A BANKABLE PROJECT REPORT

ON

BUTTON MUSHROOM

OF

CHATTISGARH BUTTON MUSHROOM FARM

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PROJECT AT A GLANCE

Name of the firm	**M/s Chhattisgarh Button Mushroom Farm**	
Project Location	Vill- Kusmi Teshil- Berla, Distt- Bemetra	
Central Office		
Partners	Sh Om Prakash Dagar Sh. Ramesh Kumar	
Sector	Agricultural	
Project	Button Mushroom integrated unit	
Principal raw materials	a)Paddy /Wheat/ Soyabean Straw b)Poultry Manure, Cotton Seeds, Gypsum, Oil	
Estimated Project cost	**Description**	**(Rs. In Lacs)**
	Land & Site Development	14.42
	Building & civil works	126.79
	Plant & Machinery	123.45
	Back End FDR for subsidy	50.00
	Deposits	5.00
	Pre-operative Expenses	12.38
	Margin for working capital	19.97
	TOTAL	**352.01**
Means of finance	Partner's Capital	80.00
	Unsecured Loans	47.01
	Term Loan	175.00
	Subsidy	50.00
	TOTAL	**352.01**

Debt Equity	1.90	
Zero Date	Decr-2013	
Commencement of Operations (CoD)	1st September 2014	
Products	Button Mushroom	
Project technical consultants	Dr. B.L.Dhar Former Principal Scientist IARI, New Delhi Dr.R.K.Sharma Senior Scientist IARI, New Delhi Mr. Om Prakash Dagar Highly experience in white button mushroom since 1989	
Project financial Consultants	Dhody & Associates Chartered Accountants, 115, New Civic Centre, Bhilai (C.G.)	
Capacity	265.68 MT / P.A.	
Status of project implementation	The land measuring around 2 Acres for the proposed project	
Tenor of Term Loan	8 Years	
Financial Returns	Gross DSCR	2.24
	IRR	24.78

CHAPTER-1

INTRODUCTION:

Mushroom is one of the most important horticultural cash crops grown world over, and is least land dependent. A piece of land is required for building of infrastructure. The cultivation is done entirely indoors on substrates prepared from agricultural waste materials specially for the purpose of mushroom growing. Mushroom is a highly profitable cash crop in India, especially when raw materials and labour are available at cheap rates. Mushroom cultivation, which is of recent origin in India, has become popular all over the country especially with advancement in development of environment control systems. White button mushroom cultivation (Agaricus bisporus) was initiated at Solan, Himachal Pradesh in early sixties successfully. Since then mushroom cultivation has been taken up by private and government agencies all over the country. In hilly regions white button mushroom is commonly grown as a seasonal crop because of its low temperature requirement for cropping (15-18C), while as Oyster / dhingri and paddy straw mushrooms are successfully grown in hot and humid regions, like coastal areas / peninsular India, under natural seasonal growing conditions. It is now possible to grow white button mushroom at any elevation/place with creation of necessary environment. Specially designed insulated cropping rooms are built to cut off the external environment with that of inside environment. The environment / climate inside the cropping rooms is simulated to exact conditions required for mushroom growth. This has enabled growers to harvest excellent crops of mushrooms, irrespective of external environmental conditions prevailing.

Mushroom forms an excellent protein rich diet for human consumption. Mushroom is valued for its aroma, food value, mineral and vitamin content and fiber value. Mushrooms

are one of the richest in protein content amongst the vegetables (3.5 - 4 percent protein content on fresh weight basis), and are valued for the highest content of folic acid required for healthy blood development in human beings . Mushrooms have a high content of fibre and potassium which are useful for lowering blood cholesterol level and control of high blood pressure respectively. Mushrooms above all, are excellent addition to the menu of vegetarians and are now being cultivated at hills and in tropical areas of India under controlled environment successfully. Mushroom cultivation is especially high on the priority list for export which can earn valuable foreign exchange for the country. It is more profitable and economic to grow mushrooms in areas with abundant raw materials and cheap labour, as it is no more economical

to grow mushrooms in highly industrialized countries because of high cost of raw materials and labour.

The entire infrastructure will be built at one place, and the site selected is nearer to the main road necessary for operational convenience. The composting unit is to be built closer to the main road and the bulk chambers will be built on the distant end of the composting yard for reasons of hygiene. The growing rooms should be built on the spawning end of the bulk chamber and away from the composting yard. The spawn production laboratory will be built in the ground floor . In this report details of the following will be given with structural design:

i) **Composting yard consisting of phase-I chambers, bulk chamber / pasteurization chambers, composting platform and casing pasteurization chambers,**
ii) **Four environments controlled cropping rooms for raising of crop.**
iii) **Canning unit**
iv) **Spawn Laboratory**
v) **Training centre for "Mushroom Production Technology"**
vi)

PRESENT STATUS OF MUSHROOM PRODUCTION IN INDIA AND THE WORLD

Till date white button mushroom continues to dominate the world production. A total of 22 million tons of all types of edible mushrooms were produced in the year 2008 from all over the world and China produced about 70 % of the world production. The world's largest producer of cultivated mushrooms is China. Germany and USA together are the largest consumers of mushrooms in the world with highest per capita consumption of 7 kg and above as compared to a few grams in India. India produced about 100,000 tons of mushrooms in the year 2008 .There is tremendous potential for domestic marketing of the fresh mushrooms in India , especially through the use of cold chains for fresh marketing, thereby reducing further investment in processing . This will also generate greater liquidity to the company through direct sales through retail outlets from departmental stores / fresh vegetables counters in big malls like Walmart , Reliance Fresh and others. Button mushrooms, oyster mushrooms and other specialty mushrooms are packed in plastic punnets / cardboard boxes and covered with a polyfilm before these are chilled at 2-4 C for a few hours for fresh marketing. Edible cultivated mushrooms can be sold after drying as well , especially for distant marketing.

There is a tremendous spurt in the field of mushrooms presently in India and scores of new commercial units are coming up both in private and public sector. The scope for export of mushrooms is increasing as raw materials and labour , two chief factors required for mushroom cultivation, are available in our country in plenty at comparatively lower rates. Commercially,

mushroom production can give a profit of approx. 80-100 percent over the costs incurred if grown round the year under controlled environment with 18-20% conversion.

CHAPTER-II

CULTIVATION TECHNOLOGY TO BE ADOPTED

A) Substrate preparation/composting:

Commonly cultivated white button mushroom *Agaricus bisporus* is one mushroom which requires substrate preparation with greater skill, as it does not grow best on unfermented agro-wastes, as is the case with other cultivated mushrooms like *Pleurotus*. The substrate/compost for button mushroom is prepared from agro-byproducts/wastes like cereal straw, sugarcane bagasse, barley/millet stalks, maize stalks and other such materials. The cereal straws/other straws are used as base materials, which are supplemented / enriched with nitrogen rich animal manures like horse dung / poultry manure and other such materials. The materials are wetted / blended in a definite proportion, subjected to solid state fermentation in 2 different phases and a selective medium prepared for the exclusive growth of mushroom mycelium.

i) **Materials**: The commonly available materials in the form of agro-wastes / byproducts are generally used as base materials for compost making. The most common being the cereal straws (paddy straw / wheat straw), sugarcane bagasse, maize stems, barley grass, hay and other such materials. The commonly used animal manures are the N-rich poultry manure, horse dung and other such materials, which are used as nitrogen rich supplements / activators and total nitrogen content brought to 1.7% of the total dry weight (carbon content) before starting. For this we add some nitrogenous fertilizers and bring the C:N ratio to 35:1 at start of composting process. The mesophilic microbes that have to initiate in the fermentation process with generation of heat in the compost require a basal C:N ratio of 35:1.

The availability of base materials like cereal straws and supplements like poultry manure guides a grower for determination of a formulation for compost making. No formulation is recommended as such but the formulation is developed after assessing the availability of raw materials / supplements in a particular area and the costs at which these materials are available.

Base materials

Wheat straw ,Paddy straw, Maize stems Jawar stem, Barley stems, Sugarcane bagasse, Hay

Animal manures

Horse manure Mule dung Poultry manure Ixcreta from piggery

N-rich organic activators/supplements

Soybean meal Cotton seed meal Soybean cake

Cotton seed cake Maize cob shells Cotton seed hulls

N-rich fertilizers recommended

Ammonium sulphate Calcium ammonium nitrate

Urea Other N-fertilizers

ii) **Recommended formulations in India (one ton base material)**

1) Wheat straw - 1000 kg

Poultry manure (dry) - 500 kg

Wheat bran - 100 kg

Cotton seed cake - 60 kg

2) Sugarcane bagasse - 1000 kg

Paddy straw - 300 kg

Poultry manure - 800 kg

Urea - 15 kg

v) Composting procedure- short method

The entire composting process is accomplished in 2 phases, phase-I and phase-II. Phase-I is done in 2 parts, part-I is pre-wetting / mixing / blending and part 2 is outdoor aerobic fermentation either in a stack outdoors on composting platform or in a phase-I aerated bunker.This is followed by phase II process of pasteurization / conditioning .

Phase-I :

Pre-wetting :

- The raw materials are brought to the composting yard and straws are first wetted, either in a bog or by use of a sprinkler or water hoze pipe (-6) day. The straw is thoroughly wetted and turned with forks/front loader so that all portions of straw heap receive water. The wetted straw with water seeping out at the cement floor is left as such overnight/48 hrs. to allow the moisture to be imbibed

by individual straw cells in a heap. The water leached out during wetting is collected in a guddy pit, and reused the next day.

- The straw is turned and wetted again on (-4) day after 24/48 hours on day-0 (depending upon the type of straw used – paddy 24 hours, wheat – 48 hours). The water from guddy pit is sprayed back onto the straw to utilize the nutrients leached out on first day wetting. The straw is again wetted and turned. This is again left standing in a wet heap for 24/48 hours, to permit water absorption and dewaxing of the wheat straw cells.

- On day (-2) the additional composting ingredients like wheat bran, fertilizers, cotton seed cake and poultry manure are mixed with the wet straw thoroughly to blend the composting material thoroughly, and water if required.

- The watering/blending are two important activities in compost making which are critical for making of a good compost. At this stage composting ingredients should have 75% moisture.

- The partially fermenting composting ingredients are left at the pre-wetting yard for another 24/48 hours to permit absorption of water to its maximum by the straw cells.

- On day (0) the composting materials are stacked after thorough mixing/blending/watering. Moisture level of around 75% is maintained at this stage. With addition of poultry manure, the heating of the pile takes a vertical take off & poultry manure works like a rocket fuel and results in tremendous heat production in first 24 hours after stacking.

Outdoor composting : The stack is made on the composting platform on 0-Day or alternatively the ingredients are filled into a phase-I aerated bunker, for aerobic fermentation. The pile outdoors is made 5 feet wide & 5 feet high and length will depend on the quantity of the material. For outdoor composting, wooden/steel boards are used to give the stack a smooth vertical wall on all sides for proper aeration of the compost pile (chimney effect – meaning that hot air on escape from top will be replaced by fresh air going in from sides).

- The stack is given Ist, 2nd & 3rd turnings on day 2,4 and 6 for proper mixing/blending of ingredients and watering of portions not properly wetted. The turnings facilitate uniform fermentation of ingredients/mixing and replenishment of fresh air into the stack for aerobic fermentation. Ensure that the temperature in the stack before each turning is around 70-75°C. Gypsum is mixed on 3rd turning when maximum ammonification has been achieved (0.4% ammonium at 3rd turning/at filling into phase-II chamber). The material is filled into the chamber quickly to preserve heat and phase-II operations resumed.

- Alternatively, aerated bunker can be used in place of open stacks for phase-I composting process. The composting ingredients after pre-wetting are filled into the aerated phase-I bunker over the grated floor to the height of 6-8 fee. The material is left in the bunker for 48 hours for high

temperature fermentation. The blower of the aerated floor is operated for 5-6 minutes every hour to replenish oxygen in the composting ingredients and drive out foul gases. The oxygen availability is made a limiting factor and with restricted oxygenation of the composting materials, lesser foul gases are produced & emitted. That is why this method is termed as eco friendly. The composting ingredients are drawn out of phase-I bunker and put on the platform and after a few hours refilled into the phase-I bunker again. This helps in mixing/blending the materials well, inspect the composting materials for production of fire fang/moisture content, and apply corrections if required. As a matter of principal the watering/mixing should be perfectly done during pre-wet operations and amount of water required should be blended into the material during the pre-wetting operations. The entire process of composting will go out of gear if this stage is not done religiously . The ingredients are allowed to stay in the bunker for another 48 hours and again drawn out 3rd time & poured onto platform after mixing gypsum with it.

- The ingredients are monitored for temperature at each filling. The temperature in the core region goes to 70-75%/ or even upto 80°C, but botton/sides/top show lesser temperature of around 60°C. It is in this region that useful thermopiles are left surviving to be of help in phase-II operation later.
- The composting ingredients after solid state uniform aerobic fermentation in phase-I bunker for 6 days with emptying/refilling done after every 48 hours, is ready for filling into the phase-II (pasteurization chamber). The material is quickly loaded onto the grated floor of the pasteurization chamber to the height of 2 meters, chamber closed & the blower switched on.

