pump set

S No.	Engine Model	Power rated	Description
1.	V12	1.95 bhp	Pump set having 4 Stroke Single Cylinder, 1.95 bhp @ 3000 RPM as per ISO SPECIFICATION petrol start & diesel run : along with pump set & other cooling accessories as per applicable.
2.	C 30	3.00 bhp	Engine with Petrol start & diesel run with 3000 rpm ,7.5lps discharge ,18m head
3	VA 320	4 bhp	Pump set having Horizontal four Stroke Single Cylinder, 2/94 kw/4.0 h.p @ 1800 RPM as per is : 11170 : 1985 along with pump set & other cooling accessories as per applicable.
4.	AV 1-XL-N1	5 bhp	Av1-xL-N1 pump set having vertical inline single Cylinder, diesel engines 5.0 H.P, 1500 RPM as per is : 11170 along with pump set & other cooling accessories.
5.	AV 1/NW2	5 bhp	AV1 Type Pump Set having vertical inline, single cylinder diesel engine 5 H.P, 1500 RPM as per is 11170:1985 along with pump set & other cooling accessories as per

			applicable.
6.	AV 1-XL-N2	8 bhp	AV1-X1-N2 Pump Set having vertical inline, single cylinder Diesel engine 8.0 H.P, 2200 RPM as per IS: 11170 along with pump set & other cooling accessories.
7.	SV1/NW2	8 bhp	SV1/ NW2 Pump Set having Vertical inline, Single Cylinder Diesel Engine 8.0 HP RPM as per is : 11179: 1985, along with pump set & other cooling accessories.
8.	CNL-2	5bbhp	CNL-2 type pump set with high head (35-42m) 5bhp @2800-3000 rpm .

14. Sprinkler /rain gun nozzle : Nozzle as per ISO specification and as per farmers & crop requirement.

15. Metal seed bean – It should be of good quality manufactured by SSI Unit Having ‘Q’ marks of 2quintal,10 quintal, &20 quintal capacity.

16. Tractor/ Mini tractor (18-50 bhp): Mini tractor of reputed firm having Good performance & ISO: 2010 Certification with Minimum performance report certificate from FMTTI.

17. Seed grader with 2 & 4screen type:

a) Seed grader with 2 screen type:

Length (mm)	:	3160
Width (mm)	:	1460
Height (mm)	:	2560
Capacity (t/h)	:	2
No. of screen	:	2
Size of each screen (mm)	:	1120 x 1430
Screen inclination	:	fixed
No. of cylinder	:	2
Size of each cylinder (mm)	:	1220 x 470`
Cylinder inclination	:	fixed
Rotary speed of cylinder	:	variable

Screen perforation cleaning device	:	
Top	:	beaters
Bottom	:	nylon brushes
No. of aspiration	:	2
Fan capacity (m ³ /minute)	:	185
Fan speed (rpm)	:	980
Electric motor (kw)	:	7.1

b) Seed grader with 4 screen type:

Length (mm)	:	3070
Width (mm)	:	2060
Height (mm)	:	2180
No. of screen	:	4
Power requirement (kw)	:	6
Scalping screen	:	1 st or 1 st & 2 nd
Grading screen	:	2 nd , 3 rd & 4 th or 3 rd & 4 th
Length of each screen (mm)	:	
Scalping	:	1120 & 2240
Grading	:	3360 & 2240
Screen width (mm)	:	1370
Capacity (kg/hr)	:	wheat /paddy /maize etc
Weight (kg)	:	2000

18. Diesel generator set: of silent feature type of reputed firm having ISO Certification of 5KVA, 10KVA & 50 KVA

19. Mini Dal Mill: Specification

Capacity (kg/h)	:	30-40
Power required (hp)	:	
Dal mill	:	0.5
Flour mill	:	1.5

20. Winnowing fan: Specification

Size of fan (mm)	:	1200-1250
Weight (kg)	:	22
Power	:	One or two persons

21 Rocker (Gator) sprayer:

Overall length (mm)	:	760
Overall width(mm)	:	150
Overall height(mm)	:	1230
Weight(kg)	:	6
Pressure developed(kg/cm ²)	:	10
Field capacity (ha/day)	:	1

