

Atal Bihari Vajpayee Indian Institute Of Information Technology and Management (An Autonomous Institute of MHRD, Government of India) Morena Road & A.B. Road, Gwalior, Madhya Pradesh 474001, India

Date: 13.07.2017

Corrigendum - I

Supply, Installation, Commissioning and On-site support of Incubation Plant Setting up of Business Incubation Center at Mponela, Malawi

Tender No.: ABV-IIITMG/Reg./2017/1687

Last date for submission of bids: 24.07.2017 (11:00 AM)
Opening of technical bids: 24.07.2017 (3:00 PM)
The tender document is available for

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Corrigendum - I

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Corrigendum Published Date	13.07.2017
Bid Submission Start Date	22.07.2017 (11:00 Hrs)
Bid Submission End Date	24.07.2017 (11:00 Hrs)
Technical Bid Opening Date	24.07.2017 (15:00 Hrs)

Revised Specifications of machines, consumables, accessories and spares are mentioned below for all packages.

Package 1

TOMATO KETCHUP PLANT

S.No	DESCRIPTION	Quantity
1.	ROTARY FRUIT & VEGETABLE WASHING MACHINE:	2No
	All contact parts of stainless steel	
	Frame made of M.S complete	
	Installed 1hp/3ph motor	
	Tumbling drum type	
	SS sieve where product would wash is made out of SS 1/8" hole size and SS rings	
	Jet spray system on the top to wash fruits & vegetables	
	SS tank in the bottom of the washer to collect waste water	
	Gear box and three variable speed pulley	
	Washing by slow tumbling action of the rotary drum Drums length 4'	
	Minimum length 5'	
	Width 2'	
	Height 4.5'.	

	CAPACITY-50KGS./HRS.	
	Suitable for washing fruits like mango, pears, apples, tomatoes, potatoes & other roots vegetables.	
2.	FRUIT CRUSHER:	2 No
	Mounted on a M.S stand with 1HPmotor.	
	All contact parts made of stainless steel (AISI 304).	
	Capacity 50kgs. Tomatoes per hour.	
	SS head with SS shaft, SS rotor, SS beaters, SS hopper with hing	
	Specially designed to crush tomatoes	
3.	JUNIOR PULPER:	2 No
	All contact parts made of stainless steel AIAI-304.	
	Mounted on M.S frame duly fitted with 1/2HP/1ph motor.	
	One sieve and one set of nylon brush.	
	Ss shaft, GM bush, bearing, SS back pate removable type, Ss hopper	
	V-belt, pulley drive, Ms belt cover, MS motor cover	
	Specially designed to make pulp from tomatoes after crushing, product to be feed from hopper and waste like skin and seed would be separate and fine pulp would be separate automatically.	
	Capacity of is 50kgs. Tomato /hrs.	
4	STEAM JACKETTED KETTLE:	2 No
	Mounted on a mild steel stand with tilting arrangement through worm gear/pinion. Jacket and pan made of 12/14swg. Stainless steel-304. Complete with pressure gauge, safety valve, steam Trap & drain cock. The kettles are double jacketed for maximum steam utilization and efficiency. Specially designed to cook tomato ketchup.	
_	KETTLES TILTING TYPE: 25 GALLONS 100 Liter	
5	GLASS BOTTLE Washing Machine:	2 No
	Complete made of M.S. with 2 head Brushes driven by ½ HP motor.	
	With rinsing tank of G.I. suitable for brushing new or recycled bottles	
	The brushes while rotating reach the corners and crevices of bottles to remove dust particles.	

6.	SINGLE HEAD PENUMATIC FILLER: - Suitable for filling viscous liquids like Honey, Jam, Mayonnaise, Cheese Spread, Gravy, Sauces etc.	2 No
	FEATURES:	
	 A. Accurate filling precision by the state of the art pneumatic filler. B. Complete made of SS, confirm to GMP standard. C. The weight range is easily adjustable by turning of a toggle lever. D. Easy to dismantle and install, easy to wash. E. Filling range- 200-1000ml. F. Capacity-10-15 fills per minute depending on operator Compressor with Head Pneumatic Filler Gravy & Viscous filling through Suction Pump Single Head, With Hopper. 	
7.	CROWN CORKING MACHINE:	2 No
	Heavy duty and hand operated	
	Casted body Specially design to seal glass bottles	
8.	With magnetic cork holder and adjustable to accommodate all sizes of bottles. SHRINK TUNEL:	2 No
	Suitable for attaching shrink sleeves on necks	
	Compatible on cartons for cans/bottles	
	Complete with electrical control panel, temperature controller, air circulation fan, conveyor etc.	
9.	BAND SEALER:	2 No
	Should have continue operational capability to seal all types of pouches made out of laminates or virgin films.	
	Reliable band sealing principle for consistently strong and efficient sealing.	
	The machine should be adjusted up and down as per the size of the pouch.	
	The bandsealer can be linked with semi-automatic filling	
	Speed 10 to 20 bags/min.	
10.	AUTOMATIC FORM FILL SEAL MACHINE:	2No
	Fully Automatic form fill seal machine using volumetric system of weighing	
	Ability to conduct integrated operations From measuring, pouch making, filling and sealing of pouches Suitable to pack Pickle paste, jam, ketchup any free homing liquid.	
	Fitted with positive displacement pump that sucks the required quantity and fills in the pouch.	
	Consist of:	
	Complete With Photo control panel.	