Phase-II :

Pasteurization / conditioning:

Phase-II of compost making starts after completion of phase-I of composting. The material after filling into the bulk chamber/peak heating chamber, is maintained in the closed chamber with switching on of the blower fan to equivalize the temperature of compost/air below & above compost. The heat is given out from fermenting compost and this results in heating of air above & below compost mass slowly. The compost is at a temperature of 45-50°C when filled into the chamber and slowly the air above shows temperature rise followed by rise in temperature in air in the plenum. The temperature is equalized in 6-8 hours or even 12 hours with blower continuously on and fresh air inlets closed. After equivalization of temperature, the steam is injected to increase the temperature of the compost as quickly as possible to pasteurization range (57-59°C air tempt.), which may take 8-12 hours depending upon the quality of compost in the chamber and capacity of the boiler. The time is noted when the air temperature above the compost and the plenum reaches 57-59°C. The temperature is held in this range for 8 hours for pasteurization process. The compost temperature may also be in the range of 58-60°C but air temperature should not be allowed to go beyond 59°C. Use of steam is made

intermittently, if required, to maintain the air temperature (57-59°C) in the desired range during pasteurization process. After completion of pasteurization process, fresh air vent is opened 20% to let in fresh air for aerobic high temperature fermentation of the compost. The compost temperature tends to fall slowly on opening of fresh air vent and it is allowed to drop slowly to 48-53°C for conditioning process to resume. The temperature of the compost is held in this range for 5-6 days till the ammonia smell is no more discernable. After completion of conditioning, more fresh air is brought in by opening the vent to 50-100% and compost cooled down to 25°C before spawning. In tropical areas use of cooling coils is done to cool compost temperature to 25°C as ambient temperature in summer is around 40-45°C. During the process of conditioning the blower fan is kept on non-stop, fresh air vent kept open at 20% fresh air with exhaust of gaseous air from inside through exhaust outlet. Steam can be injected, if required, to keep the compost temperature in the desired range. During the process of conditioning the ammonia (free/ bound) is converted to microbial proteins by thermophilic microbes (mostly fungi). Phase-I is done to bring composting materials to the stage of maximum ammonium production, and phase-II to facilitate the conversion of ammonia/ammonium to microbial proteins in the compost which is selectively utilized by mushroom mycelium later for mushroom production. The compost after completion of phase-II of composting should be dark brown in colour, dull & non greasy looking, with nitrogen content at 2.3 – 2.5%, moisture at 67 ± 1°C, pH in the range of 7-7.5 (even upto 8), and with no presence of off-odour/ammonia (to be detected by smell). If dragger tube is available, ammonia content should be below 3 ppm.

B) Spawning and Spawn run

Spawning of the compost is done immediately after completion of composting process and when compost temperature has been brought down to 25°C. The grain spawn of *A.bisporus* is mixed with the compost under aseptic conditions and seeded compost filled into polythene bags or beds, compressed hard and levelled. The mouth of the polythene bag is closed loosely, rather folded to prevent evaporation of moisture from the compost. If filled in trays/shelves, the seeded compost after compression/levelling is covered with a clean newspaper sheet. Bags can be filled from 12”- 20” depth, shelves can be filled upto 8-10” depth. The newspaper is wetted daily to prevent moisture loss from bed. The desired quantity of spawn is directly mixed with the compost thoroughly (0.5-0.7% of wet compost weight) and seeded compost filled into the bag or shelf or tray. spawn can also be added to the compost by layer spawning method, top layer spawning or dibbling into the compost all over. All methods of spawning are at par, and it is the convenience of the grower that decides the method that he chooses for spawning. The spawned compost is placed inside a cropping room, maintaining at a temperature of 23 ± 1°C (air tempt.), RH of 95% and high CO_2 conc. (10,000-15,000 ppm strain dependent) for effective spawn run. There is no requirement of fresh air during spawn run, and all vents are kept closed during the process of spawn running, which takes about 12-14 days. Entire

compost mass turns light brown after spawn impregnation/spawn run. Ensure that pure culture spawn, freshly prepared, is used for spawning, which is done under aseptic conditions. The spawning area, tools, hands should be sterilized with formation before spawning is done. All the doors/windows in spawning area should be kept closed during spawning operation. The spawn running temperature for *A.bitorquis* is 28°C ± 1C (air tempt.)

C) <u>Casing and case run</u>:

Casing layer is a layer of soil 3-4 cm thick applied on top of spawn run compost and is a pre-requisite to fruiting in *Agaricus bisporus* cultivation.

<u>Casing materials:</u> Earlier sub-soil material or organic matter rich soils were used as casing in button mushroom cultivation earlier. Presently peat is the most desirable casing material used world wide with excellent mushroom yields and superior fruitbody quality. There are several other alternative materials now recommended for use as casing materials in white button mushroom cultivation. These are well decomposed Farm Yard Manure, well decomposed Spent Mushroom Compost, composted Coir Pith (Coir industry waste), decomposed powdered bark of some forest trees, paper industry waste etc. The casing materials should be soft, pliable, capable of tremendous water holding capacity, capable of permitting maximum air exchange / ion exchange and above all be deficient in nutrient materials supporting vegetative growth of the fungus. The casing materials should have C and N in unavailable form, otherwise there will be no fruitbody formation. The casing material should be almost neutral in pH with low electrical conductivity (400-600 µ moh). Sand, burnt paddy husk, ash and gobar-gas-compost are undesirable casing materials used by many growers in Indian in absence of viable casing materials. Sugarcane-mud press in combination with coir pith has also shown promise as a healthy casing material in India. Casing material should not be sieved but used as such with clumps, which permits more air spaces in casing. The casing surface should have small mounts and valleys.

<u>Casing treatment :</u> Casing material before application is steam treated at 65-70°C for 6-8 hours. The casing material is wetted to 25-30% water holding capacity, filled into the casing pasteurization chamber and steam injected into the chamber till temperature in the casing medium reaches 65-70°C. Hold the temperature in this range for 6-8 hours. The casing material is allowed to cool before application.

Alternatively casing material is treated with formalin, using 1 litre of **Formaldehyde 40** per 1 cubic meter (approx. 1000 kg) of casing material in concentrated form. Heap the wet casing on a cemented platform and apply formaldehyde to the casing directly @ one l /1 m^3 and mix with a shovel. Cover the casing with a polythene sheet and seal the outer periphery by pouring sand/soil on outside margin. Allow the casing to stand like this for 24-48 hours in sun for fumigation effect. The formalin gas will be produced at temperature of 25°C and above which will kill all the living microbes, insect pest and fungi, rendering the casing medium safe for use. The casing material before use should be exposed to

sunlight, spreading it over with clean tools and permitting the formalin fumes to escape into air for 2-3 days. Care should be taken to prevent re-infection of the casing materials. Store the treated casing material in a sterilized, clean room in polythene bag or synthetic cloth bags.

Casing application : Apply casing layer over levelled fully spawn run compost, 4-5 cm deep uniformly. Wet the spawn run compost by giving a light water spray, then apply casing (Avoid this practice in cultivation of *Agaricus bitorquis*). Use metallic rings 4-5 cm wide or wooden buttons 4-5cm thick for application of uniform depth of casing layer. Water spraying should be given immediately after casing application to make the casing wet and bring it, to maximum water holding capacity. Care should be taken that the water does not run into spawn run compost. It is best to apply water to casing in a few installments to bring it to maximum water holding capacity.

Case run and pinhead formation : Case run or impregnation of mycelium in casing in *A.bisporus* is done at a temperature of 24 ± 1°C, 95% RH and CO_2 concentration upward of 7500 ppm (strain dependent). Case run in *A.bitorquis* is done at 28°C (air tempt.) It takes about one week for complete case run at above mentioned environmental parameters. There is no requirement for fresh air introduction during case run. The case run is considered complete when mycelium comes in the valleys of casing layer. At this stage the environmental conditions are changed by lowering the temperature to 15-17°C (air), RH to 85% and opening the fresh air ventilation to bring in oxygen and exhaust CO_2 to bring the CO_2 concentration in a room down to 800-1000 ppm (strain dependent). This change in environmental parameters induces pinhead formation in 7-10 days (strain dependent) time. The pins develop into solid button sized mushrooms in another 3-4 days. The air in the cropping room is changed 6 times in one hour to maintain appropriate CO_2 conc. in a crop room, as CO_2 is at its peak during first flush (actually peaks at case run).

D) Environmental crop management

During the entire cropping period, the air temperature of 15-17°C and 85%. RH is maintained in the cropping room, with CO_2 concentration held at 800-1000 ppm. The bed temperature should always be 1-2°C higher than air temperature to permit slow evaporation from casing, necessary for upward movement of nutrients in the compost for obtaining healthier flushes of mushrooms. A flush break lasts 4-5 days or even 7 days depending upon the intensity of the flush. In-between the flush breaks, no stray mushrooms should be left growing on the bed as it will delay the formation of next flush. If possible, raise the air temperature by 2-3°C for 24-48 hours in-between the flushes to accelerate formation of subsequent flushes.

During first & 2^{nd} flush 6 air changes are resorted to per hours to get the desired oxygen – CO_2 concentration in the cropping room, and after 2^{nd} flush only 4 air changes are required as lesser quantities of CO_2 are produced with passage of cropping time. Use CO_2 meter for monitoring CO_2 conc.

in the cropping room at desired levels. Air tempt., RH and CO_2 conc. are three important and vital parameters to be strictly maintained during pinhead formation to obtain a good flush of mushroom. Deficiency in one out of above parameters during pinning will lead to reduced pin head formation thereby resulting in reduced mushroom yields. All the parameters are interdependent upon each other, and have to be maintained in the right range for optimal results. Possibly, that is the reason why computer controlled environment maintenance is considered superior as it results in significantly higher mushroom yields for the reasons explained above. Computer control synchronizes the control of environmental parameters in the desired range for greater productivity.

Mushrooms are harvested when buttons are of 4-5 cm in dia, tough, stout and hard. Hold the mushroom between your forefinger and thumb, rotate it gently to disconnect it from the mycelium in the bed. Dress the mushroom by cutting off the soiled stem portion and collecting different grades of mushrooms in different baskets. Apply fresh casing at places where mushrooms have been removed. Add water at the rate the mushrooms have been harvested, i.e. for every kg of mushroom harvested add 1 litre of water after harvesting. Do not allow the casing to dry, as it will result in sealing of casing and mat formation.

Watering : Mushroom contains 90% water and that should give us an idea how water is important for the crop raising. Mycelium gets water from compost during spawn run and compost + casing during case run and from casing during fruit body formation. Water level in casing can be maintained in 2 ways at optimal level for growth of mushrooms. One is by regular water spraying when pins are pea sized and second is maintenance of RH at 85% during cropping, ensuring slow evaporation from crop beds for upward movement of nutrients in the compost. If one of the factors, water spraying/RH maintenance during cropping is disturbed, it effects crop productivity. Low RH in the room will encourage quick drying of casing , thereby effecting normal development of the fruit body. Low RH during cropping will result in drying of beds, light weight mushrooms, discoloration of mushrooms and crop losses. Drying of casing will seal the casing medium and result in formation of mat which becomes imperious to water, and results in tremendous crop losses. Water has to be replenished in casing to accommodate the water loss from casing due to mushroom growth and evaporation into the room air. It is not desirable to have 100% RH in the cropping room during cropping as it will not permit slow evaporation from crop beds, thereby preventing the nutrient upward movement in the compost and loss of CO_2 + heat into the room air for removal by the AHU. This fact has always to be kept in mind while raising a crop of mushrooms and importance of water realised. Bed moisture and RH are two different factors, directly dependent upon each other. Bed moisture loss by way of crop growth is desirable, as it will ensure harvest of healthy/solid mushrooms but this loss should be replenished immediately and as much of water added to the bed that equals to the weight of mushrooms harvested. That should be the rule of the thumb, as far as watering during cropping is

concerned (1 kg mushrooms harvested/1 litre of water added to casing). Avoid watering of beds at pin breaks. The casing should be wet enough when fresh air is brought in and room temperature lowered. That wetness should be sustained till pin heads become pea sized, and that is the stage when bed will require additional watering to allow pea-sized pins to develop into button sized mushrooms. Water management in mushroom crop management is the most critical of factors, requiring experience and skilled application. Watering to beds requires quantification at each stage, and the trained manpower handling watering will ensure proper water management in the cropping room. To monitor the RH in the cropping room, use two ordinary stem thermometers in the cropping room, placing one in the casing/compost bed and one hanging in the air nearby (few cm apart). Ensure that bed temperature is always 1-2°C higher than air temperature, which confirms that the air circulating in the room is humidified enough to prevent heavy evaporation from crop beds. When the air temperature is greater than the bed temperature it indicates the air in the room is dry and is removing moisture + heating from the crop bed, thus showing decreased bed temperature. This is an undesirable situation and will require quick remedial measures to prevent crop losses. Remedy is to increase RH to appropriate levels immediately, ensuring smooth crop production. Computer control of AHU for climate creation in the crop room ensures application of cropping parameters with precision during spawn run, case run and cropping. Use clean water free from salts, heavy metals and other impurities for watering of the crop beds. Water that is good enough for drinking/watering for vegetable/field crops should be good enough for mushroom cultivation. It is desirable to test the quality of water before the mushroom growing is started at a particular site. Test the water for pH, salts, heavy metals like iron/lead and other undesirable residues. Do not use sewage water for watering of crop beds during mushroom cultivation. Avoid use of chemicals/pesticides during crop raising to harvest chemical free mushrooms. Fungi are very efficient in uptake of pesticides from the substrate, and use of pesticides/other harmful chemicals should be avoided as far as possible.

For pest control, selective use of pesticides is recommended under advice. Preventive measures for exclusion of pests during mushroom crop raising is the best method of pest control in mushroom cultivation. Once the infection is established in the crop beds, eradication by chemical control is a difficult task and not very successful in mushroom cultivation. Pesticide/chemicals leave heavy residues in the fruitbody, as mushrooms have to be harvested everyday after spray application, and hence should be avoided. Use of biocontrol agents/plant products for pest control should be resorted to, if necessary.

E) <u>Harvesting and after care</u>

The mushrooms when fully mature/grown to its right biological stage (hard button size) are ready for harvesting. Button sized mushrooms 2-5 cm in cap dia, with closed veil and hard pileus is ready for the harvest. Hold the mushrooms between your forefinger and thumb, rotate the mushroom

clockwise/anticlockwise to disconnect it from mycelium in the casing. Cut the soiled stem portion and collect the cut mushroom in a basket grade-wise. Do not drop the stem cuttings on the floor or the bed, as these will invite undesirable organisms to develop on it, thereby starting a problem in the cropping room. Clean the beds/floor after harvesting. Pour fresh casing materials at places where mushrooms have been removed/harvested, then spray water over the crop beds to leave it in excellent condition for development of the next flush.

