PROJECT PROFILE ON HAND SANITIZER

INTRODUCTION:

Hand sanitizers, otherwise known as hand antiseptics is an alternative to hand washing with soap and water. It can be made in different form such as gel, foam and liquid solution (sprays). The base of all hand sanitizers is alcohol. The alcohol used may be isopropyl alcohol (Isopropanol), ethanol-propanol or povidone-iodine. Alcohol based hand sanitizer are more effective in killing microorganisms. (Hand hygiene., 2006)

An alcohol is any organic compound in which the hydroxyl functional group (OH) is bound to a saturated carbon atom. The primary alcohol usually forms the base of hand sanitizer which is about 60%.

Hand sanitizers effectiveness starts with its formula. The base of all handsanitizers is alcohol, added to vitamin E, aloe vera (or another softeningingredient), and glycerine. The essential, and germ killing ingredient in handsanitizers is the alcohol, and the minimum amount one needs for a sanitizer is 60%.

The process of germ killing starts by removing the oil on the skin, thebacteria present in the body from coming to the surface. Then the alcohol kills the bacterial once rubbed over the hands.
Hand sanitizers is clearly effective against gastrointestinal and, to a lesser extent, respiratory infections. Alcohol rubs also helps, to kill many different kinds of bacteria and TB bacteria. Medicinal plants are plants used in the management of many ailments and as such there applications are numerous. Examples include turmeric which contains a main bioactive compound curcumin, it has power anti-inflammatory effects and is a very strong anti-oxidant. The aim of this study is to produce hand sanitizers from locally grown medicinal plants.

CDC recommends washing hands with soap and water whenever possible because handwashing reduces the amounts of all types of germs and chemicals on hands. But if soap and water are not available, using a hand sanitizer with at least 60% alcohol can help to avoid getting sick and spreading germs to others. The guidance for effective handwashing and use of hand sanitizer in community settings was developed based on data from a number of studies.

Alcohol-based hand sanitizers can quickly reduce the number of microbes on hands in some situations, but sanitizers do not eliminate all types of germs.
A word of warning

Hand sanitizer recipes, including the one below, are intended for use by professionals with the necessary expertise and resources for safe creation and proper utilization.

Hand sanitizers should be used in extreme situations when handwashing isn’t available for the foreseeable future.

Hand sanitizers should not be used on children’s skin as they may be more prone to use them improperly, leading to a greater risk of injury.

Hand washing vs. Hand sanitizer

Knowing when it’s best to wash your hands, and when hand sanitizers can be helpful, is key to protecting yourself from the new coronavirus as well as other illnesses, like the common cold and seasonal flu.

While both serve a purpose, washing your hands with soap and water should always be a priority, according to the CDC. Only use hand sanitizer if soap and water isn’t available in a given situation.

It’s also important to always wash your hands:

- after going to the bathroom
- after blowing your nose, coughing, or sneezing
- before eating,
after touching surfaces that could be contaminated

The CDC lists specific instructions Trusted Source on the most effective way to wash your hands. They recommend the following steps:

1. Always use clean, running water. (It can be warm or cold.)
2. Wet your hands first, then turn the water off, and lather your hands with soap.
3. Rub your hands together with the soap for at least 20 seconds. Make sure to scrub the back of your hands, between your fingers and under your nails.
4. Turn the water on and rinse your hands. Use a clean towel or air dry.

MARKET POTENTIAL:

Hand hygiene is one of the most important measured to prevent the spread of infectious diseases. It is an integral procedure in the healthcare environment. Similarly, it is very important for the community as well. As per an estimate, simple hand washing can save about one million lives per year. As a result of rising awareness about hand hygiene and its benefits, there has been a constant increase in demand of hand sanitizers. to meet the high demands of the hand sanitizers.
**IMPLEMENTATION SCHEDULE:**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Particulars</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Time requirement for preparation of Project</td>
<td>Two months</td>
</tr>
<tr>
<td></td>
<td>report</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Time requirement for selection of Site</td>
<td>One month</td>
</tr>
<tr>
<td>3</td>
<td>Time required for registration as MSME</td>
<td>One Day</td>
</tr>
<tr>
<td>4</td>
<td>Time required for acquiring the loan Machinery</td>
<td>Three months</td>
</tr>
<tr>
<td></td>
<td>procurement, erection and commissioning</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Recruitment of laborer etc.</td>
<td>One month</td>
</tr>
<tr>
<td>6</td>
<td>Trial runs</td>
<td>One Month</td>
</tr>
</tbody>
</table>