	One 0.5hp/1ph motor and gear box	
	Electric heaters	
	One set punching blades	
	One SS volumetric pump system for weighing	
	One set of die rollers and sealers	
	Pressure control bolts of sealers and die rollers	
	Wheels mounted	
	One size of chute and pitch gear as per size available.	
	FILLING RANGE-10GMS.	
	Speed-20-25PPM	
11.	Air Compressor: 2 HP	
	With pipe & fitting	2 No
12.	UTENSILS:	8 No
13.	TROLLY: Made of MS	4 No
14.	PLASTIC CREATES:	20 No
15.	WOODEN SPOON:	4 No
16.	MS PIPE LINE & FITTING	2 No
17.	INSTALLATION CHARGES	2 No
18.	REFRECTOMETER	2 No
19	NUMEX STAMP: For print manufacturing date	2No.
20	SS BUCKET	4No
21	weighing scale	4No
22	plastic boxes & spoons	20No
23	Filling table	2No
24	STEAM VERTICAL BOILER 100 KGS./HRS. Capacity, Complete made of	1No
	MS with 10 Feet long M.S. chimney	

Technical Specification of Steam Vertical Boiler

Capacity	Kg/hr	100k.g/hr
Efficiency	%	76±2
Design		shell and tube type
Heating System		MANUAL
Fuel		WOOD/COAL
Electric Supply		Ac, 3 Phase, 415V, 50hz

To be provided by bidder:

- Steam boiler with valve fitting
 1 no
- 2. Feed water pump with motor 1 no
- 3. Ms fabricated chimney (10 feet long) 1no
- 4. MS BARI As per requirement
- 5. Smoke/air ducting As per requirement
- 7. Crane expanses/Transportation at site As per requirement
- 8. Steam piping and Chimney As per requirement
- 9. Complete consumables and Food chemicals as mentioned below (are for two sets of machines)

<u>Consumables & Food Chemicals for 3 Months</u> (<u>Approximately one Batch in a week</u>)

- Pouches: 200No.
 Bottles: 50No.
- 3. Shrink Labels: 200No.
- 4. Caps: 100No.
- 5. Laminates: 100Kg.
- 6. SODIUM BANZOTE-1KG
- 7. POTESIUM SORBATE-1KG
- 8. GUVARGAM/GENTHAM GUM-5KG
- 9. TOMATO FLAVOUR-500GMS.
- 10. COLOR-500GMS.
- 11. CITRIC ACID-5KG
- 12. ASETIC ACID-5KG.
- 13. SALT-10KG.

- 14. SPICES BLEND-500GMS.
- 15. CORN FLOUR-25KG.

LIST OF SPARE PARTS

(below mentioned is for 1 year and for 2 sets of machines)

A. ROTRAY WASHER:

- 1. V-BELT-2No.
- 2. JET SPRAY-20
- 3. BEARINGS-12
- 4. CHAIN-1 set
- 5. SPROKETS-1 set
- 6. GEAR BOX-1No

B. FRUIT CRSHER

- 1. OILSEAL-5No
- 2. BLADES-5No.
- 3. COUPLING-1No.
- 4. RUBER PACKING-2No.

C. BABY PULPER

- 1. NYLON BRUSHES-4No.
- 2. OIL SEAL-4No.
- 3. V-BELT-2No.
- 4. BEARINGS-1No.
- 5. G.M. BUSHES-1set
- 6. SIEVES-2No.

D. STEAM JACKETED KETTLE

- 1. DRAIN CORK-4No.
- 2. PRESSURE GAUGE-2No.
- 3. SAFETY VALVE-2No.
- 4. STEAM TRAP-2No.
- 5. NUTS-2No.
- 6. GLAIN-1 set

E. GLASS BOTTLES WASHING MACHINE

- 1. NYLON BRUSHES-12No.
- 2. FLEXIBLE PIPE-2No.

F. SINGLE HEAD PNEUMATIC FILLER

- 1. RINGS-12No.
- 2. SEALS-4No.
- 3. PACKINGS—1set
- 4. SOLONAID VALVE- 2Nos.
- 5. SENSORS-6Nos.

6. AIR FILTER-2No.

G. CROWN CORKING MACHINE

- 1. GM DIE-1No.
- 2. DIE HOLDDER-1No

H. SHRINK TUNNEL

- 1. HEATERS-12No.
- 2. TEMPRETURE CONTROLLERS-3No.
- 3. FAN-1No.

I. BAND SEAMER

- 1. SEALING BELTS- 10 set
- 2. HEATERS- 3 set
- 3. TEMPERATURE CONTORLLER- 2No.

J. AUTOMATIC FORM FILL SEAL MACHINE

- 1. HEATERS- 12No.
- 2. FUSE-1 packet
- 3. SEALS 2No.
- 4. ORINGS-10No.
- 5. TEMPERATURE CONTORLLER- 2No.
- 6. INDICATOR LIGHT-2No.
- 7. CONTACTORS-4No.
- 8. PHOTO PANEL & PHOTO CELL- 1set
- 9. MOBIL OIL- 1Liters
- 10. PC MOTOR-1No.
- 11. CUTTERS-2set
- 12. PIPE- 1set
- 13. CHUTE-1No.

K. AIR COMRESSOR

- 1. OIL -2 Ltrs
- 2. RINGS-1set
- 3. TROLLEYS WHEELS-4 No.

L. STEAM BOILER

- 1. WATER LEVEL- 2No.
- 2. SAFETY VALVE-2No.
- 3. STEAM TRAP-2No.
- 4. PRESSURE GAUGE-2No.
- 5. TEMPRETURE GAUGE-2No
- 6. CI BARI-1No.
- 7. STEAM VALVE-1No.
- 8. DRAIN VALVE-1No.
- 9. AIR VENT VALVE-1No.
- 10. NRB-2No.
- 11. WATER PUMP KIT-2 set
- 12. WATER PUMP- 1set

Note: Sugar (for processing raw material) and Wood (for boiler) would be provided by concerned ministry as per requirement of the project for three months

MANGO PULP PROCESSING PLANT

S.No	DESCRIPTION	Quantity
1.	ROTARY FRUIT & VEGETABLE WASHING MACHINE:	2No
	All contact parts are made of stainless steel	
	Basic frame made of MS	
	Simply designed, sturdy construction	
	The material is fed into the hoper continuously and gets washed by slow tumbling action of the rotary drum.	
	After washing, the material comes out through the other end.	
	Complete with 1hp/3ph motor	
	Gear box and three variable speed pulley.	
	Capable of washing fruits, vegetables and most suitable for washing fruits like mango, pears, apples, tomatoes, potatoes & other roots vegetables.	
	Tumbling drum type	
	SS sieve where product would wash is made out of SS 1/8" hole size and SS rings	
	Jet spray system on the top to wash fruits & vegetables	
	SS tank in the bottom of the washer to collect waste water	
	Drums length 8'	
	Overall length 10'	
	Width 3.3'	
	Height 6'.	
	CAPACITY-50kGS/HRS.	
2.	CUTTING TABLE:	10 No
	Top stainless steel 304 With M.S. legs	