Remove browned pins/mushrooms, if any, from the bed with hand and pour fresh casing at these places. If bunching is observed, address climate controls for creation of optimal environmental conditions during pinhead formation. If onion sized mushrooms/drum sticks are observed, correct air circulation in the room for effective CO_2 removal from crop beds. Lack of air movement over crop beds and accumulation of CO_2 creates this type of situation on the crop beds. Long stemmed mushrooms are again the outcome of CO_2 accumulation in the air around crop canopy due to faulty air movement/air circulation in the cropping room.

Mushrooms after harvest are separated into different grades, packed in PP bags/card board boxes and preferably chilled at 4°C for 6-8 hours before sending to the market. The pre-market chilling enhances the shelf life of mushrooms. While harvesting care should be taken to keep the pileus free of casing soil so that the mushroom is not stained. Washing of mushrooms is undesirable, especially washing with Potassium metabosulphide solution to make these extra white for reasons of increased acceptibility in the market . Unwashed mushrooms stay fresh for a longer period. Mushrooms should be handled carefully, and not bruised during the harvest operation. Bruising will turn the pileus dark/pink on exposure to air. While packaging mushrooms in PP bag, ensure that a small hole (0.2 mm) is made in each PP bag to prevent the development of aflatoxins in transit or storage.

Button mushroom can be stored at 4°C for a few days without any deterioration in its quality but it is desirable to consume/market the fresh mushrooms immediately after harvest. Since button mushroom has a very short shelf life, it cannot be stored for longer periods and hence will require to be processed for longer storage. Mushroom are best preserved in brine solution after blanching, either in cans or jars. The processed mushrooms stay in good condition for over a period of 1 year if canned properly under aseptic conditions. It is possible to transport canned mushrooms in containers over longer distances without any deterioration in its quality. But fresh mushrooms can be transported short distances only in refrigerated vans/by air to reach a remunerative markets. Mushrooms can also be freeze dried for export and freeze dried mushroom retain original food value, flavour, colour and texture. But this method is expensive as the machinery has to be imported from an industrialized country at a very high cost.

F Post Harvest Management

Packing and Storage

(A) Short Term Storage

Button mushrooms are highly perishable. Harvested mushrooms are cut at the soil line and washed in a solution of 5g. KMS in 10L. of water for removing the soil particles as well as to induce whiteness. After removing excess water these are packed in perforated poly bags each containing around 250-500 g. of mushrooms. They can be stored in polythene bags at 4-5^0 C for a short period of 3-4 days.

The mushrooms are usually packed in unlabelled simple polythene or polypropylene for retail sale. Bulk packaging does not exist. In developed countries, modified atmosphere packaging (MAP) and controlled atmosphere packaging (CAP) are in vogue.

(B) Long Term Storage

White button mushrooms are not usually dried by common procedures used in case of oyster, paddy and shitake mushrooms. Canning is the most popular method of preserving the white button mushrooms and sizeable quantity of canned produce are exported to international markets. Besides that, freeze drying, IQF and pickling are also practiced by some units.

CHAPTER-III

TECHNICAL CONSULTANCY:

The requirement of technical consultancy for construction and commissioning of project will be required on continuing basis, without which it may not be possible to develop the project in shortest possible time. It is important to identify an air conditioning company with proven experience in the field of mushroom growing, without which the project may not be operated on viable basis. Climate controls in the cropping rooms are a necessary pre-requisite for the success of a mushroom project. A sound production technology with building of efficient infrastructure for raising of the crop will form the core of the project.

(i) Mr. Om Prakash Dagar, active engage in cultivation of white button mushroom since 1989 to till now and worked for both seasonal and high tech farms equipped with ultra modern facilites.

(ii) National Centre for Mushroom, Chambaghat, Solan, Himachal Pradesh-173213, [Tel: (01792) 30451, 30767]

(iii) Dr. B.L.Dhar, formerly Principal Scientist, Indian Agricultural Reserach Institute, Pusa, New Delhi, actively engaged in mushroom cultivation presently with various private firms.

(iv) Dr. R.K. Sharma, Senoir Scientist, Indian Agricultural Reserach Institute, Pusa, New Delhi, actively engaged in mushroom cultivation and research

CHAPTER-III

Pest and Disease Management

A wide range of diseases and pests can cause serious problems in mushroom cultivation, and management of those diseases and pests is a key factor in successful mushroom production. The main reasons for the existence of many diseases and pests problems in mushroom cultivation can be summarized as

- Mushroom cultivation conditions such as high humidity and warm temperature are favored by many pathogens and pests.

- There is a limit on chemical use for control of diseases or pests in mushroom cultivation.

- Pathogens and pests are readily attracted inside and/or outside mushroom houses involved with continuous cultivation.

- Growing houses are not usually well equipped for environmental control.

Basic Practices for Disease and Pest Management

- Sanitation and strict hygiene are the most important preventive methods for pest and disease control. Without them, effective disease or pest control will never be achieved. Every practice must focus on exclusion and elimination of pathogens or pests.

- Keep doors closed and avoid any practices that expose substrates to pathogens or pests during spawning.

- Keep mushroom flies from entering mushroom houses by installing screens on windows and doors.

- Inspect mushroom bags or beds carefully for early detection of pests and diseases.

- Keep mushroom bags or beds clean by removing any mushroom debris or mushroom stumps shortly after harvest.

- Keep the floors clean. Do not dump any waste near mushroom houses, which can attract mushroom flies.
- Disinfect or pasteurize spent substrate before removing it from mushroom houses after cultivation.

- Clean and disinfect mushroom houses thoroughly before a new crop.

- Clean and disinfect equipment frequently.

- Wear clean clothes and shoes and wash hands before entering mushroom houses.

CHAPTER-IV

PACKING AND MARKETING

A) PACKING

The fresh mushrooms after harvest are best packed in plastic pin nets / polythene bags with a small hole, sealed and cold stored at 4-5^{0}C for 6 hours before sending to market. This enhances the shelf life of fresh mushrooms. If the mushrooms are to be sent to a distant market, the packets can be packed in an insulated GI box, with small ice pack put in layers inbetween mushroom packets. But for longer storage it is best to can the fresh mushrooms. The fresh mushrooms are best packed in plastic punnets and covered with a polyfilm. It is recommended to have a cool chain for transport of fresh mushrooms to distant market as indicated above.

With availability of environment controlled cropping rooms, hybrid strains of mushrooms can be grown with exhalent yields . There is tremendous scope for marketing a mushroom fresh . Hybrid strains of white button mushrooms can be grown successfully in above designed mushroom growing rooms with perfect environment control, with ensured production. Hybrid mushrooms are good in look, taste and vigour, and are preferred in markets in both in India and western countries over the non-hybrid strains grown in earlier.

B) MARKETING

a) Pricing

The market in cosmopolitan cities is large enough for fresh market sale at attractive prices. The prevailing whole seal price of white button mushrooms in these area is about Rs.60/- and above per kg. of fresh mushrooms. There seems to be good scope of marketing fresh mushroom in estern regions of India as well.

b) Art of Growing Mushroom

We will have the state-of-the-art growing and food processing facility in Chattisgarh We will service the requirements of International, domestic in fresh, processed mushrooms and other vegetables. We will have well established dealership network prominently covering twelve states of India. Today, owing to changed life style and usage pattern in terms of food habits and their universal appeal – relished by across the globe and a growing demand, cultivated mushrooms and green house generated vegetables have found round the year demand and therefore grown on farms through out the world. We

will be starting production in 2014, with the concept of integrated, round the year climate control production facility. We have 12 rooms, fully air conditioned with forty tons of compost load capacity in each room. We grow at an average one ton of white button fresh mushrooms a day.

c) Health Factors

We would be dealing majorily into Button Mushrooms that are low in calories and fat, are the one which are good source of Vitamins, Proteins and fibers. Not to mention a great source of culinary joy, when included into the diet leads to unbelievable weight control. So go ahead, get in touch and discover TOP STAR Products.

d) Location Factor

We would be centrally located in India ie Chattisgarh and it would be very easy for us to market our product from this place.

e) Various Enquires in Hand

We have about 5 major sellers of Mushroom has approached us and had assured us that they can be associated with us in marketing of marketing

S.No	Name	Presently Selling	Phone Numbers
1	Girdhari, Raipur	1000 Kg per day	9327466721
2	Deepak Raipur	1000 Kg Per day	9329477727
3	Daulat Chand, Bhilai	500 to 800 Kg Per day	98267602115
4	Ranjeet Mohanti	700 Kg per day	9437468870
5	S Mohanty	2000 to 3000 per day	9438448863

Over and above there are various star category hotel, malls, in Bhilai and Raipur who are consuming mushroom in a big way. Name some of them

S.No.	Name of the Hotel	Location	Consumption
1	Grand Dhillon	Bhilai	30 to 50 Kg per day
2	Babylon group of Hotels	Raipur	100 to 150 Kg per day
3	Up coming Hotels in Raipur such as Hayat, Canyon,	Bhilai, Raipur, Bilaspur	200 to 250 Kg per day
4	Numerous small hotel & Restaurent	Bhilai, Raipur, Bilaspur	200 to 250 Kg per day
5	Various Caterers during Marriage Season	Bhilai, Raipur, Bilaspur	200 to 250 Kg per day
6	Various Malls , Big Bazar, Easy Day, Best Prise, Gikul, Reliance Fresh	Bhilai, Raipur, Bilaspur	200 to 250 Kg per day

f) Import and export trends

Netherlands is the leading exporter of button mushrooms (40% share) followed by China, France, Spain, Hong Kong, Taiwan, Indonesia and South Korea. USA is the largest consumer accounting for one third of World production. Other important consumers are Germany, UK, France, Italy and Canada. The quantity of mushrooms exported by India in comparison to the world export is almost negligible. The following tables 1& 2 gives the export status of fresh and dried mushrooms.

Table-1: Country-wise quantity and value of fresh mushrooms Exported from India during 2001 – 02.

(Qty: tonnes; Value: Rs lakhs)

Country	Fresh Mushrooms	
	Quantity	Value
Ireland	40.80	14.55
Singapore	0.05	0.02
U.A.E	0.05	0.01
U.S.A	11756.73	5090.72
Total	**11797.63**	**5105.30**

Source: APEDA, New Delhi

Table-2: Country-wise quantity and value of preserved/dried mushrooms exported from India during 2001 – 02

(Qty: tonnes; Value: Rs lakhs)

Country	Preserved/dried mushrooms	
	Quantity	Value
France	40.00	41.64
Japan	1.00	10.36
Nigeria	6.58	5.59
Russia	11.00	16.33
Switzerland	1.00	6.38
U.A.E	10.01	4.08
U.S.A	4029.66	2057.16
Total	**4099.25**	**2142.25**

Source: APEDA, New Delhi

The most important importers of white button mushroom are Germany, USA, France, U.K. and Sweden. Canned button mushrooms are imported by UK, Germany, France, USA, Sweden etc. Asian countries like China, Taiwan, Korea export their produce to the American and European countries in the form of canned mushrooms.

g) Analysis and Future Strategy

Marketing of mushrooms in India is not yet organized. It is the simple system of producers selling directly to retailer or even to the consumer. Wholesale distributor is mostly missing. However, trade in the processed (canned and dried) is sizeable and organized. In other countries 10% of the total cost is earmarked for marketing.

Production of mushrooms, especially of the white button mushrooms, in India has gone up during recent years creating marketing problems. The market for processed foods has yet to develop in the country and basically fresh fruits and vegetables are preferred. Per capita consumption of mushrooms in India is hardly 5g as against over a kg in developed countries. There has not been any serious effort to promote the product and to strengthen and expand the market in order to increase consumption. The marginal increase in demand is for fresh mushrooms instead of preserved mushrooms. Fresh mushrooms have very short shelf-life and therefore cannot be transported to long distances without refrigerated transport facility. They are sold in the markets in and around the production areas.

The cultivation of white button mushrooms throughout the year under controlled condition is restricted to a few commercial units and much of the production is under natural conditions during the winters. Majority of the growers in India do not have pasteurization facility and other sophisticated machinery/infrastructure for round the year production of white button mushroom. As such, button mushroom is cultivated seasonally when climatic conditions are favourable and production expenses are minimum. Many growers in Haryana, especially in Sonepat, Ambala and Hisar have revolutionized the cultivation of white button mushroom by adopting very simple and cheap technology of construction of mushroom houses (mud houses with thathched roofs). Seasonal growing of white button mushroom in Haryana and Punjab has many advantages like nearness to market, easy and cheap availability of raw material coupled with utilization of family labour. The growers in HP do not use compost prepared by long method because pasteurized compost is readily available from mushroom projects located at Solan and Palampur.