22. Power sprayer Specification

Overall length (mm)	:	740
Overall width(mm)	:	610
Overall height(mm)	:	990
No. of spray lance	:	up to 6
Discharge(l/min)	:	up to 25
Field capacity(ha/h)	:	0.2-0.3
Weight(kg)	:	66.0
Pressure developed(kg/cm ²)	:	up to 40
Power required (hp)	:	1-3

23. Foot sprayer: Specification

Overall length (mm)	:	440
Overall width(mm)	:	170
Overall height(mm)	:	980
Weight(kg)	:	10.0
Pressure developed(kg/cm ²)	:	14-18
Field capacity(ha/day)	:	1-2.0 (with one/two lances)

24. Hand sprayer: Specification

Diameter of the tank (mm)	:	130
Height(mm)	:	210
Weight (kg)	:	1.2

25. Battery operated back pack sprayer:**Specification**

Capacity	:	12 – 18 ltr,
Battery	:	12 v8 AH dry battery,
Weight	:	5-6 kg,
Nozzle	:	std acc-3 nozzles,
Charger	:	HD Charger
Gross weight	:	7.9 kg.

26. Hand rotary duster: Specification

Overall length (mm)	:	280
Overall width (mm)	:	330
Overall height (mm)	:	330
Weight (kg)	:	3.5
Hopper capacity (l)	:	5
Field capacity (ha/day)	:	0.6 (for field crops)

27. Tree sprayer: Specification

Power (hp)	:	3
Fan output(m ³ /h)	:	1000
Tank capacity (l)	:	10, 90
Vertical range (m)	:	20-25
Field capacity (ha/day)	:	3-4

28. Tree pruner: Specification

The tree pruners are available in various sizes. The size of the tree pruner is known by its overall length. One of the typical size is 360 mm including the length of the socket. The cutting capacity of the tree pruner is about 20 mm diameter branch or twig.

29. Pruning saw: Specification

Blade length(mm)	:	300,350,400, and 450
Blade width(mm)	:	42 and 45
Blade thickness (mm)	:	1.6
Pitch of teeth(mm)	:	4 to 5
Rake angle(°)	:	15 (straight edge) and 20 (curved edge)
Gullet angle(°)	:	57 (straight edge) and 65 (curved edge)

30. Rotating disc mower: Specification

Length x Width x Height (mm)	:	1050x380x1000
Cutting width (mm)	:	340-380
Cutting Height (mm)	:	30
Motor (kW)	:	1.0-1.4
Weight (kg)	:	12

31. Power operated Earth Auger Digger:

Specification

Overall Dimensions

Length (mm)	:	1070
Width (mm)	:	1040
Height (mm)	:	1980
Weight (Kg)	:	125
Field capacity (holes/h)	:	40-50
Power (hp)	:	8-10

32. Post hole digger: Specification

Length x Width x Height(mm) :	2390x840x1430
Auger diameter (mm) :	250-450
Weight (kg) :	150-240
Power requirement (hp) :	35, tractor
Capacity (pits/h) :	90

33. Leafy vegetable harvester: Specification

Overall length (mm) :	700
Overall width (mm) :	150
Overall height (mm) :	250
Weight (kg) :	1.50
Hardness of the cutting edge :	42 HRC

34. Tomato seed extractor /Tomato puree:**Specification**

Size of machine (mm) :	1580x1000x900
Capacity of machine(kg/h) :	45-60 kg/hour of fruits
Seed recovery (%0) :	98%
Juice recovery(%) :	80%
Electric power (hp) :	1.5 hp, 3 phase motor
Man power :	2 workers

35. Chilli seed Extracter: Specification

Size of machine (mm) :	1450x920x600
Capacity of machine (kg/h) :	60-70, dry chillies
Seed recovery (5) :	98%
Electric power (hp) :	1,3 phase motor and 0.5 one each
Man power :	2 worker

36. PVC Pipe : **:4kg/cm² pressure (4" & 6" dia):**

37. HDPE PIPE : **:63 mm dia 3.2kg/cm² pressure
& 75mm dia 2.5kg/cm²:**