	Size 6'x3'x3' S.S. frame work.	
3.	TWIN PULPER:	2 No
	Consists of 2Nos pulper mounted on basic structure of M.S.	
	1 st stage of is fitted with 1/8" sieve.	
	The product gets pulped in the 1 st stage & then flows into the 2 nd stage, which is fitted with 1/32" sieve (as per requirement).	
	Ss shaft, GM bush, bearing, SS back pate removable type, Ss hopper	
	V-belt, pulley drive, Ms belt cover, MS motor cover	
	Specially designed to make pulp from Mangoes after cutting, product to be feed from hopper and waste like skin and seed would be separate and fine pulp would be separate automatically.	
	Total load of is 3HP.	
	Top 2HP / 2 nd stage of 1HP.	
	All contact parts made of stainless steel AISI-304.	
	Capacity of is 50KGS. of mangoes / hrs.(input).	
4.	Pulp Tank:	2No
	Made of SS-304	
	Vertical shape	
	Capacity 50LTR	
5	BALANCING TANK: Made of SSS-304,	2No
	with agitator and 1hp/3ph motor.	
	Capacity 50LTR	
6	STEAM JACKETTED KETTLE Mounted on Stainless steel legs. Jacket and pan made of 10/10swg.stainless steel. Complete with pressure gauge, safety valve, steam Trap The kettles are double jacketed for maximum steam utilization and efficiency.	
	KETTLES FIXED TYPE WITH TUFLON SCRAPPER FITTED WITH REMI/KIRLOSKAR	2No
	GEARED MOTOR COMPLETELY MADE OF S.S. (LEGS, MOUNTING ETC.)	2110
	10 GALLONS 100 Liters.	
7	TRANSFER PUMP	2No
	Sanitary volumetric pump is S.S for transfer of liquids/ viscose products.	
	The pump is positive single screw type with SS rotor. With 1hp motor.	
8	Filling Tank	
	Vertical Tank	2No

	SS 304 Vertical conical tank.	
	Bottom outlet	
	Insulated Capacity 50LTR	
9	Platform for overhead filling Tank	2No
10	PS-EMPTY CANS WASHER & STERLIZER	2No
	Push type gravitational rolling.	
	The empty can is pushed through the steam tunnel, which injects steam and sterilizes the can before filling.	
	Total length of tunnel is 5' and can is passed through the tunnel by a gravitational push type.	
	COMPLETE MADE OF M.S. top cover made of aluminum.	
11.	FILLING TABLE	2No
	Top stainless steel 304. With M.S. legs.	
	Approx. Size 6'X3'X3' M.S. frame work.	
12.	CAN DOUBLE SEAMER	2No
	High-speed "can still type" seamer.	
	Can still type Can seamer	
	Pedal operated	
	Seaming head should rotate	
	Four roller seamer	
	One platform and base plate	
	Casted body	
	Complete with one 401 dia seaming chuck and seaming roll	
	Suitable for seaming Round cans between 202-700 dia ranges	
	Equipped with 1.5HP 1440 RPM motor and starter. (Capacity approx. 2000 cans/hrs.)	
13.	CANNING RETORT VERTICAL:	
	Capacity 90/100 A21/2 cans.	
	Complete made of M.S. with pressure gauge, metal clad thermometer, safety valve and release valve.	2 No
	Painted with black color paint	
	Complete with two MS creates to put the cans and then create would be put into the retort.	
	Suitable for sterilization of cans after seaming.	
	I	

	The can is placed in the crate which is then fed into the retort and subjected to high pressure and temperature thus sterilizing the contents.	
14	COOLING TANK: Made of MS, for cooling of filled Cans.	2No
15	MS FRAME FOR ELECTRIC HOIST:	2 No
16.	ROTARY FLAT CAN BODY REFORMER:	
	Should be mounted on mild steel stand and casted body	
	Suitable for shaping flattened cans into cylindrical bodies between 200-700dia range and 1-1/2" – 10" height.	2No
	Equipped with 1 HP 1440 RPM motor, starter, V-belt, pullies etc.	2110
	Complete with 401 dia rubber rollers and bearings	
	Capacity 600-800 cans per hour.	
17.	HAND FLANGER:	
	Complete with flanging dia and adopter plate	
	Made of casted body	2No
	Suitable for flanging round cans bodies of 301-700dia range and 1-1/2"-10" height	
	Complete with 401 dia flanging die and rings	
18.	DOUBLE SEAMER:	
	Mounted on a mild steel stand.	2No
	Made of casted body	
	Suitable for seaming cans between 202-700dia range and 2" – 9 3/8" height range. Equipped with 1 HP 1440 RPM motor (suitable for 400 V +5%, 3 ph, 50 Hz supply) starter standard base plate, V-belt, pullies etc.	
	Capacity approx. 600 –800 cans per hour	
	Complete with 401 dia seaming chucks and seaming rollers	
19.	TREADLE LID EMBOSSING MACHINE:	
	Designed to emboss lids without piercing the lid.	2No
	Mounted on MS frame	
	Body made of Casted	
	One MS plate to hold the lids	
	With one set of double row die holders.	

	One set of alphabets and numerals (ATOZ & 0-9)	
20.	ROUND CAN BODY BEADER:	
	Suitable for 301, 401, 603 and 700dia can sizes beading.	
	Equipped with 1 HP 3 PH motor.	2No
	Made of MS	
	The purpose of beading a can is to provide extra strength to the can thus avoiding dents in the can while storage.	
	Complete with one set of 401 dia die	
21.	ELECTRIC HOIST:	2No
22.	MS PIPE LINE & FITTING	2 LOT
23.	SS PIPE LINE & FITTING	2LOT
24.	CUTTING KNIFE	40 No
25.	TROLLY MADE OF MS	4 No
26.	PLASTIC CREATES	20 No
27.	REFRECTOMETER:0-32	2 No
28.	HAND CAN TESTER:	
	Complete with foot pump and pressure gauge.	2No
	Reading pressure up to 30 ibs/ Sq. inch.	
29.	VACUUM TESTER: WITH VACUUM GAUGE	2No
30.	SEAM CHECKING GAUGE (STAINLESS STEEL)	2No
31.	SS BUCKET:	4 No
32	COOLING TOWER:	2No.
33	STEAM BOILER:400 KGS./HRS. capacity, Complete with 20 Feet long M.S. chimney.	1No.