Chapter-V

Land & Building cost

(Rs in Lacs)

A. Land and land development costs:

S.NO	ITEMS	AMOUNT
i)	Land development / fencing	12.00
ii)	Fencing	2.00
iii)	Entry Point & Guard Room	0.42
	TOTAL	**14.42**

B. Construction of infrastructure:

S.NO	ITEMS	DEMISION	SIZE	RATE	AMOUNT
i)	Covered composting yard and spanning area cemented floor (Rcc),with roof erected on steel frame	11.26mx19m	214.00	3000.00	6.42
ii)	Aerated Bunker a)3 nos. bunker / chambers b) 2 nos. Pasteurization Tunnel (Spawning area 24'x10'x10'(h))	 3.6x12x4.5(h) 3.6x12x3.6 (h)	 129.60	 6000.00 6000.00	 7.78 5.18
iii)	Growing Area a)12 Growing Room (Puff Ceiling) b) Working Corridor	 15x6x4.5 m 3.6m x 37.50 m	 1080 Sq m 135 m2	 7000.00 6000.00	 75.60 8.10
iv)	Insulated Walls & Doors and other doors a)Mushroom Growing Room b) Pasteurization Tunnel c) Casing Soil Tunnel d) Doors Packing Room e) Entrance Door f) Door in Bunker g) Office Door	 24 nos 2 No 1 No 1 No 2 No. 2 No. 1 No.		 15000 15000.00 4000.00 4000.00 12000.00 4000.00 4000.00	 .3.60 0.30 0.36 0.04 0.24 0.08 0.04
v)	Other General Work a)Plumbing Work b) General Electric work.	 L/S L/S			 3.00 3.00
vi)	Other Civil Work a)Boiler room / Generator b)Store c) Court Yard /Casing Yard d) Spawn Lab of 3 partition e) Packing Area f)Cold room g) Pre Entrance Room	 5.82 x 11.62 mt 5.75 x 7.23 mt 11.26 x 15 mt 3x10.27 sq mt 3m x 9 m 3 x 3 mt 3 x 6 mt	 67.62 mt 35.82 mt 168.90 mt 30.81 mt 27 sq mt 9 sq mt 18 sq mt	 4000.00 6000.00 1500.00 7000.00 6000.00 7000.00 7000.00	 2.70 2.14 2.53 2.16 1.62 0.63 1.26
	TOTAL				**126.78**

CHAPTER-VI

DETAILS OF PLANT AND MACHINERY

A) Installations/Equipments/Machines/Tools:

1) Bulk chamber and composting yard: (RS. IN LAKHS)

S.NO	ITEMS	AMOUNT
i)	Centrifugal Blower fans with motor Chambers, Insulation of the blower, ducting	3.00
ii)	Digital thermometer with 6 probes wire length of 60' in each probe,- digital display x 2 sets	0.10
iii)	Dial thermometers with 4 feet probe rod, - Nos	0.10
iv)	Boiler – 150 kg cap per hour,semi-automatic with steam line,insulation of steam line,including installation. X 1 boiler	4.00
v)	Dewatering pump (1 HP) in guddy with hoze pipe (1" dia) x 1 No,pit, Pipes,stacking boards, forks, other tools.	0.20
	TOTAL	**7.40**

2) Casing pasteurization chamber:

S.NO	ITEMS	AMOUNT (in lacs)
i)	Blower for casing chamber with 1 HP motor, & recirculatory Duct X 5 chambers (Rs.40,000/-) each,Grated floor for casing pasteurization chamber (1), room 1.5 ton per chamber,Digital remote thermometer with 6 probes (wire length of 25' for each probe) x 5 Nos.	3.00
	TOTAL	**3.00**

3) Cropping rooms:

S.NO	ITEMS	AMOUNT (in lacs)
i)	AC plant(AHU Chiller Compressor & condenser) for 12 cropping rooms with climate controls with capacity of 5 tons of refrigeration per room with , heating coils and RH chamber (to be designed as per our requirement of compost load of the room and climate parameters to be simulated)12X5 = 60 TR,	40.00
ii)	Shelves (Stainless Steel) for 12 cropping rooms,2 rows & 6 tiers in each room,(12x1.8)x12x12), 3110 sq mt @ Rs 950 per sq mt2 tons steel per room	29.55
iii)	Insulation of Growing Room Walls Pasteurization Tunnel	15.00
	TOTAL	**84.55**

4) OTHER MACHINERY AND EQUIPMENTS

S.NO	ITEMS	AMOUNT (in lacs)
i)	Wiring & Electric Work main panel & etc.	2.00
ii)	Diesel Generator 140 KV (silent)	7.50
iii)	Transformer 200 KVA	2.00
iv)	Front Loader for Compose mounted on a tractor	10.00
v)	Vehicle Delivery –Tata aces mak	5.00
	TOTAL	**26.50**

CHAPTER VII

Working Capital (full year):

12 crop rooms, 5 crops in a year, and 12.5 tons compost per crop per room , we will make 750 (12.5 tons *5 Crop * 12 Rooms) tons of compost per annum. we will require perishable commodities like wheat/ paddy /soya bean straw, poultry manure , cotton seed cake, urea , gypsum , spawn (seed) ,power, diesel , labor ,energy for composting , cashing materials ,chemical / disinfectants ,Supervision / establish cost, etc. Accordingly the spawn, casing, water, labour, power and other requirements are worked out for a year. The Break-up is as under:

S.NO	ITEMS	QUANTITY FOR 5 CROPS (YEAR)	NO. OF CROP	RATE	AMOUNT (in lacs)
i)	Cereal straw (wheat / paddy / soyabean straw) (50:50)	1475 tons	2	3000.00	17.70
ii)	Poultry manure	750 tons	1	2000.00	3.00
iii)	Cotton seed cake	25 tons	1	10,000.00	5.00
iv)	Urea	5 tons	1	6000.00	0.06
v)	Gypsum	30 tons	1	2000.00	0.12
vi)	Spawn	10 tons	1	60000.00	1.20
vii)	Oil for composting	L.S.	1	As per Chart enclosed	0.10
viii)	Casing Material/ Steam pasteurized	L.S.	1	-do-	0.90
ix)	Chemicals	L.S.	1	-do-	0.10
x)	Power required for compost	21.15.	1	-do-	4.23
xi)	Oil, Consumable stores, packing material etc required during composting for energizing of blower/ boiler/etc. / power failure	11.15	1	-do-	2.23
xii)	Labour required for composting and cropping	26.85	1	-do-	5.37
xiii)	Repair and maintances	3.53	1	-do-	0.71
	TOTAL				**40.72 (As say 40.00)**

CHAPTER VII

PROFITABILITY ESTIMATES

ASSESSMENT OF WORKING CAPITAL REQUIREMENT

PART A OPERATING STATEMENT

	PARTICULARS	UNITS	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PROJ 6TH YEAR	PROJ 7TH YEAR	PROJ 8TH YEAR
			31.03.2015	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020	31.03.2021	31.03.2022
	CAPACITY (PER SHIFT)									
	No of Crop Per Year	Nos	5	5	5	5	5	5	5	5
	No of rooms	Nos	12	12	12	12	12	12	12	12
	Production Per Room	M.T	4.428	4.43	4.43	4.43	4.43	4.43	4.43	4.43
	Production Per Annum	M.T	265.68	265.80	265.80	265.80	265.80	265.80	265.80	265.80
	PRODUCTION									
	Total Production	Nos	159480	265800	265800	265800	265800	265800	265800	265800
	Production in %	%								
1	Gross Sales (Net of Royalty)		132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
	Other Operating Income		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	LESS Excise Duty		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net Sales----------(A)		132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
2	**COST OF SALES**									
	(i) Raw material consumed		37.23	78.19	82.09	86.20	90.51	95.03	99.79	104.78
	(ii) Consumables consumed		11.74	18.49	19.69	20.92	22.19	23.48	24.19	24.94
	(iii) Salary & Wages		9.91	20.80	21.84	22.93	24.08	25.29	26.55	27.88
	(iv) Power & Fuel		10.58	21.16	22.22	23.33	24.50	25.72	27.01	28.36
	(v) Repairs & Renuals		6.17	6.79	7.41	8.02	8.64	9.26	9.26	9.26
	(vi) Depreciation		32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
			-	-	-	-	-	-	-	-
	Cost of Production		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(vii) Add: opening stock in process		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(viii)deduct closing stock in process		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(ix) Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(x)Add: opening stock of finished goods		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74

	(xi)Deduct closing stock of finished goods		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total(Total cost of sales)		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
3	Gross Profit(item3-item4)		24.73	61.61	71.13	78.59	85.92	93.16	101.64	110.16
4	Financial Charges									
	Bank Commission		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Interest on W.C.		2.92	3.21	3.50	3.89	3.89	3.89	3.89	3.89
	Interest		16.06	19.14	15.49	11.85	8.20	4.56	2.13	2.13
5	Sell'g Genl & adm Expenses									
	Salary to Adm Staff		3.51	7.37	7.74	7.74	7.74	7.74	7.74	7.74
	Adm Exp.		2.74	6.02	6.62	7.28	8.01	8.81	9.69	10.66
	Selling Exp @ 1.00%		1.33	2.35	2.49	2.62	2.75	2.88	3.03	3.18
	Sub total(item4 + item5)		26.56	38.09	35.84	33.37	30.58	27.88	26.48	27.60
6	Operating profit{item3-(item4+item5)}		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
7	Other Income / Expenses									
	(a)Preliminary Exp		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(b) Other Income		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Profit before tax /loss		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
9	Book Profit(item10 - item11)		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
10	Income Tax		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Profit after tax		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
12	Cash Profits		30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10

CHAPTER VIII

PROJECTED BALANCE SHEET

PART A BALANCE SHEET SPREAD

CHATTISGARH BUTTON MUSHROOM FARM

	LIABILITIES	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PRO 6TH YEA
		31.03.2015	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2
	CURRENT LIABILITIES						
1.	Short term borrowing from banks	30.00	33.00	36.00	40.00	40.00	4
2.	Short term borrowing from others						
3.	Deposits (maturing within one year)						
4.	Sundry Creditors (trade)	1.55	1.63	1.71	1.80	1.89	
5.	Unsecured loans						
6.	Advances						
7.	Interest ands other charges accrued but not due for payment						
8.	Provision for taxation						
9.	Dividend Payable						
10.	Other Statutory Liabilities(excise) [due within one year]						
11.	Instalments of term loans Deffered payment credits	7.29	29.17	29.17	29.17	29.17	2
12.	Other current liabilities & provisions						
	W.C. Interest 1 month	0.36	0.31	0.34	0.38	0.42	
	Adm & selling Exp 1/2 months	0.17	0.35	0.38	0.41	0.45	
	[due within one year]						
	Sub total[b]						
13.	**TOTAL CURRENT LIABILITIES** [Total of item 1 tro 12]	39.37	64.46	67.60	71.75	71.92	7
14.	**TERM LIABILITIES**						
15.	Debentures[not maturing within one year]						
16	Redeemable preference shares						
17	Unsecured loans						
18	Term Loans [exclusive of instalments	167.71	138.54	109.37	80.20	51.03	2
19	payable within one year]						
20	Deffered payment credits						
21	Term deposits						
22	Other term liabilities	0.00	0.00	0.00	0.00	0.00	
23	**TOTAL TERM LIABILITIES** [TOTAL OF ITEM 15 TO 22]	167.71	138.54	109.37	80.20	51.03	2
24	**TOTAL OUTSIDE LIABILITIES**	207.08	203.00	176.97	151.95	122.95	9

	[ITEM13 + ITEM23]						
25	**NET WORTH**						
26	**SHARE CAPITAL**	80.00	126.18	144.70	174.48	213.71	262.54
	Less:Withdrawals	0.00	0.00	0.00	0.00	0.00	0.00
	Share Premium A/C	0.00	0.00	0.00	0.00	0.00	0.00
	[item 22-item23]	80.00	126.18	144.70	174.48	213.71	262.54
	Capital Subsidy	50.00	0.00	0.00	0.00	0.00	0.00
	Other reserves [excluding provisions]	0.00	0.00	0.00	0.00	0.00	0.00
27	Surplus(+) or deficit (-)in P&L A/c	-1.82	23.52	35.28	45.22	55.33	65.29
28	**NET WORTH**	128.18	149.70	179.98	219.71	269.04	327.82
	[Total of item 22 to 27]						
29	**TOTAL LIABILITIES**	335.26	352.70	356.96	371.66	391.99	421.74
	[ITEM 21 + ITEM 28]						
	CURRENT ASSETS						
30.	Cash & bank Balances	4.75	7.36	13.05	25.74	44.58	70.45
31.	Investments						
	[i] Govt. & other trustee securities	50.00	50.00	50.00	50.00	50.00	50.00
	[ii]Fixed deposits with banks						
	Receivables other than deffered	4.43	4.90	5.19	5.45	5.72	6.01
	and export receivables(including bill purchased and discounted by bankers)						
	Export receivables(including bill purchased and discounted by bankers)						
33.	Installment of deffered receivables(due within one year)						
34.	**INVENTORY**						
	(i) Raw materials (including stores and other items used in the process of manufacture)						
	(a) Imported						
	(b) Indigenous	27.18	29.90	32.89	36.18	36.18	36.18
	(c)work in progress	0.00	0.00	0.00	0.00	0.00	0.00
	(ii) Gunny Bags						
	(iii)Finished Goods	0.00	0.00	0.00	0.00	0.00	0.00
	(iv)Other consumable spares	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL INVENTORY	27.18	29.90	32.89	36.18	36.18	36.18
35.	Advance to suppliers of rawmaterials and stores/spares consumables						
36.	Advance payment of tax						
37.	Other current assets	0.00	0.00	0.00	0.00	0.00	0.00
38.	**TOTAL CURRENT ASSETS**	86.36	92.16	101.13	117.36	136.48	162.64
	[Total of item 30 to 37]						

	FIXED ASSETS						
39.	Gross Block (W.D.V)	276.49	276.49	276.49	276.49	276.49	276.49
40.	Depreciation to date	32.59	60.96	85.66	107.20	125.99	142.39
41.	**NET BLOCK** [Item39-item40]	243.90	215.54	190.83	169.29	150.50	134.10
	OTHER NON CURRENT ASSETS						
42.	Investments/bookdebts/advances /deposits,which are not current assets	5.00	5.00	5.00	5.00	5.00	5.00
43.	Non consumable stores and spares						
44.	Provision for Fiture Expansion & Contimgencies	0.00	40.00	60.00	80.00	100.00	120.00
45.	**TOTAL OTHER NON-CURRENT ASSETS**	248.90	260.54	255.83	254.29	255.50	259.10
46.	**INTANGIBLE ASSETS**	0.00	0.00	0.00	0.00	0.00	0.00
	Preliminary Expenses	0.00	0.00	0.00	0.00	0.00	0.00
	Know How Fees						
47.	**TOTAL ASSETS** [Total of item38,41,45 &46]	335.26	352.70	356.96	371.66	391.99	421.74
48.	**TANGIBLE NET WORTH** [ITEM 28-ITEM46]	128.18	149.70	179.98	219.71	269.04	327.82
49.	**NET WORKING CAPITAL**	46.99	27.70	33.52	45.61	64.56	90.58
	[Item38-item13]	0.00	0.00	0.00	0.00	0.00	0.00
	Current Ratio	2.19	1.43	1.50	1.64	1.90	2.26
	TOL/TNW	1.62	1.36	0.98	0.69	0.46	0.29