TECHNICAL SPECIFICATION Steam Boiler

Capacity	Kg/hr	200k.g/hr

Efficiency	%	76±2
Design		shell and tube type
Heating System		MANUAL
Electric Supply		Ac, 3 Phase, 415V, 50hz

To be provided by bidder

1 Steam boiler with valve fitting2 Feed water pump with motor1 no

3 Ms fabricated chimney (20 feet long) 1no

4 MS BARI As per requirement

5 Smoke/air ducting
6 Insulation wherever required
7 Crane expanses/Transportation at site
8 Steam piping and Chimney
As per requirement
As per requirement
As per requirement

9 Complete list of packaging material and consumeables mentioned below is for two sets of machines

LIST OF PACKING MATERIALS (for three months)

- 1. Tin Can -300Nos.
- 2. Paper Labels 400Nos.
- 3. Gear oil 5ltrs

LIST OF CONSUMABLES and SPARE PARTS (for 1 year and for two sets of machines)

A: ROTRAY WASHER

- 1. V-BELT-2No.
- 2. JET SPRAY-20
- 3. BEARINGS-12
- 4. CHAIN-1 set
- 5. SPROKETS-1 set
- 6. GEAR BOX-1No

B. TWIN PULPER

- 1. NYLON BRUSHES-8 set
- 2. OIL SEAL-4No.
- 3. V-BELT-4No.

- 4. BEARINGS-2No.
- 5. SIEVES-3No.

C. PULP TANK

1. BALL VALVE-1No.

D. STEAM JACKETED KETTLE

- 1. DRAIN CORK-4No.
- 2. PRESSURE GAUGE-2No.
- 3. SAFETY VALVE-2No.
- 4. STEAM TRAP-2No.
- 5. NUTS-2No.
- 6. GLAIN-1 set

E. TRANSFER PUMP

1. STATOR-1 set

F. FILLING TANK

1. BALL VALVE-1 No.

G. CAN SEAMER

- 1. SEAMING CHECCK-1No.
- 2. SEAMING ROLLERS-1set
- 3. SPRINGS-1set
- 4. BEARINGS-1set
- 5. V-BELT-2No.

H. RETORT

- 1. DRAIN CORK- 2No.
- 2. PRESSURE GAUGE-1No.
- 3. SAFETY VALVE-2No.
- 4. STEAM TRAP-1No.
- 5. GLAIN 1set
- 6. BALL VALVE-1No.
- 7. TEMPRETURE GAUGE-1No.

I. REFORMER

- 1. V-BELT-2No.
- 2. RUBBER ROLLER WITH BEARING-1 set

J. FLANGER

1. FLANGING DIE- 1set

K. DOUBLE SEAMER

- 1. SEAMING CHECK-1No
- 2. SEAMING ROLLERS- 1set
- 3. ARM-2 No.
- 4. SPRINGS-1set
- 5. BEARINGS-1set
- 6. V-BELT- 2No.

L. TREADLE LID EMBOSSING MACHINE

- 1. DIE HOLDER- 1set
- 2. ALPHABETS & NUMERALS- 2set

M. ROUND CAN BODY BEADER

- 1. DIE SET- 1set
- 2. V-BELT -2No.

N. MOTORS-2No.

O. STEAM BOILER

- 1. WATER LEVEL- 2No.
- 2. SAFETY VALVE-2No.
- 3. STEAM TRAP-2No.
- 4. PRESSURE GAUGE-2No.
- 5. TEMPRETURE GAUGE-2No
- 6. CI BARI-1No.
- 7. STEAM VALVE-1No.
- 8. DRAIN VALVE-1No.
- 9. AIR VENT VALVE-1No.
- 10. NRB-2No.
- 11. WATER PUMP KIT-2 set
- 12. WATER PUMP- 1set
- 13. PACKING-1 set

CASSAVA POWDER PROCESSING PLANT

S.No	DESCRIPTION	
1.	CASSAVA PEELER	2No
	ROLLER TYPE FRUIT & VEGETABLE WASHING MACHINE:	
	All contact parts are made of stainless steel.	
	Simply designed, sturdy construction.	
	The material is fed into the machine where continuously rotation of brushes product gets washed by up side water spray system.	
	Suitable to Peel/clean wash various vegetables like Radish, Carrot, Cassava, Potato, Ginger, Turnip, Stem Root etc.	
	The washer is fitted with water spray jet arrangement which simultaneously washes/cleans the vegetables.	
	Washer is made of SS-304 and confirms to food sanitary standards.	
	The washer is equipped with rotating soft brushes which thoroughly cleans the vegetables while simultaneously peeling them, Unique designs of the washer enables user to visually inspect the level of wash/peel achieved. after the wash, the cleaned vegetable are removed from the side exit outlet.	
	PSRVW: 7 Roller Brushes, with Capacity -50Kg/Hr.	
2.	CASSAVA SLICER:	2No
	Equipped with 1HP MOTOR.	
	Capacity-50Kgs./Hrs.	
	Made of SS basic frame made of MS.	
	Specially designed to make slices from cassava with adjustable thickness.	
3.	HYDROEXTRACTOR: (Potato drying machine): To remove excess surface water from sliced cassava by centrifugal system before drying. All contact parts made of SS304 Complete with electric motor (reputed make), starter, v-belts Capacity: 50 Kg. Per Hour Use For Slice Made of:- Stainless Steel, Aluminum, Iron Specialty:- Centrifugal force	2No
4.	Electric Motor :- 1 H.P. TRY DRYER:	
	Electrically operated,	
	Digital Temperature controller – cum – Indicator is used for controlling temperature, Double walled inner and outer body made of Mild Steel beautifully painted.	
	Glass wool insulation for maintain the inner temperature	

	Temperature range 50°C to 250° C Temperature with an accuracy of ±1°C, To work on 220Volts AC main.	
	One air circulation fan of 0.5hp motor for uniform temperature	
	One door with hings and lock system with ball system	2No
	One exhaust duct on the top	ZINO
	One fresh air input duct	
	One electric control panel	
	Complete with 48 SS trays	
	MS rack system in the chamber where trays have to place	
	Electric heater in the chamber for heating.	
	Capacity 48 trays	
	SS tray size 16"x32"x1.25"	
	Each Tray Capacity 3 to 5 kg Depending on fruit & Veg. TOTAL	
5.	PULVERIZER-: For dry Powder. All contact parts made of stainless Steel. Hammer type system. One cyclone for collection of powder One collection bag One Air blower for suction of powder Equipped with 5Hp/3phase motor. Capacity approx 50kg. Per hour.	2No
6.	VIBROSIFTER:	2No
	Vibro sifter for separation of different practical sizes of powder, cereals and pulses.	
	The machine designed ensures separating the husk particles from powder product.	
	Easy dismantling and cleaning facility for contact parts Double deck screens with outlet chute from bottom deck.	
	All contact parts like sieve made of SS.	
	Basic frame and non contact parts are made of MS	
	Maintenance free & high speed working capacity	
	Made up of SS-304/ food grade	
	Equipped with electric motor.	
	Capacity-50Kgs./Hrs.	
7.	SCREW FEEDER:	2No
	Specially designed to feed cassava powder to Auger filler.	
	All contact parts made of stainless steel AISI-304.	

	Complete with infeed hopper and outfeed chute.	
	Complete with 1hp/3ph geared motor.	
8.	AUGER FILLER :-	2No
	Auger fillers are designed to handle diverse types of powders are accurately weigh them using accurately designed auger screw which is controlled by a sophisticated clutch brake system.	
	All contact parts are made of SS and non-contact parts are made of MS.	
	One SS hopper with one agitator inside for continues rotation of powder.	
	One motor for agitator and one for clutch break operation on the top.	
	One control panel with pedal operation which control the weight and wastage.	
	FILLING RANGE:-500GM to 1KG	
9.	BAND SEALER:	2No
	Should have continue operational capability to seal all types of pouches made out of laminates or virgin films.	
	Reliable band sealing principle for consistently strong and efficient sealing.	
	The machine should be adjusted up and down as per the size of the pouch.	
	The bandsealer can be linked with semi-automatic filling	
	Speed 10 to 20 bags/min.	
10.	PLASTIC CREATES	20 No
11.	PEELING KNIFES	20No
12.	CUTTING TABLES	4No
13.	UTTENSILS	4No
14.	BUCKETS	4No.

To be provided by Bidder

(List of packaging material for 3 months & for one batch in a week:

- 1. Built pouches for 500/1000GMS.-300Nos.
- 2. Gear oil-5ltrs

LIST OF CONSUMEABLES and SPARE PARTS (are for two sets of machines & for 1 year)

1. BRUSHES OF ROLLER TYPE FRUIT & VEGHETABLE WASHER-4No.

- 2. CUTTING BLADES FOR SLICER-2No.
- 3. V-BELT-7No.
- 4. MOTOR-1HP- 2No.
- 5. HEATER FOR DRYER-12No.
- 6. TEMPRETURE CONTORLLER FOR DRYER-2No.
- 7. SIEVES FOR PULVERIZER 2No.
- 8. HAMMERS FOR PULVERIZER-10No.
- 9. COLLECTION BAGS-3No.
- 10. SIEVES OF VIBRO SHIFTER-2No.
- 11. AUGER SCREW- 1set
- 12. BAND SEALER
- 13. SEALING BELTS- 10 set
- 14. HEATERS- 3 set
- 15. TEMPERATURE CONTORLLER- 2No.

All In One – AUTOMATIC PACKAGING MACHINE

1. AUTOMATIC FORM FILL SEAL MACHINE: for GRAULES

2No.

Main Frame, Stand and other Parts are made of mild steel & painted.

- Contact Parts: All Contact parts are made of stainless steel grade.
- Sealing type: Center Seal Intermittent Type.
- Packing Size: Pouch Length-100 to 450 mm.
- Film width: 200 To 700 mm.
- Film Type: Heat Sealable, Pet Poly.
- Packing Range:250gm- 500gm
- Former Assay: Three Size former Assay & one Size Cup Filler Disk Included.
- Electric Control: By P L C & H M I.
- Temp Controller: PID Control, Digital 48*48 mm Controlled By SSR.
- Photo Cell Unit: For accurate pouch length.
- Paper Pulling: By Pneumatic items are made By "Camozzi Pneumatic"
- Bearings: Japan/Poland" Make.
- Speed: 50–60 P/minute (Depending upon weight to be packed)
- Speed Controlled: by A.C Drive.
- Proximity Sensors: Data sensor / P & F (Germany) Make.
- Pulling Motor: 1 HP Three Phase 440V AC
- Fill Motor: ½ HP Three Phase 440 VAC.
- Gear Box: Bonaire / Ultra / make.
- Pouch Counter: For Counting The Pouches.
- Compressed air: 3-4 CFM at 8 Kg/sq cm is required.
- Power Required:440 V AC 50 Hz, Three phase, +Numeral 3 KW Load (max)
- Variation in weight:±0.1 to 0.2 g.
- Pouch Counter: Digital Counter for counting the pouches.

Compressed air:5-6 cfm at 6Kg/sq cm is required.

ALONG WITH VOLUMETRIC FILLER ATTACHMENT

FILLING RANGE-100--500gms.

ALONG WITH AIR COMPRESSOR AND ONE SIZE OF CHANGE PARTS

To be provided by Bidder (List of packaging material for 3 months) (one batch in a week):

- Laminate Pouches for 100 Kg
- 2. Gear oil-5ltrs

LIST OF CONSUMABLE SPARE PARTS

(for two sets of machines and for 1 year)

- 1. HEATERS-10No.
- 2. CUTTERS-2 SET
- 3. PID CONTROLLERS-6No.
- 4. FUSE-2 SET
- 5. DRIVE-1 SET
- 6. PLC-1SET
- 7. PULLING ROLLERS-1SET
- 8. SENSORS-1 SET
- 9. MAIN MOTOR- 1No.
- 10. HMI- 1SET
- 11. WHEELS-4 No.
- 12. Volumetric cups- 1set
- 13. VIBRATOR-1No.
- 14. PNEUMATIC CYLENDERS- 1 SET
- 15. BEARINGS-20No.
- 16. AC DRIVE- 1SET

Plant for Gems and Stones Cutting and Polishing

S No	Component	Description	Quantity
1	Assortment Working Station	Size: 4"X2" Mounted on wooden top with Lighting arrangement with Tools for making selection of Rough Gemstone from Mines minerals as well as assortment of rough gems. It should also have facilities to mark gemstone for further sawing operation and trimming of gemstone for making direct selection.	Two sets
,		Suitable for slicing of raw gemstone into small /desired pieces and to perform trimming operation with tools to remove surface impurity of the Gem. The machine to be operated by 0.25HP, 220V, 1440 rpm motor & suitable for slicing of all kind of gemstones from 5mm to 20mm piece sizes. The machine to be mounted on wooden top table	
2	Trim saw machine	and supplied with Tools & consumables.	Two No.