CHAPTER IX

FUNDS FLOW STATEMENT

PROJECTED FUND FLOW STATEMENT

	SOURCES	1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YR	8TH YEAR
	Profit Before Tax	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
	Add Depreciation	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
	Preliminary & Know How Fees W/O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Gross Funds Generated	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Less:Tax paid payable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drawings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A.	Sub - Total[net funds generated]	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Increase In Capital	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Increase in term loan	167.71				0.00	0.00	0.00	0.00
	Increase in unsecured loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Capital Subsidy	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in other non-current assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.	Sub-total	297.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Increase in short term bank borrowings	30.00	3.00	3.00	4.00	0.00	0.00	0.00	0.00
	Increase in term loan payable in one year	7.29		0.00	0.00	0.00	0.00	0.00	0.00
	Increase in other current liabilities	0.53	0.13	0.06	0.06	0.08	0.04	0.04	0.05
	Decrease in inventory				0.00	0.00	0.00	0.00	0.00
	Increase in trade creditors	1.55	0.08	0.08	0.09	0.09	0.09	0.10	0.10
	Decrease in other current assets/debtors								
	Decrease in Debtors					0.00	0.00	0.00	0.00
C.	Sub-total	39.37	3.21	3.14	4.15	0.17	0.13	0.14	0.15
	TOTAL FUNDS AVAILABLE [A + B + C]	367.85	55.10	63.13	70.91	74.29	81.83	89.64	95.25
	Increase in fixed assets	276.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in unsecured loan								
	Increase in Exp on Fiture Espansion	0.00	40.00	20.00	20.00	20.00	20.00	20.00	20.00
	Increase in other non current assets	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in capital/Drawings		2.00	5.00	5.50	6.00	6.50	6.50	6.50
	Decrease in Term Loan Payable in one year					0.00	0.00	7.31	21.86
	Decrease in term loan		29.17	29.17	29.17	29.17	29.17	21.86	0.00
D.	Sub-total	281.49	71.17	54.17	54.67	55.17	55.67	55.67	48.36
	Decrease in Term Loan Payable in 1 year		-21.88		0.00	0.00	0.00	0.00	0.00
	Decrease in Short Term Bank Borrowings								
	Decrease in Current liabilities								
	Decrease in trade creditors					0.00	0.00	0.00	0.00
	Increase in inventory	27.18	2.72	2.99	3.29	0.00	0.00	0.00	0.00
	Increase in receivables	4.43	0.47	0.29	0.26	0.27	0.29	0.30	0.32
	Increase in other current assets	54.75	2.62	5.69	12.69	18.84	25.87	33.67	46.58
	Increase in advance to suppliers				0.00	0.00	0.00	0.00	0.00
E.	Sub-total	86.36	-16.07	8.96	16.24	19.12	26.16	33.97	46.89
	SUMMARY OF FUND FLOW STATEMENT								

	Long Term Sources	328.48	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Long Term uses	281.49	71.17	54.17	54.67	55.17	55.67	55.67	48.36
	Surplus(Short fall)	**46.99**	**-19.28**	**5.82**	**12.09**	**18.95**	**26.02**	**33.83**	**46.74**
	Short term sources	39.37	3.21	3.14	4.15	0.17	0.13	0.14	0.15
	Less Short term uses	86.36	-16.07	8.96	16.24	19.12	26.16	33.97	46.89
	Surplus(Short fall)	**-46.99**	**19.28**	**-5.82**	**-12.09**	**-18.95**	**-26.02**	**-33.83**	**-46.74**
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CHAPTER X

BREAK EVEN POINT

COMPUTATION OF BREAK EVEN POINT						ANNEXURE----Q
(A)	VARIABLE COST	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020
	1) Raw material consumed	78.19	82.09	86.20	90.51	95.03
	2) Direct Expenses	67.24	71.16	75.21	79.41	83.75
	3) Interest on Working Capital	3.21	3.50	3.89	3.89	3.89
	4) Selling & Adm Expenses 50% fixed DAYS	7.87	8.42	8.82	9.25	9.72
		156.51	165.18	174.12	183.05	192.39
(B)	SEMIVARIABLE & FIXED COST					
	1) Selling & Administrative Expenses	7.87	8.42	8.82	9.25	9.72
	2) Depreciation	28.36	24.71	21.54	18.79	16.41
		36.24	33.13	30.35	28.04	26.12
(C)	SALES REALISATION	235.41	249.09	261.54	274.62	288.35
(D)	CONTRIBUTION (C-A)	78.90	83.91	87.42	91.57	95.96
(E)	BREAK EVEN POINT	45.93	39.48	34.72	30.62	27.22
(F) B.E.P. AT 100% CAPACITY		36.74	31.59	27.78	24.49	21.78

CHAPTER XI

DEBT SERVICE COVERAGE RATIO

COMPUTATION OF DEBT SERVICE COVERAGE RATIO

ANNEXURE----R

PARTICULARS	1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YR
SERVICE							
NET PROFIT AFTER TAX	-1.82	23.52	35.28	45.22	55.33	65.29	75.16
INTEREST ON TERM LOANS	16.06	19.14	15.49	11.85	8.20	4.56	2.13
DEPRECIATION	32.59	28.36	24.71	21.54	18.79	16.41	14.34
	46.83	71.03	75.48	78.61	82.32	86.25	91.63
DEBT							
INTEREST ON TERM LOANS	16.06	19.14	15.49	11.85	8.20	4.56	2.13
INSTALMENT OF TERM LOAN	7.29	29.17	29.17	29.17	29.17	29.17	7.29
	23.36	48.31	44.66	41.02	37.37	33.73	9.42
D.S.C.R.	2.01	1.47	1.69	1.92	2.20	2.56	9.72

AVERAGE D.S.C.R. 2.24

CHAPTER- XII

ANALYSIS OF INTERNAL RATE OF RETURN

DISCOUNTED CASH FLOW STATEMENT: (In Rs. Lacs unless otherwise mentioned) **ANNEXURE-X**

	As at 31.03								
As at 31.03	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**TOTAL Present Value**
INFLOWS									
PAT	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56	
Depreciation	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54	
Interest	18.98	22.35	18.99	15.74	12.09	8.44	6.02	6.02	
Terminal Value									
Other Fixed Assets								276.49	
Working Capital								171.15	
TOTAL INFLOW	**49.75**	**74.24**	**78.98**	**82.49**	**86.21**	**90.14**	**95.52**	**548.76**	
Discounting Factor @ 22%	0.820	0.672	0.551	0.451	0.370	0.303	0.249	0.204	
Present value of Inflow @22%	40.778	49.877	43.497	37.238	31.898	27.337	23.744	111.817	366.19
Discounting Factor @ 25%	0.800	0.640	0.512	0.410	0.328	0.262	0.210	0.168	
Present value of Inflow @25%	39.800	47.511	40.440	33.790	28.249	23.629	20.031	92.067	325.52
OUTFLOWS									
Capital Expenditure	281.49								
Working Capital Requirement	46.99	-19.28	5.82	12.09	18.95	26.02	33.83	46.74	
TOTAL OUTFLOW	**328.48**	**-19.28**	**5.82**	**12.09**	**18.95**	**26.02**	**33.83**	**46.74**	
NET CASH FLOW	**-278.73**	**93.52**	**73.16**	**70.41**	**67.26**	**64.11**	**61.69**	**502.02**	

IRR- 24.78

CHATTISGARH BUTTON MUSHROOM FARM

FORM I
ASSESSMENT OF WORKING CAPITAL REQUIREMENT
PART A OPERATING STATEMENT

	PARTICULARS	UNITS	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PROJ 6TH YEAR	PROJ 7TH YEAR	PROJ 8TH YEAR
			31.03.2015	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020	31.03.2021	31.03.2022
	CAPACITY (PER SHIFT)									
	No of Crop Per Year	Nos	5	5	5	5	5	5	5	5
	No of rooms	Nos	12	12	12	12	12	12	12	12
	Production Per Room	M.T	4.428	4.43	4.43	4.43	4.43	4.43	4.43	4.43
	Production Per Annum	M.T	265.68	265.80	265.80	265.80	265.80	265.80	265.80	265.80
	PRODUCTION									
	Total Production	Nos	159480	265800	265800	265800	265800	265800	265800	265800
	Production in %	%								
1	Gross Sales (Net of Royalty)		132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
	Other Operating Income		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	LESS Excise Duty		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Net Sales----------(A)		132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
2	**COST OF SALES**									
	(i) Raw material consumed		37.23	78.19	82.09	86.20	90.51	95.03	99.79	104.78
	(ii) Consumables consumed		11.74	18.49	19.69	20.92	22.19	23.48	24.19	24.94
	(iii) Salary & Wages		9.91	20.80	21.84	22.93	24.08	25.29	26.55	27.88
	(iv) Power & Fuel		10.58	21.16	22.22	23.33	24.50	25.72	27.01	28.36
	(v) Repairs & Renuals		6.17	6.79	7.41	8.02	8.64	9.26	9.26	9.26
	(vi) Depreciation		32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
	Cost of Production		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(vii) Add: opening stock in process		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(viii)deduct closing stock in process		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(ix) Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(x)Add: opening stock of finished goods		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
	(xi)Deduct closing stock of finished goods		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sub total(Total cost of sales)		108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
3	Gross Profit(item3-item4)		24.73	61.61	71.13	78.59	85.92	93.16	101.64	110.16
4	Financial Charges									
	Bank Commission		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Interest on W.C.		2.92	3.21	3.50	3.89	3.89	3.89	3.89	3.89
	Interest		16.06	19.14	15.49	11.85	8.20	4.56	2.13	2.13
5	Sell'g Genl & adm Expenses									
	Salary to Adm Staff		3.51	7.37	7.74	7.74	7.74	7.74	7.74	7.74
	Adm Exp.		2.74	6.02	6.62	7.28	8.01	8.81	9.69	10.66
	Selling Exp @ 1.00%		1.33	2.35	2.49	2.62	2.75	2.88	3.03	3.18
	Sub total(item4 + item5)		26.56	38.09	35.84	33.37	30.58	27.88	26.48	27.60
6	Operating profit{item3-(item4+item5)}		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
7	Other Income / Expenses									
	(a)Preliminary Exp		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(b) Other Income		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Profit before tax /loss		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
9	Book Profit(item10 - item11)		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
10	Income Tax		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Profit after tax		-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
12	Cash Profits		30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10

	PARTICULARS	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PROJ 6TH YEAR	PROJ 7TH YEAR	PROJ 8TH YEAR
		31.03.2015	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020	31.03.2021	31.03.2022
I	**CURRENT ASSETS**								
	(i) Raw materials (including stores and other items used in the process of manufacture)								
	(a) Imported								
	(b) Indigenous	27.18	29.90	32.89	36.18	36.18	36.18	36.18	36.18
	(c) Work in progress	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(ii)Other consumable spares [excluding those included under item (i) above]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[% of total inventory & month`s consumption) (See Notes iv and vii)								
	(ii) Gumnny Bags	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(iv)Finished goods (Months cost of sales)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(v)Receivables other than export & deffered receivables [including bills purchased and discounted by bankers] [Month`s domestic sales excluding deffered payment sales] [see notes iv and xvii]	4.43	4.90	5.19	5.45	5.72	6.01	6.31	6.62
	(vi)Export receivables {including bills purchased and discounted by bankers] [month`s export sales] [see notes iv and xvii]								
	[vii]Advance to suppliers of rawmaterials and stores/spares consumables								
	[viii]Other current assets[including cash & bank balances and deffered receivables due within one year	54.75	57.36	63.05	75.74	94.58	120.45	154.12	200.70
I.	Total current assets [to agree with item 38 form III A]	86.36	92.16	101.13	117.36	136.48	162.64	196.61	243.50
II.	**CURRENT LIABILITIES** [other than bank borrowings for working capital]								
	[i]Creditors for purchases for raw material & stores [months purchase]	1.55	1.63	1.71	1.80	1.89	1.98	2.08	2.18
	[ii]Advances for customers								
	[iii]1/3 of T.L.payable in 1 year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[iv]Statutory Liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[v] Other current liabilities	7.82	29.83	29.89	29.96	30.03	30.07	22.81	0.99
	TOTAL [to agree with sub total [B]in formIIIA]	9.37	31.46	31.60	31.75	31.92	32.05	24.89	3.18
III	**WORKING CAPITAL GAP(I MINUS II)**	76.99	60.70	69.52	85.61	104.56	130.58	171.72	240.32
IV	Actual /projected bank borrowings	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
V	Total Current Liabilities [II +IV]to agree with item 13 in form IIIA	39.37	64.46	67.60	71.75	71.92	72.05	64.89	43.18
VI	Net working capital	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
	[i - v] to agree with item 49 in form IIIA	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7 **PART C- COMPUTATION OF MAXIMUM PERMISSIBLE BANK FINANCE FOR WORKING CAPITAL**

	PARTICULARS	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PROJ 6TH YEAR	PROJ 7TH YEAR	PROJ 8TH YEAR
		31.03.2015	**31.03.2016**	**31.03.2017**	**31.03.2018**	**31.03.2019**	**31.03.2020**	**31.03.2021**	**31.03.2022**
	FIRST METHOD								
1.	Working Capital Gap (Item III of part B)	76.99	60.70	69.52	85.61	104.56	130.58	171.72	240.32
2.	Minimum Stipulated net working capital (25% of item I of part B)	19.25	15.18	17.38	21.40	26.14	32.65	42.93	60.08
3.	Actual/Projected net working capital (Item VI of part B)	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
4.	Item 1 minus 2	57.74	45.53	52.14	64.21	78.42	97.94	128.79	180.24
5.	Item 1 minus 3	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
6.	Maximum permissible bank finance (Item 11 or 12 whichever is lower)	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
7.	Excess Borrowing (representing short fall in net work. cap.) (Item 2 minus 3)	-27.74	-12.53	-16.14	-24.21	-38.42	-57.94	-88.79	-140.24
	SECOND METHOD								
8.	Working Capital Gap	76.99	60.70	69.52	85.61	104.56	130.58	171.72	240.32
9.	Net Current Assets (Item III of part B)	86.36	92.16	101.13	117.36	136.48	162.64	196.61	243.50
10.	Minimum Stipulated net current Assets (25% of item 9)	21.59	23.04	25.28	29.34	34.12	40.66	49.15	60.87
11.	Item No. 8-9 (Item VI of part B)	55.40	37.66	44.24	56.27	70.44	89.92	122.57	179.45
12.	Actual projected Net working capital	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
13.	Item 8-12	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
13.	Maximum permissible bank finance (Item 11 or 13 whichever is lower)	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
14.	Excess Borrowing (representing short fall in net work. cap.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FORM III