		T	1
3	Pre-shaping machine	For pre-shaping of faceted as well as cabochon gemstones. Should be capable to perform pre shaping of for all kind of gemstones in various forms & shapes of gems. Suitable for 4 persons to work simultaneously. The machine to be run by 0.25HP, 220V, 1440 rpm motor with cooling & lighting arrangement, mounted on wooden top table. To be supplied with tools, consumables & all accessories.	Two No.
4	Universal calibration machine	Semi automatic universal calibration machine suitable for calibration of faceted as well as cabochon gemstones in precision +_ 0.05 mm as per ICA specification. The machine should perform girdle and pavilion cutting in one setting so as to ensure better accuracy and high productivity. The machine should produce calibrated Gems of Round, Oval, Pear, marquise, Octagon, Square, Heart, Trillion and other fancy shapes in various sizes. It should be run by 0.25 HP, 220V, 1440 rpm & DC motor and supplied with coolant & lighting arrangement. The machine to be mounted on wooden top table and supplied with all tools, accessories & consumables.	Two No.
5	Faceting & polishing machine unit	Dual Arbour Precision & Versatile Machine Unit to Process all Kind of Gems into Round, Oval, Pear, Marquise, Square, Octagon, Heart and other shapes in different sizes from 2 mm to 20 mm. Suitable for 2 persons. This machine Unit should be able to cut Gems in Brilliant, Step, Rose and other latest Facet patterns. The machine should be supplied with 4 Nos. Precision Universal Facetors synchronized with each other. It should have accurate spring Loaded Table Polisher & Transferring Block. The Machine should be run by 0.25 Hp, single phase, 1440 rpm motor. The Machine to be mounted on wooden top table and supplied with Cooling arrangement along with tools, consumables & complete accessories.	Eight No.
6	Cabochon polishing machine	For making cabochon of all sizes in Round, Oval, Pear, Heart, Square, Octagon & other Fancy shapes of different gemstones. It should finish as well as polish gems. The machine to be suitable for 4 operators to process complete operations of cabochon independently. It should be run by 0.25HP, 220V, 1440 rpm motor. To be supplied with coolant pumping device having filtering partitions. The machine to have lighting arrangement and supplied with tools, consumable & complete accessories. Machine to be mounted on MS table and to have facilities for dopping of gems.	Two No.
7	Vibrator polisher	4 Kg capacity vibrators to finish as well as polish gemstones separately. The main container should have teflon coating for wear resistance and scratch free performance against hard gemstones. It should be able to polish all kind of gemstone in Tumble, Uncut, Cabochoun and other forms. Fitted with 0.5HP, 2800 r.p.m, 220 V motor, mounted on MS table. The machine to be supplied with abrasive powder, polish powder and complete accessories.	Four No.

8	Ultra sonic drilling machine	With amplitude 40-80 microns with frequencies of 25 kHz, 150 W, sufficient to perform effective drilling from 0.5 mm to 2 mm in gemstone ranging from Rh 5 to 9 on hardness scale. Table mounted machine and supplied with lighting arrangement, tools & complete accessories.	Two No.
9	Grading station	Size: 4"x2", to carry out grading of faceted & cabochoun gems based on their stone and manufacturing quality with special lamps and other inspection facilities to make marketable lots of finished gems for marketing as per international quality checks. To be supplied with complete tools, accessories, packaging material, consumable to take enhance beauty and care of finished gems for a longer time.	Two No.
10	Gemstone Testing machines	 a) UV gemstone tester for differentiating natural gems with synthetic / fake gemstone. b) Refractor meter to judge RI of stone to recognize a particular gemstone c) Spectroscope for judging spectrum of gemstone. d) Gemstone microscope stereo type 30 X zoom with all accessories & tool kit. e) Hardness testing machine complete with all accessories & tool kit. To ensure all testing machines are supplied alongwith testing tools. To be supplied with table and lighting arrangement 	Two sets
11	Electronic weighing machine (digital display) :	Precision weighing capacity upto 10 gm Precision weighing capacity upto 100 gm Precision weighing capacity upto 1 kg Complete with accessories and electrical.	Two sets
12	Working table	5" x 2.5" With 4 sitting tools for dopping of: i) Pre-shaped stone for calibration ii) Calibrated stones for faceting & Polishing.	Two No.
13	Inspection tools kit	Including Eye glass-8 Vernier gauge -1, Dial gauge -1, Brass gauge-4 Nos	Two sets

		i. Indexing dops holder – 24 pcs	
		ii. Brass dopsticks 2mm To 7 mm - 900 Pcs	
		iii. Diamond impregnated Lap 600 Mesh, 1200 Fine Mesh – 12 Pc (6	
		pcs each)	
		iv. Diamond impregnated Lap 100, 180, 260 & 360 Mesh - 8 Pc 2 pc	
		Each	
		v. Diamond Polishing Powder- 40-50000 mesh - 500 Cts.	
		vi. Burner set for dopping- 2 Pc	
		vii. Special dopping wax- 16 Kg	
		viii. Stone bowl big size- 12 Pc	
		ix. Spectacle for eyes guard -8 Pc	
		x. 4" Diamond sawing blade -100 Pc xi. Emery powder size-100,150,260no -4 Kg	
		xii. Gas burnar set with pipe & clamp for tools	
		xiii. Gas lighter -4 Nos	
		xiv. Emery powder size-360 & 600 no – 2 kg each	
		xv. Sandal wood polishing wheel -1 Pc	
		xvi. Polishing powder - chromium oxide - 5 kg	
		xvii. Polishing powder- tin oxide)- 2 kg	
		xviii. Polishing powder pink – 1 kg	
		xix. 22/24 gauge steel Almirah 6" height to keep	
		working tools – 4 shelves - 1 No.	
		xx. Grading tools, polishing tools, accessories, measuring	
		instruments and jigs fixtures etc.	
		xxi. Manual for Gemology, Installation & Commissioning manual,	
		maintenance manual, Gemstone processing manual, etc.	
14	Working Tools	xxii. Complete consumable for 3 months training.	Two sets
	Spares for all the		
	machines for one		
	year of normal		
	operation (Tentatively	To ensure that the spare list include all the items / parts required to	
4-	mentioned for an	be replaced during the course of normal operation and due to wear &	T
15	year)	tear including preventive & breakdown maintenance.	Two lots

Package 3

Organic Composte Machines

(Quantity 2)

Sr No	Description	Specification
1	Input Capacity	100 KG
		Food/Vegetable / Flower waste/Leaves
2	Input Type	
3	Process	Continuous
4	Noise Level During Operation	Less than 3 db(A)
5	Harmful Emission	No
6	Burning And Chemical Use	No
7	Weight Of Machine	Should be less than 400Kg
8	Output compost weight	less than 20% of Input Weight
9	Dimensions	Appx. 1200mm x 750 mm x 1300 (Ht)
10	Power Consumption	Maximum 4 kW, Single Phase
11	Composting Time	24 to 48 hours
12	Inner chamber Material	Stainless steel with SS304 grade
13	Automation	PLC with Auto temp control system
14	Power Supply	Single Phase

No specific spares or comsumeables required. Bidder need to make sure to provide services for 1 year with no downtime due to fault in machine.

Briquetting Machines

(Quantity 2 of each component: Dryer, Grinder and Briquetting Compressor)

Dryer (Quantity: 2)

S No	Description	Specification
1	Power Consumption	4HP/3 KW
2	Production Capacity	300 KG/H
3	Motor Fan to suck the Raw Material 2 HP on I.D.	
4	Motor on Air Lock in Cyclone 1 HP	
	Motoron conveyor to feed material inside the	
5	5 Cyclones 1HP	
6	Type of Panel for Operating & Control Electric Panel	
7	Screw conveyor length 10 feet long	

Spare Parts and Consumables

No such specific parts or consumables; but bidder need to make sure to provide necessary arrangements to provide 100% uptime for an year

Grinder (Quantity: 2)

S No	Description	Specification
1	Production	$600 \text{ KG/HR } 10\% \pm \text{actual production may vary; depends on the combination of raw material.}$
2	Material Used	MS Iron Sheet 10 - 12 mm
3	Raw Material Infeed size	Maximum Dia 10 - 15 mm
4	Raw Material Moisture Content	Moisture should not be more than 12% while Grinding

	Power Required	27 HP / 20.25 KW
5		

Spare Parts and Consumables (for two sets of machines and for 1 year)

1. Grinding cutting blades: 50 Pcs

Perforated Screen: 2
 Tool Kit: 2 Sets

Briquetting Compressor (Quantity: 2)

S No	Description	Specification
1	Production (Per Hour)	300KG/H (On Granulated Material) 10%± actual production may vary; depends on the combination of raw material.
2	Finished Goods Diameter	40mm
3	Finished Goods Shape	Cylindrical
4	Briquettes Length	80mm to 220mm
5	Raw Material In-feed size	Granulated Material Only, If it is bigger than then it
6		should be chopped down
7	Raw Material Required Moisture	Acceptable moisture in raw material for briquetting is 8-13%
8	Power Required	23HP / 17.25KW
9	Machine R.P.M	280

Spare Parts and Consumables (for two sets of machines and for 1 year)

1. Tape Die and Caller: 2 Pcs

Split Die: 2 Pcs
 Ram: 2 Pcs
 Tikki: 2 Pcs
 Tikki Bolt: 2 Pcs

6. Machine Tool Kit: 2 Pcs

(On Company Letter Head)

Revised Technical Compliance Sheet
(Bidder need to put "Yes" in compliance column only when 100% compliant as per specification mentioned Section – V; else need to mention deviation specifically in remarks column. Bidder need to provide sufficient data sheets of products also to justify compliance)

	Technical Compliance Sheet				
	Package A				
	Tomato Ketchup Plant				
S.No	DESCRIPTION	Compliance Yes or No	Remarks		
1	ROTARY FRUIT & VEGETABLE WASHING MACHINE				
2	FRUIT CRUSHER				
3	JUNIOR PULPER				
4	STEAM JACKETTED KETTLE				
5	GLASS BOTTLE Washing Machine				
6	SINGLE HEAD PENUMATIC FILLER				
7	CROWN CORKING MACHINE				
8	SHRINK TUNEL				
9	BAND SEALER				
10	AUTOMATIC FORM FILL SEAL MACHINE				
11	Air Compressor				
12	ALL OTHER REMAINING COMPONENTS OF MACHINES OF PLANT (refer technical specification sheet for remaining components)				
13	STEAM VERTICAL BOILER:100 KGS./HRS				
	Mango Pulp Processing P	lant			
S.No	DESCRIPTION	Compliance Yes or No	Remarks		
1	ROLLER TYPE FRUIT & VEGETABLE WASHING MACHINE				
2	TWIN PULPER				
3	STEAM JACKETTED KETTLE				
4	PS-EMPTY CANS WASHER & STERLIZER				
5	CAN DOUBLE SEAMER				