ANALYSIS OF BALANCE SHEET

PART A BALANCE SHEET SPREAD

CHATTISGARH BUTTON MUSHROOM FARM

	LIABILITIES	PROJ 1ST YEAR	PROJ 2ND YEAR	PROJ 3RD YEAR	PROJ 4TH YEAR	PROJ 5TH YEAR	PROJ 6TH YEAR	PROJ 7TH YEAR	PROJ 8TH YEAR
		31.03.2015	31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020	31.03.2021	31.03.2022
	CURRENT LIABILITIES								
1.	Short term borrowing from banks	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00
2.	Short term borrowing from others								
3.	Deposits (maturing within one year)								
4.	Sundry Creditors (trade)	1.55	1.63	1.71	1.80	1.89	1.98	2.08	2.18
5.	Unsecured loans								
6.	Advances								
7.	Interest ands other charges								
	accrued but not due for payment								
8.	Provision for taxation								
9.	Dividend Payable								
10.	Other Statutory Liabilities(excise)								
	[due within one year]								
11.	Instalments of term loans	7.29	29.17	29.17	29.17	29.17	29.17	21.86	0.00
	Deffered payment credits								
12.	Other current liabilities & provisions								
	W.C. Interest 1 month	0.36	0.31	0.34	0.38	0.42	0.42	0.42	0.42
	Adm & selling Exp 1/2 months	0.17	0.35	0.38	0.41	0.45	0.49	0.53	0.58
	[due within one year]								
	Sub total[b]								
13.	**TOTAL CURRENT LIABILITIES**	39.37	64.46	67.60	71.75	71.92	72.05	64.89	43.18
	[Total of item 1 tro 12]								
14.	**TERM LIABILITIES**								
15.	Debentures[not maturing within one year]								
16	Redeemable preference shares								
17	Unsecured loans								
18	Term Loans [exclusive of instalments	167.71	138.54	109.37	80.20	51.03	21.86	0.00	0.00
19	payable within one year]								
20	Deffered payment credits								
21	Term deposits								
22	Other term liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	**TOTAL TERM LIABILITIES**	167.71	138.54	109.37	80.20	51.03	21.86	0.00	0.00
	[TOTAL OF ITEM 15 TO 22]								
24	**TOTAL OUTSIDE LIABILITIES**	207.08	203.00	176.97	151.95	122.95	93.91	64.88	43.18
	[ITEM13 + ITEM23]								
25	**NET WORTH**								
26	**SHARE CAPITAL**	80.00	126.18	144.70	174.48	213.71	262.54	321.32	389.99
	Less:Withdrawals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Share Premium A/C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[item 22-item23]	80.00	126.18	144.70	174.48	213.71	262.54	321.32	389.99
	Capital Subsidy	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other reserves [excluding provisions]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	Surplus(+) or deficit (-)in P&L A/c	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
28	**NET WORTH**	128.18	149.70	179.98	219.71	269.04	327.82	396.49	472.55
	[Total of item 22 to 27]								
29	**TOTAL LIABILITIES**	335.26	352.70	356.96	371.66	391.99	421.74	461.37	515.72
	[ITEM 21 + ITEM 28]								

	CURRENT ASSETS								
30.	Cash & bank Balances	4.75	7.36	13.05	25.74	44.58	70.45	104.12	150.70
31.	Investments								
	[i] Govt. & other trustee securities	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
	[ii]Fixed deposits with banks								
	Receivables other than deffered and export receivables(including bill purchased and discounted by bankers)	4.43	4.90	5.19	5.45	5.72	6.01	6.31	6.62
	Export receivables(including bill purchased and discounted by bankers)								
33.	Installment of deffered receivables(due within one year)								
34.	**INVENTORY**								
	(i) Raw materials (including stores and other items used in the process of manufacture)								
	(a) Imported								
	(b) Indigenous	27.18	29.90	32.89	36.18	36.18	36.18	36.18	36.18
	(c)work in progress	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(ii) Gunny Bags								
	(iii)Finished Goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(iv)Other consumable spares	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL INVENTORY	27.18	29.90	32.89	36.18	36.18	36.18	36.18	36.18
35.	Advance to suppliers of rawmaterials and stores/spares consumables								
36.	Advance payment of tax								
37.	Other current assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.	**TOTAL CURRENT ASSETS** [Total of item 30 to 37]	86.36	92.16	101.13	117.36	136.48	162.64	196.61	243.50
	FIXED ASSETS								
39.	Gross Block (W.D.V)	276.49	276.49	276.49	276.49	276.49	276.49	276.49	276.49
40.	Depreciation to date	32.59	60.96	85.66	107.20	125.99	142.39	156.73	169.26
41.	**NET BLOCK** [Item39-item40]	243.90	215.54	190.83	169.29	150.50	134.10	119.76	107.23
	OTHER NON CURRENT ASSETS								
42.	Investments/bookdebts/advances /deposits,which are not current assets	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
43.	Non consumable stores and spares								
44.	Provision for Fiture Expansion & Contimgencies	0.00	40.00	60.00	80.00	100.00	120.00	140.00	160.00
45.	**TOTAL OTHER NON-CURRENT ASSE**	248.90	260.54	255.83	254.29	255.50	259.10	264.76	272.23
46.	**INTANGIBLE ASSETS**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Preliminary Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Know How Fees								
47.	**TOTAL ASSETS** [Total of item38,41,45 &46]	335.26	352.70	356.96	371.66	391.99	421.74	461.37	515.72
48.	**TANGIBLE NET WORTH** [ITEM 28-ITEM46]	128.18	149.70	179.98	219.71	269.04	327.82	396.49	472.55
49.	**NET WORKING CAPITAL**	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
	[Item38-item13]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Current Ratio	2.19	1.43	1.50	1.64	1.90	2.26	3.03	5.64
	TOL/TNW	1.62	1.36	0.98	0.69	0.46	0.29	0.16	0.09

CHATTISGARH BUTTON MUSHROOM FARM

TECHINICAL ANNEXURE-A

ANNUAL SALES REALISATION

S.NO	ITEMS	PRODUCTION		RATE PER KG	VALUE
		%	QTY.		Rs. In Lacs
	Sales	KG	Nos	Rate	Amt
	Mushroom	265800.00	#REF!	85.00	225.93
	TOTAL	265800.00	265800		225.93

ANNUAL SALES REALISATION YEAR - WISE

	PARTICULARS	1st	2nd	3rd	4th	5th	6th	7th	8th
	Quantity Produced in 5 Cycles	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00
	No of Cycles in a year	2.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Quantity Produced KG	159480.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00
	Less Closing Stock in Process	0	0	0	0	0	0	0	0
	Add Opening Stock in Process	0	0	0	0	0	0	0	0
	Less Closing Stock of Finished Goods	3059	5098	5098	5098	5098	5098	5098	5098
	Add Opening Stock of Finished Goods	0	3059	5098	5098	5098	5098	5098	5098
	Total Sales (Qty)	156421	263761	265800	265800	265800	265800	265800	265800
	Selling Price Per Kg	85	89	94	98	103	108	114	120
	Gross Sales Amount	132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
	Less Excise Duty @ 12.36%	0.00	29.10	30.79	32.33	33.94	35.64	37.42	39.29
	Net Sales (Amt)---A	132.96	206.31	218.30	229.22	240.68	252.71	265.35	278.61
	TOTAL SALES	**132.96**	**206.31**	**218.30**	**229.22**	**240.68**	**252.71**	**265.35**	**278.61**

ANNEXURE-B

ANNUAL ESTIMATES OF RAW MATERIAL CONSUMED (COMPOSE)

	PARTICULARS	Ratio	Units	Rate	Amount
1.	**Raw Material**				(in Lakhs)
A	**Annual Requirement of Compose**				
a	Length of Room		meters	15.00	
b	Bredth of Room		meters	6.00	
c	Hight of room		meters	5.00	
d	No of Rooms		12.00	12.00	
e	No of Crops		5.00	5.00	
f	Total required				27000.00
g	Dividing Factor				18.30
h	Annual Compose Requirement				1475.41
j	Rate Paer M.T			3000.00	

ANNUAL ESTIMATE OF RAW MATERIAL CONSUMED

	PARTICULARS		1st	2nd	3rd	4th	5th	6th	7th	8th
A	Compost calculated as above		265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00
	Required		1475.41	1475.41	1475.41	1475.41	1475.41	1475.41	1475.41	1475.41
	Rate (5% increase)	Rs	3000.00	3150.00	3307.50	3472.88	3646.52	3828.84	4020.29	4221.30
	Consumed		4426229.51	4647540.98	4879918.03	5123913.93	5380109.63	5649115.11	5931570.87	6228149.41
B	Poultry Manure									
	Required		750.00	750.00	750.00	750.00	750.00	750.00	750.00	750.00
	Rate (5% increase)	Rs	2000.00	2100.00	2205.00	2315.25	2431.01	2552.56	2680.19	2814.20
	Consumed		1500000.00	1575000.00	1653750.00	1736437.50	1823259.38	1914422.34	2010143.46	2110650.63
C	Cotton Seed Cake									
	Required		25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
	Rate (5% increase)	Rs	10000.00	10500.00	11025.00	11576.25	12155.06	12762.82	13400.96	14071.00
	Consumed		250000.00	262500.00	275625.00	289406.25	303876.56	319070.39	335023.91	351775.11
D	Urea									
	Required		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Rate (5% increase)	Rs	6000.00	6300.00	6615.00	6945.75	7293.04	7657.69	8040.57	8442.60
	Consumed		30000.00	31500.00	33075.00	34728.75	36465.19	38288.45	40202.87	42213.01
E	Gypsum									
	Required		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
	Rate (5% increase)	Rs	2000.00	2100.00	2205.00	2315.25	2431.01	2552.56	2680.19	2814.20
	Consumed		60000.00	63000.00	66150.00	69457.50	72930.38	76576.89	80405.74	84426.03
F	Spawn									
	Required		10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
	Rate (5% increase)	Rs	60000.00	63000.00	66150.00	69457.50	72930.38	76576.89	80405.74	84426.03
	Consumed		600000.00	630000.00	661500.00	694575.00	729303.75	765768.94	804057.38	844260.25
G	Water (L.S.)		30000.00	31500.00	33075.00	34728.75	36465.19	38288.45	40202.87	42213.01
H	Power Requirement (L.S.)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I	Oil Requirement		50000.00	52500.00	55125.00	57881.25	60775.31	63814.08	67004.78	70355.02
J	Wages & Salaries		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	Energy for Cropping		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Casing Material/ Steam pasteurized		450000.00	472500.00	496125.00	520931.25	546977.81	574326.70	603043.04	633195.19
	Chemicals		50000.00	52500.00	55125.00	57881.25	60775.31	63814.08	67004.78	70355.02
	Total Cost of Raw Material Required for 5 cycles		74.46	78.19	82.09	86.20	90.51	95.03	99.79	104.78
	No of Cycles		2.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00
	Total Cost of Raw Material Required for 5 cycles		37.23	78.19	82.09	86.20	90.51	95.03	99.79	104.78
	Cost Per Cycle		14.89	15.64	16.42	17.24	18.10	19.01	19.96	20.96

TECHINICAL ANNUXRE - C

ADMINITRATIVE EXPENCES

S.NO	PARTICULARS				AMOUNT
1.	Postal Expenses				0.12
2.	Telephone				0.75
3.	Printing & Stationary				0.90
4.	Traveling & Conveyance				1.76
5.	Legal Charges				0.50
6.	Lease Rent				0.20
7.	Miscelenous				1.24
	TOTAL				5.47

	YEARS		1st	2nd	3rd	4th	5th	6th	7TH	8TH
	PARTICULARS	Increase Upto 3yrs								
	Administrative Expenses	10%	2.74	6.02	6.62	7.28	8.01	8.81	9.69	10.66

TECHINICAL ANNUXRE - D

CONSUMABLES STORES & PACKING MATERIAL CONSUMED

S.NO	PARTICULARS	Units	QTY	USAGE	PROD.	RATE	VALUE
1.	Packing Material(1.5% wastage)	Nos	1332987.00	0.3 % Wastage	5.00	0.08	1.07
2.	Diesel for Loader (5 Hours per day)	Liters	20.00	5 Hrs per day	365.00	50.00	3.65
3	Diesel for Genrator(3 Hrs per day running	Ltr	27.00	1.5 Hrs per day	365.00	50.00	4.93
4	Stores & Spares(L.S)						1.50
							11.14

REPAIRS, RENEWALS & CONSUMMABLES CONSUMED

PARTICULARS	1st	2nd	3rd	4th	5th	6th	7TH	8TH
CAPACITY	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00		
CONSUPTION OF STORES & SPARES							265800.00	265800.00
OTHER MANUFACTURING EXP.								
CONSUMABLES	5.57	11.70	12.29	12.90	13.55	14.22	14.93	15.68
REPAIRS: BASED ON % OF NET BLOCK	6.17	6.79	7.41	8.02	8.64	9.26	9.26	9.26
	5.00%	5.50%	6.00%	6.50%	7.00	7.5%	7.5%	7.5%
	11.74	18.49	19.69	20.92	22.19	23.48	24.19	24.94

TECHINICAL ANNUXRE - E

ANNUAL ESTAMATE OF SALARIES & WAGES

PARTICULARS	QTY	RATE	YR SALARY
ADMINISTRATIVE STAFF			
MANAGER CUM ACCOUNTANT	1.00	15000.00	1.80
Sales Man	2.00	10000.00	2.40
Peon / Chowkidar	2.00	5000.00	1.20
Total			5.40
ADD 30% BENEFITS			1.62
Total Administrative Staff Salary A			7.02
PRODUCTION STAFF			
Forman	1.00	15000.00	1.80
Skilled Labour	8.00	7500.00	7.20
Unskilled	8.00	6500.00	6.24
			0.00
			0.00
			0.00
Total			15.24
ADD 30% BENEFITS			4.57
Total Production Staff Salary B			19.81
Total Salary A+B			26.83

ANNUAL ESTAMATE OF SALARIES & WAGES

PARTICULARS	1st	2nd	3rd	4th	5th	6th	7TH	8TH
ADMINISTRATIVE STAFF								
5% INCREASE UP TO 3 YEARS	3.51	7.37	7.74	7.74	7.74	7.74	7.74	7.74
PRODUCTION STAFF								
5% INCREASE	9.91	20.80	21.84	22.93	24.08	25.29	26.55	27.88
	13.42	28.17	29.58	30.67	31.82	33.03	34.29	35.62

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TECHINICAL ANNUXRE - F
POWER LAYOUT

S.NO.	ITEM				H.P.	QTY	TOTAL H.P.
	MOTORS AND PUMPS						
	Airconditioner				120.00	1.00	120.00
	Blower				16.00	1.00	16.00
	Pump				5.00	1.00	5.00
	Cold Storage				2.00	1.00	2.00
	Packing Area				2.00	1.00	2.00
				TOTAL	145.00		145.00
	A Estimate of Power required						
	(1) Estimate of Industrial required	H.P.	145.00	KW	108.17		
	(2) Estimate of Light & Fan Load						
			no power		layout	Total Load	
	i) Tube Lights		50.00	WATTS	20.00	1.00	
	ii) Ordinary CFL		100.00		12.00	1.20	
	iii) Ceiling Fans		10.00		15.00	0.15	
	iv) Exhaust Fans		6.00		50.00	0.30	
	v) Others		1.00		500.00	0.50	
	(3) Total Installed Load					3.15	
	(4) Load at Power Factor of (Rounded off)		%		KW	111.32	
	Max. Desired Load from M.P.E.B.						
	(5) Computation of Power Bill						
	Consumable Load at Load Factor of		80%	89.06	KW	89.06	
	Working HRS/Per day				HOURS	24.00	
	No. of days in a year				DAYS	330.00	
	Total Power Consumed (in lacs unit)				LAKH'KWHOURS	705323.52	
	Cost per Unit				Rs./Unit	3.00	
					LAKHS Rs.	21.16	

COST OF UTILITIES

S.NO.	PARTICULARS		1st	2nd	3rd	4th	5th	6th	7th	8th
	Capacity	%	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00	265800.00
1.	POWER		10.58	21.16	22.22	23.33	24.50	25.72	27.01	28.36
	TOTAL :		10.58	21.16	22.22	23.33	24.50	25.72	27.01	28.36

TECHINICAL ANNXURE - G
SCHEDULE OF INTEREST ON TERM LOAN & CASH CREDIT

	Interest Calculation @						12.50	p.a. on term loan	
							12.50	p.a. on cash credit	
							72.00	Total Number of Insatall	
							1.33	Amount of each Instalment	
	PARTICULARS	**Const**	**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**
	TERM LOAN (as per annuxre below)								
	1ST HALF BALANCE	0.00	175.00	167.71	138.54	109.37	80.20	51.03	21.86
	2nd HALF BALANCE	175.00	167.71	138.54	109.37	80.20	51.03	21.86	0.00
	Average Balance	87.50	171.35	153.12	123.95	94.78	65.61	36.44	10.93
	Interest Paid	10.94	16.06	19.14	15.49	11.85	8.20	4.56	2.13
	Subsidy		50.00	50.00	50.00	50.00	50.00	50.00	50.00
	Interest receiviable on Subsidy		3.13	6.25	6.25	6.25	6.25	6.25	6.25
	Cash Credit Limit	0.00	30.00	33.00	36.00	40.00	40.00	40.00	40.00
	Interest	0.00	3.75	4.13	4.50	5.00	5.00	5.00	5.00
	Interest Subsidy on CC 3% subvension	0.00	0.83	0.92	1.00	1.11	1.11	1.11	1.11
	Interest on CC (Net)	0.00	2.92	3.21	3.50	3.89	3.89	3.89	3.89
	TOTAL INTEREST	10.94	15.86	16.10	12.74	9.49	5.84	2.19	-0.23

TECHINICAL ANNXURE - H

DEPRECIATION (AS PER STRAIGHT LINE METHOD)

PARTICULARS	RATE	1st	2nd	3rd	4th	5th	6th	7th
LAND	15.06	15.06	15.06	15.06	15.06	15.06	15.06	15.06
BUILDING	3.34	4.42	4.42	4.42	4.42	4.42	4.42	4.42
RESIDUAL COST	132.46	128.04	123.61	119.19	114.76	110.34	105.92	101.49
PLANT & MACHINERY	5.00	6.45	6.45	6.45	6.45	6.45	6.45	6.45
RESIDUAL COST	128.97	122.52	116.07	109.62	103.17	96.72	90.28	83.83
MISCELLANEOUS FIXED ASSETS	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RESIDUAL COST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ANNUAL DEPRECIATION	0.00	10.87	10.87	10.87	10.87	10.87	10.87	10.87
TOTAL RESIDUAL COST	276.49	265.62	254.75	243.87	233.00	222.13	211.26	200.38

DEPRECIATION (AS PER WRITTEN DOWN VALUE)

PARTICULARS		1st	2nd	3rd	4th	5th	6th	7th
LAND		15.06	15.06	15.06	15.06	15.06	15.06	15.06
BUILDING		10.00	13.25	11.92	10.73	9.66	8.69	7.82	7.04
RESIDUAL COST		132.46	119.21	107.29	96.56	86.91	78.22	70.39	63.36
PLANT & MACHINERY		15.00	19.34	16.44	13.98	11.88	10.10	8.58	7.30
RESIDUAL COST		128.97	109.62	93.18	79.20	67.32	57.22	48.64	41.34
MISCELLANEOUS FIXED ASSETS		15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RESIDUAL COST		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ANNUAL DEPRECIATION			32.59	28.36	24.71	21.54	18.79	16.41	14.34
		276.49	243.90	215.54	190.83	169.29	150.50	134.10	119.76
		276.49							

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TECHINICAL ANNXURE - J

ESTIMATE OF WORKING CAPITAL REQUIREMENT

S.NO	ITEMS	QUANTITY FOR 5 CROPS (YEAR)	NO. OF CROP	RATE	AMOUNT (in lacs)
i)	Cereal straw (wheat / paddy / soyabean straw) (50:50)	1475 tons	2.00	3000.00	17.70
ii)	Poultry manure	750 tons	1.00	2000.00	3.00
iii)	Cotton seed cake	25 tons	1.00	10000.00	5.00
iv)	Urea	5 tons	1.00	6000.00	0.06
v)	Gypsum	30 tons	1.00	2000.00	0.12
vi)	Spawn	10 tons	1.00	60000.00	1.20
vii)	Oil for composting	L.S.	1.00	As per Chart enclosed	0.10
viii)	Casing Material/ Steam	L.S.	1.00	-do-	0.90
ix)	Chemicals	L.S.	1.00	-do-	0.10
x)	Power required for compost	21.15.	1.00	-do-	4.23
xi)	Oil, Consumable stores, packing material etc required during composting for energizing of blower/	11.15	1.00	-do-	2.23
xii)	Labour required for composting and cropping	26.85	1.00	-do-	5.37
xiii)	Repair and maintances	3.53	1.00	-do-	0.71
	TOTAL				**40.72**
	Margin @ 25 %				**10.18**
	Finace for the first year				**30.54**
	Say				**30.00**

Particulars	1st	2nd	3rd	4th	5th	6th	7th	8th
10% increament till 4 th year	30.00	33.00	36.30	39.93	43.92	48.32	53.15	58.46
Say	30.00	33.00	36.00	40.00	40.00	40.00	40.00	40.00

PROJECTED FUND FLOW STATEMENT

	SOURCES	1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YR	8TH YEAR
	Profit Before Tax	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
	Add Depreciation	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
	Preliminary & Know How Fees W/O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Gross Funds Generated	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Less:Tax paid payable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drawings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A.	Sub - Total[net funds generated]	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Increase In Capital	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Increase in term loan	167.71				0.00	0.00	0.00	0.00
	Increase in unsecured loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Capital Subsidy	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in other non-current assets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B.	Sub-total	297.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Increase in short term bank borrowings	30.00	3.00	3.00	4.00	0.00	0.00	0.00	0.00
	Increase in term loan payable in one year	7.29		0.00	0.00	0.00	0.00	0.00	0.00
	Increase in other current liabilities	0.53	0.13	0.06	0.06	0.08	0.04	0.04	0.05
	Decrease in inventory				0.00	0.00	0.00	0.00	0.00
	Increase in trade creditors	1.55	0.08	0.08	0.09	0.09	0.09	0.10	0.10
	Decrease in other current assets/debtors								
	Decrease in Debtors					0.00	0.00	0.00	0.00
C.	Sub-total	39.37	3.21	3.14	4.15	0.17	0.13	0.14	0.15
	TOTAL FUNDS AVAILABLE [A + B + C]	367.85	55.10	63.13	70.91	74.29	81.83	89.64	95.25
	Increase in fixed assets	276.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in unsecured loan								
	Increase in Exp on Fiture Espansion	0.00	40.00	20.00	20.00	20.00	20.00	20.00	20.00
	Increase in other non current assets	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Decrease in capital/Drawings		2.00	5.00	5.50	6.00	6.50	6.50	6.50
	Decrease in Term Loan Payable in one year					0.00	0.00	7.31	21.86
	Decrease in term loan		29.17	29.17	29.17	29.17	29.17	21.86	0.00
D.	Sub-total	281.49	71.17	54.17	54.67	55.17	55.67	55.67	48.36
	Decrease in Term Loan Payable in 1 year		-21.88		0.00	0.00	0.00	0.00	0.00
	Decrease in Short Term Bank Borrowings								
	Decrease in Current liabilities								
	Decrease in trade creditors					0.00	0.00	0.00	0.00
	Increase in inventory	27.18	2.72	2.99	3.29	0.00	0.00	0.00	0.00
	Increase in receivables	4.43	0.47	0.29	0.26	0.27	0.29	0.30	0.32
	Increase in other current assets	54.75	2.62	5.69	12.69	18.84	25.87	33.67	46.58
	Increase in advance to suppliers				0.00	0.00	0.00	0.00	0.00
E.	Sub-total	86.36	-16.07	8.96	16.24	19.12	26.16	33.97	46.89
	SUMMARY OF FUND FLOW STATEMENT								
	Long Term Sources	328.48	51.89	59.99	66.76	74.12	81.69	89.50	95.10
	Long Term uses	281.49	71.17	54.17	54.67	55.17	55.67	55.67	48.36
	Surplus(Short fall)	46.99	-19.28	5.82	12.09	18.95	26.02	33.83	46.74
	Short term sources	39.37	3.21	3.14	4.15	0.17	0.13	0.14	0.15
	Less Short term uses	86.36	-16.07	8.96	16.24	19.12	26.16	33.97	46.89
	Surplus(Short fall)	-46.99	19.28	-5.82	-12.09	-18.95	-26.02	-33.83	-46.74
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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FINANCIAL POSITION — ANNEXURE----0

	PARTICULARS	1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YEAR	8TH YEAR
1)	CURRENT ASSETS	86.36	92.16	101.13	117.36	136.48	162.64	196.61	243.50
2)	CURRENT LIABILITIES	39.37	64.46	67.60	71.75	71.92	72.05	64.89	43.18
3)	CONTRIBUTION TO WORKING CAPITAL (1-2)	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
4)	NET FIXED ASSETS	243.90	215.54	190.83	169.29	150.50	134.10	119.76	107.23
5)	TERM LIABILITES	167.71	138.54	109.37	80.20	51.03	21.86	0.00	#REF!
6)	CONTRIBUTION TO FIXED CAPITAL (4-5)	76.19	77.00	81.46	89.09	99.48	112.24	119.76	#REF!
7)	FUNDS INVESTED IN BUSINESS (3+6)	123.18	104.70	114.98	134.71	164.04	202.82	251.48	#REF!
8)	FUNDS INVESTED OUT SIDE BUSINESS	5.00	45.00	65.00	85.00	105.00	125.00	145.00	165.00
9)	FUNDS BORROWED FROM GROUP COMPANIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10)	INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11)	TANGIBLE NET WORTH	128.18	149.70	179.98	219.71	269.04	327.82	396.49	#REF!
12)	NET SALES	132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
13)	COST OF SALES	108.22	173.79	177.96	182.95	188.70	195.19	201.13	207.74
14)	GROSS PROFIT	24.73	61.61	71.13	78.59	85.92	93.16	101.64	110.16
15)	NET PROFIT	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
16)	DEPRECIATION	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
17)	PROVISION FOR INVESTMENT ALLOWANCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18)	CASH PROFITS	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
19)	PROVISION FOR TAXATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20)	DRAWINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21)	CASH PROFITS	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10