6	CANNING RETORT VERTICAL		
7	COOLING TANK		
8	ROTARY FLAT CAN BODY REFORMER		
9	HAND FLANGER		
10	DOUBLE SEAMER		
11	TREADLE LID EMBOSSING MACHINE		
12	ROUND CAN BODY BEADER		
13	ALL OTHER REMAINING COMPONENTS OF MACHINES OF PLANT (refer technical specification sheet for remaining components)		
14	STEAM VERTICAL BOILER:400 KGS./HRS		
	Cassava Powder Processing F	Plant	
S.No	DESCRIPTION	Compliance Yes or No	Remarks
1	ROLLER TYPE FRUIT & VEGETABLE WASHING MACHINE:		
2	CASSAVA SLICER		
3	HYDROEXTRACTOR		
4	TRY DRAYER		
5	PULVERIZER		
6	VIBROSIFTER		
7	SCREW FEEDER		
8	AUGER FILLER		
9	BAND SEALER		
10	ALL OTHER REMAINING COMPONENTS OF MACHINES OF PLANT (refer technical specification sheet for remaining components)		
	All In One – AUTOMATIC PACKAGIN	G MACHINE	
S.No	DESCRIPTION	Compliance Yes or No	Remarks
1	FULLY AUTOMATIC FORM FILL SEAL MACHINE		
	Package B		
	GEMS & STONES CUTTING & POLISHIN	IG MACHINES	
S.No	DESCRIPTION	Compliance Yes or No	Remarks
1	Assortment Working Station		

2	Trim saw machine				
3	Pre-shaping machine				
4	Universal calibration machine				
5	Faceting & polishing machine unit				
6	Cabochon polishing machine				
7	Vibrator polisher				
8	Ultra sonic drilling machine				
9	Grading station				
10	Gemstone Testing machines				
11	Electronic weighing machine (digital display):				
12	Working table				
13	Inspection tools kit				
14	Working Tools				
	Package C				
	Organic Waste to Compos	te Plant			
S.No	DESCRIPTION	Compliance	Remarks		
	2200Nii 110N	Yes or No	Romanio		
1	Organic waste to composte convertor				
	Briquetting Plant				
S.No	DESCRIPTION	Compliance	Remarks		
	DEGGINI HOIY	Yes or No	Nomano		
1	Dryer				
2	Grinder				
3	Briquetting Compressor				

Revised BOQ BIC Malawi

(Bidder need to sign and submit blank copy of BOQ along with other essential documents asked above in check list)

Pricing Sheet for Business Incubation Center (Inclusive of all Taxes, Transportation and all other kind of charges In INR)

(Inclusive of all Taxes, Transportation and all other kind of charges In INR) Package A **Tomato Ketchup Plant Unit Price Total Price** S.No **DESCRIPTION** Quantity (In INR) (In INR) ROTARY FRUIT & VEGETABLE 1 2 **WASHING MACHINE** FRUIT CRUSHER 2 2 3 JUNIOR PULPER 2 4 STEAM JACKETTED KETTLE 2 2 5 **GLASS BOTTLE Washing Machine** SINGLE HEAD PENUMATIC FILLER 2 6 **CROWN CORKING MACHINE** 7 2 8 SHRINK TUNEL 2 9 **BAND SEALER** 2 AUTOMATIC FORM FILL SEAL 2 10 MACHINE 11 2 **Air Compressor** ALL OTHER REMAINING COMPONENTS OF MACHINES OF 12 2 PLANT (refer technical specification sheet for remaining components) VERTICAL BOILER:100 STEAM 2 13 KGS./HRS As mentioned consumables & Spare 14 1 parts **Mango Pulp Processing Plant Total Price** Unit Price (In S.No DESCRIPTION Quantity INR) (In INR) **ROLLER TYPE FRUIT & VEGETABLE** 2 1 **WASHING MACHINE** TWIN PULPER 2 2 3 STEAM JACKETTED KETTLE 2

4	PS-EMPTY CANS WASHER & STERLIZER	2			
5	CAN DOUBLE SEAMER	2			
6	CANNING RETORT VERTICAL	2			
7	COOLING TANK	2			
8	ROTARY FLAT CAN BODY REFORMER	2			
9	HAND FLANGER	2			
10	DOUBLE SEAMER	2			
11	TREADLE LID EMBOSSING MACHINE	2			
12	ROUND CAN BODY BEADER	2			
13	ALL OTHER REMAINING COMPONENTS OF MACHINES OF PLANT (refer technical specification sheet for remaining components)	2			
14	STEAM VERTICAL BOILER:400 KGS./HRS	2			
15	As mentioned consumables & Spare parts	1			
	Cassava Powder	Processing Plant			
S.No	DESCRIPTION	Quantity	Unit Price (In INR)	Total Price (In INR)	
1	ROLLER TYPE FRUIT & VEGETABLE WASHING MACHINE:	2			
2	CASSAVA SLICER	2			
3	HYDROEXTRACTOR	2			
4	TRY DRAYER	2			
5	PULVERIZER	2			
6	VIBROSIFTER	2			
7	SCREW FEEDER	2			
8	AUGER FILLER	2			
9	BAND SEALER	2			
10	ALL OTHER REMAINING COMPONENTS OF MACHINES OF PLANT (refer technical specification sheet for remaining components)	2			
11	As mentioned consumables & Spare parts	1			
All In One – AUTOMATIC PACKAGING MACHINE					
S.No	DESCRIPTION	Quantity	Unit Price (In INR)	Total Price (In INR)	
1	FULLY AUTOMATIC FORM FILL SEAL MACHINE	2		_	

2	As mentioned consumables & Spare parts	1				
Package B						
	GEMS & STONES CUTTING	& POLISHING MACH	HINES			
S.No	DESCRIPTION	Quantity	Unit Price (In INR)	Total Price (In INR)		
1	Assortment Working Station	2				
2	Trim saw machine	2				
3	Pre-shaping machine	2				
4	Universal calibration machine	2				
5	Faceting & polishing machine unit	2				
6	Cabochon polishing machine	2				
7	Vibrator polisher	2				
8	Ultra sonic drilling machine	2				
9	Grading station	2				
10	Gemstone Testing machines	2				
11	Electronic weighing machine (digital display) :	2				
12	Working table	2				
13	Inspection tools kit	2				
14	Working Tools	2				
15	As mentioned consumables & Spare parts	1				
	Packa	age C				
	Organic Waste to	Composte Plai	nt			
S.No	DESCRIPTION	Quantity	Unit Price (In INR)	Total Price (In INR)		
1	Organic waste to composte convertor	2				
2	As mentioned consumables & Spare parts	1				
	Briquetting Plant					
S.No	DESCRIPTION	Quantity	Unit Price (In INR)	Total Price (In INR)		
1	Dryer	2				
2	Grinder	2				
3	Briquetting Compressor	2				

4	As mentioned consumables & Spare parts	1			
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