RATIO ANALYSIS — ANNEXURE----P

PARTICULARS		1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YEAR	8TH YEAR
CURRENT RATIO		2.19	1.43	1.50	1.64	1.90	2.26	3.03	5.64
CURRENT RATIO (excluding T.L.payable in 1 Year)		2.69	2.61	2.63	2.76	3.19	3.79	4.57	5.64
DEBT EQUITY RATIO		1.62	1.36	0.98	0.69	0.46	0.29	0.16	0.09
GROSS PROFIT /NET SALES		43.11	38.22	38.47	38.28	38.13	38.00	38.30	38.60
INVENTORY TO NET SALES	DAYS	74	46	48	50	47	45	43	41
FINISHED GOODS TO SALES	DAYS	0	0	0	0	0	0	0	0
RAW MATERIAL TO PURCHASES	DAYS	237	124	130	136	130	124	118	112
WIP TO COST OF PRODUCTION	DAYS	0	0	0	0	0	0	0	0
RECEIVIABLES TO GROSS SALES	DAYS	12	8	8	8	8	8	8	8
RECEIVIABLES + INVETORY TO SALES	DAYS	86	53	55	57	55	53	51	48
SUNDERY CREDITORS TO PURCHASE	DAYS	15	8	8	8	8	8	8	8
DEBT SERVICE COVERAGE RATIO		2.01	1.47	1.69	1.92	2.20	2.56	9.72	0.00
AVRAGE DEBT SERVICE COVERAGE RATIO				2.24					
PROFIT BEFORE DEP. INT. & TAX		49.75	74.24	78.98	82.49	86.21	90.14	95.52	101.12
PROFIT BEFORE DEP. INT. & TAX TO ASSETS		14.84	21.05	22.13	22.20	21.99	21.37	20.70	19.61
NWC/TCA		148.43	162.43	177.98	187.20	197.12	201.57	201.67	194.07
BANK FINANCE TO TCA %		34.74	35.81	35.60	34.08	29.31	24.59	20.35	16.43
SUNDRY CREDITORS TO TCA %		1.80	1.77	1.69	1.53	1.38	1.22	1.06	0.90
OCL TO TCA%		9.06	32.37	29.56	25.53	22.01	18.49	11.60	0.41
COST OF SALES TO SALES		81.40	73.83	71.45	69.95	68.71	67.69	66.43	65.35
NET PROFIT TO SALES		-1.37	9.99	14.16	17.29	20.15	22.64	24.82	25.97
NET PROFIT TO NETWORTH		-1.42	15.71	19.60	20.58	20.57	19.92	18.96	17.47
NET PROFIT TO CAPITAL EMPLOYED		-0.54	6.67	9.88	12.17	14.12	15.48	16.29	16.01
TOL/TNW		1.62	1.36	0.98	0.69	0.46	0.29	0.16	0.09
TTL/TNW		1.31	0.93	0.61	0.37	0.19	0.07	0.00	0.00

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COMPUTATION OF BREAK EVEN PO ANNEXURE----Q

			31.03.2016	31.03.2017	31.03.2018	31.03.2019	31.03.2020
(A)	VARIABLE COST						
	1) Raw material consumed		78.19	82.09	86.20	90.51	95.03
	2) Direct Expenses		67.24	71.16	75.21	79.41	83.75
	3) Interest on Working Capital		3.21	3.50	3.89	3.89	3.89
	4) Selling & Adm Expenses 50% fixed	DAYS	7.87	8.42	8.82	9.25	9.72
			156.51	165.18	174.12	183.05	192.39
(B)	SEMIVARIABLE & FIXED COST						
	1) Selling & Administrative Expenses		7.87	8.42	8.82	9.25	9.72
	2) Depreciation		28.36	24.71	21.54	18.79	16.41
			36.24	33.13	30.35	28.04	26.12
(C)	SALES REALISATION		235.41	249.09	261.54	274.62	288.35
(D)	CONTRIBUTION (C-A)		78.90	83.91	87.42	91.57	95.96
(E)	BREAK EVEN POINT		45.93	39.48	34.72	30.62	27.22
(F)	B.E.P. AT 100% CAPACITY		36.74	31.59	27.78	24.49	21.78

COMPUTATION OF DEBT SERVICE COVERAGE RATIO

ANNEXURE----R

	PARTICULARS	1ST YR	2ND YR	3RD YR	4TH YR	5TH YR	6TH YR	7TH YR	
	SERVICE								
(A)	NET PROFIT AFTER TAX	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	
(B)	INTEREST ON TERM LOANS	16.06	19.14	15.49	11.85	8.20	4.56	2.13	
(C)	DEPRECIATION	32.59	28.36	24.71	21.54	18.79	16.41	14.34	
		46.83	71.03	75.48	78.61	82.32	86.25	91.63	532.15
	DEBT								
(A)	INTEREST ON TERM LOANS	16.06	19.14	15.49	11.85	8.20	4.56	2.13	
(B)	INSTALMENT OF TERM LOAN	7.29	29.17	29.17	29.17	29.17	29.17	7.29	
		23.36	48.31	44.66	41.02	37.37	33.73	9.42	237.87
	D.S.C.R.	2.01	1.47	1.69	1.92	2.20	2.56	9.72	

AVERAGE D.S.C.R. 2.24

FINANCIAL PROJECTIONS

ANNEXURE----V

YEAR ENDED MARCH 31ST	**2015.00**	**2016.00**	**2017.00**	**2018.00**	**2019.00**	**2020.00**	**2021.00**	**2022.00**
Total Income	132.96	235.41	249.09	261.54	274.62	288.35	302.77	317.91
EBIDTA	49.75	74.24	78.98	82.49	86.21	90.14	95.52	101.12
Operating Profit	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
Operating margin (%)	-1.37	9.99	14.16	17.29	20.15	22.64	24.82	25.97
Depreciation	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54
Interest	**18.98**	**22.35**	**18.99**	**15.74**	**12.09**	**8.44**	**8.44**	**6.02**
PBT	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
PBT / Total Income	-1.37	9.99	14.16	17.29	20.15	22.64	24.82	25.97
PAT	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56
Cash Accruals (PAT+dep+DTL)	30.77	51.89	59.99	66.76	74.12	81.69	89.50	95.10
Paid-up Capital	80.00	126.18	144.70	174.48	213.71	262.54	321.32	389.99
TNW	128.18	149.70	179.98	219.71	269.04	327.82	396.49	472.55
NWC	46.99	27.70	33.52	45.61	64.56	90.58	131.72	200.32
TOL / TNW	1.31	0.93	0.61	0.37	0.19	0.07	0.00	0.00
Current Ratio	2.19	1.43	1.50	1.64	1.90	2.26	3.03	5.64
Min current ratio	1.43							
Max TOL/TNW	1.31							

SENSITIVITY ANALYSIS ANNEXURE----W

Project	Avg. DSCR	Max. DSCR	Min. DSCR	Break Even (%) at installed capacity	Cash BES (%) at installed capacity
Base Case	**2.24**	**2.56**	**2.01**	**0.39**	**0.32**
Decrease in Selling Price by	1.49	1.79	1.01	0.60	0.48
Increase in variable costs, other that RM by 5%	1.81	2.21	1.24	0.44	0.35
Increase in raw material price by 2.5%	1.59	1.91	1.09	0.56	0.45
100 bps increase in rate of	1.86	2.29	1.27	0.45	0.36
Capacity Decrease by 10%	1.62	2.10	0.92	0.58	0.46

IRR:

DISCOUNTED CASH FLOW STATEMENT: (In Rs. Lacs unless otherwise mentioned) **ANNEXURE-X**

	As at 31.03								
As at 31.03	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**TOTAL Present**
INFLOWS									
PAT	-1.82	23.52	35.28	45.22	55.33	65.29	75.16	82.56	
Depreciation	32.59	28.36	24.71	21.54	18.79	16.41	14.34	12.54	
Interest	18.98	22.35	18.99	15.74	12.09	8.44	6.02	6.02	
Terminal Value									
Other Fixed Assets								276.49	
Working Capital								171.15	
TOTAL INFLOW	**49.75**	**74.24**	**78.98**	**82.49**	**86.21**	**90.14**	**95.52**	**548.76**	
Discounting Factor @ 22%	0.820	0.672	0.551	0.451	0.370	0.303	0.249	0.204	
Present value of Inflow @22%	40.778	49.877	43.497	37.238	31.898	27.337	23.744	111.817	366.19
Discounting Factor @ 25%	0.800	0.640	0.512	0.410	0.328	0.262	0.210	0.168	
Present value of Inflow @25%	39.800	47.511	40.440	33.790	28.249	23.629	20.031	92.067	325.52
OUTFLOWS									
Capital Expenditure	281.49								
Working Capital Requirement	46.99	-19.28	5.82	12.09	18.95	26.02	33.83	46.74	
TOTAL OUTFLOW	**328.48**	**-19.28**	**5.82**	**12.09**	**18.95**	**26.02**	**33.83**	**46.74**	
NET CASH FLOW	**-278.73**	**93.52**	**73.16**	**70.41**	**67.26**	**64.11**	**61.69**	**502.02**	

IRR 24.78

LIST OF PLANT & MACHINERY AND BUILDINGS & FINANCE MIX **ANNEXURE-S**

NAME OF THE MACHINE N0.	VALUE	TOTAL	FINAN	MARGI
PLANT & MACHINERY				
AS PER ANNEXURE - L	123.45	123.45	92.59	30.86
TOTAL PLANT AND MACHINERY -----"A"	123.45	123.45	92.59	30.86
MISCELLANEOUS FIXED ASSETS				
AS PER ANNEXURE - L	0.00	0.00	0.00	0.00
TOTAL MISCELLANEOUS FIXED ASSETS -- "B"		0.00	0.00	0.00
0.00		14.42	0.00	14.42
TOTAL LAND -----"C"		14.42	0.00	14.42
0.00				
AS PER ANNEXURE - M		126.79	83.68	43.11
TOTAL BUILDINGS----------"D"		126.79	83.68	43.11
OTHER ASSETS				
PREOPERATIVE EXPENSES		12.38	0.00	12.38
AS PER ANNEXURE - N				
TOTAL OTHER ASSETS--------"E"		12.38	0.00	12.38
TOTAL -------A+B+C+D+E		277.04	176.27	100.77
SAY		**277.04**	**175.00**	**102.04**

COMPUTATION OF MARGIN MONEY FOR WORKING CAPITAL ANNEXURE-T

PARTICULARS	%	TOTAL	MARGIN	BALANCE
CASH & BANK BALANCE	100.00	4.75	4.75	0.00
DEPOSITS	100.00	5.00	5.00	0.00
DEBTORS	40.00	4.43	1.77	2.66
INVENTORY	25.00	40.00	10.00	30.00
SUB TOTAL "A"		54.18	21.52	32.66
SUNDRY CEEDITORS	100.00	1.55	1.55	0.00
SUB TOTAL "B"		1.55	1.55	0.00
NET MARGIN A-B		52.63	19.97	32.66
			0.00	

COST OF PROJECT & MEANS OF FINANCE **ANNEXURE-U**

PARTICULARS	AMOUNT	%
COST		
LAND	14.42	4.10
BUILDING	126.79	36.02
PLANT & MACHINERY	123.45	35.07
BACK END FDR OF SUBSIDY	50.00	14.20
DEPOSITS	5.00	1.42
PREOPERATIVE EXPENSES	12.38	3.52
MARGIN MONEY FOR W.C.	19.97	5.67
TOTAL	352.01	100.00
MEANS OF FINANCE		
CAPITAL	80.00	22.73
SUBSIDY	50.00	14.20
TERM LOAN FROM BANK	175.00	49.71
UNSECURED LOAN	47.01	13.35
TOTAL	352.01	100.00
DEBT	200.00	56.82
EQUITY	105.00	29.83
DEBT EQUITY RATIO	1.90	1.90

ESTIMATED PROJECT COST

(Rs. in Lakhs)

Sr. No.	Particulars		Unit	Basis	Unit cost (Rs.)	Qty.	Cost
1.00	**LAND & SITE DEVELOPMENT**						
	Land		Sqmt		Acquired	4780.00	12.00
	Land Development:-						
	Leveling & Fencing						2.00
	Entry Points & Guard room	1	Nos.			1.00	0.42
	Sub Total						**14.42**
2.00	**BUILDING**						
	Growing Room	12.00	Sqmt	;15X6X4.5	1080.00	7000.00	75.60
	Pasteurization Tunnel	2.00	Sqmt	12X3.6X3.6	86.40	6000.00	5.18
	Bunker	3.00	Sqmt	3.6X12X4.5	129.60	6000.00	7.78
	Composting Yard 150 Sq m	1.00	Sqmt	11.26x19	214.00	3000.00	6.42
	DG SetBoiler, Boiler Room, Tool Room, Worker Room	1.00	mt	5.82x11.62	67.62	4000.00	2.70
	Working Coridor	1.00	Sqmt	3.6X37.5	135.00	6000.00	8.10
	Packing Area	1.00	Sqmt	3.9x9	27.00	6000.00	1.62
	Plumbing Work	l/s	Sqmt	L/S			3.00
	General Electric Work	l/s	Sqmt	L/S			3.00
	Pre Entrance room			3 x 6	18.00	7000.00	1.26
	Cold Room			3x3	9.00	7000.00	0.63
	Court Yard/Casing Yard	1.00	Sqmt	11.26x 15	168.90	1500.00	2.53
	Span Lab	1.00	Sqmt	3x10.27	30.81	7000.00	2.16
	Store	1.00		5.75x7.23	35.82	6000.00	2.15
	Door Packing Room	1.00			1.00	4000.00	0.04
	Insulated Door Mushroom House	24.00			24.00	15000.00	3.60
	Insulated Door Pasteure Tunnel	2.00			2.00	15000.00	0.30
	Ordinary Door Casing Soil Tunnel	1.00			9.00	4000.00	0.36
	Entrance Door (Coridor)	2.00			2.00	12000.00	0.24
	Office Door	1.00			1.00	4000.00	0.04
	Door in Banker	2.00			2.00	4000.00	0.08
	Sub Total						**126.79**
3.00	**PLANT & MACHINERY**						
	Boiler 150 Pound & Cold Storage Equipment						4.00
	Centrifugal Blower fans with motor Chambers, Insulation of the blower, ducting						3.00
	Digital thermometer with 6 probes wire length of 60' in each probe,- digital display x						0.10
	Dial thermometers with 4 feet probe rod, -						0.10
	Shelves Stainless Steel for 12 Cropping room 2 rows & 6 tiers in each room				3110 sq mt	950.00	29.55
	Insulation for Growing room, floor and pasterurization tunnel						15.00
	Dewatering pump (1 HP) in guddy with hoze pipe (1" dia) x 1 No,pit, Pipes,stacking boards, forks, other tools.						0.20
	Wiring & Electric Work	L/S					2.00
	Air Conditioning (Cooling tower & Ducting) (100 to 110 Ton)						42.00
	Ventilation System for Bunker Tunnel & Casing	5.00	Nos.				3.00
	Diesel Generator 140 KV (silent)	1.00	Nos.				7.50
	Transformer 200 KVA	1.00					2.00
	Front Loader for Compose	1.00					10.00
	Vehicle Delivery	1.00					5.00
	Sub Total						**123.45**
4.00	**PRE-OPERATIVE EXPENSES**						
	Administrative Exp.						0.50
	Professional Charges						0.50
	Interest During Construction Period						9.38
	Start-up Expenses						2.00
	Sub Total						**12.38**
	TOTAL						**173.81**