**LEGAL ASPECTS:**

The product is covered under the Drug Control Act and all specifications laid down therein are to be complied with. The general requirements for obtaining Drug License are as under:

a. Land and Plant Layout.
b. Proof of Ownership of Land of Consent letter of owner, if the land is taken on rent.
c. Copy of Memorandum of articles of association or partnership dead, list of Directors etc. as the case may be.
d. Photocopy of the packing material specimen.
e. Clearance from State Pollution Control Board.
TECHNICAL ASPECT:

Raw materials:
While alcohol is the active component in the formulations, certain aspects of other components should be respected. All raw materials used should be preferably free of viable bacterial spores. The raw materials for inclusion/consideration are listed below:

H₂O₂ • The low concentration of H₂O₂ is intended to help eliminate contaminating spores in the bulk solutions and recipients and is not an active substance for hand antisepsis.
• H₂O₂ adds an important safety aspect, however the use of 3–6% for the production might be complicated by its corrosive nature and by difficult procurement in some countries.

Glycerol and other humectants or emollients
• Glycerol is added as a humectant to increase the acceptability of the product.
• Other humectants or emollients may be used for skin care, provided that they are affordable, available locally, miscible (mixable) in water and alcohol, non-toxic, and hypoallergenic.
• Glycerol has been chosen because it is safe and relatively inexpensive. Lowering the percentage of glycerol may be considered to further reduce stickiness of the handrub.
Use of proper water:
• While sterile distilled water is preferred for making the formulations, boiled and cooled tap water may also be used as long as it is free of visible particules.

Addition of other additives:
• It is strongly recommended that no ingredients other than those specified here be added to the formulations.

Gelling agents:
• No data are available to assess the suitability of adding gelling agents to WHO-recommended liquid formulations, but this could increase potentially both production difficulties and costs.

Fragrances:
The addition of fragrances is not recommended because of the risk of allergic reactions.

QUALITY CONTROL & STANDARDS: IS 1061 : 1997

QUANTITY : 3,00,000 Litres per Annum
VALUE : Rs. 2,65,00,000/-
MANUFACTURING:

The hand sanitizer formula contains:

- 2 parts isopropyl alcohol or ethanol (91–99 percent alcohol)
- 1 part aloe vera gel
- A few drops of clove, eucalyptus, peppermint, or other essential oil
- The hand sanitizer should be prepared in a clean space. Countertops with a diluted bleach solution beforehand should be wiped down.
- Make sure the alcohol used for the hand sanitizer is not diluted.
- Mix all the ingredients thoroughly until they’re well blended.
- Don’t touch the mixture with your hands until it’s ready for use.

For a larger batch of hand sanitizer, the World Health Organization (WHO) trusted source has a formula for a hand sanitizer that uses:

- Isopropyl alcohol or ethanol
- Hydrogen peroxide
- Glycerol
- Sterile distilled or boiled cold water
FINANCIAL ASPECTS:

**FIXED CAPITAL:**

**A) LAND & BUILDING:**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Particulars</th>
<th>Monthly(Rs.)</th>
<th>Yearly(Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Rented Place 2000 sqft</td>
<td>15,000.00</td>
<td>1,80,000.00</td>
</tr>
</tbody>
</table>

Total = 1,80,000.00

**B) MACHINERY & EQUIPMENTS:**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Particulars</th>
<th>Unit Price (Rs.)</th>
<th>Qty.</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Distillation Machine</td>
<td>4,80,000.00</td>
<td>1</td>
<td>4,80,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>Blanching Machine</td>
<td>62,000.00</td>
<td>1</td>
<td>62,000.00</td>
</tr>
<tr>
<td>3.</td>
<td>Mixing Machine</td>
<td>88,000.00</td>
<td>2</td>
<td>1,76,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>Packing Machine</td>
<td>4,25,000.00</td>
<td>1</td>
<td>4,25,000.00</td>
</tr>
<tr>
<td>5.</td>
<td>Weighing Scale</td>
<td>6,000.00</td>
<td>2</td>
<td>12,000.00</td>
</tr>
<tr>
<td>6.</td>
<td>Interior + Cabin + Storage Racks</td>
<td>1,60,000.00</td>
<td>L.S</td>
<td>1,60,000.00</td>
</tr>
<tr>
<td>7.</td>
<td>Miscellaneous – tools and equipments</td>
<td>90,000.00</td>
<td>L.S</td>
<td>90,000.00</td>
</tr>
<tr>
<td>8.</td>
<td>Working Table</td>
<td>12,000.00</td>
<td>4</td>
<td>48,000.00</td>
</tr>
<tr>
<td>9.</td>
<td>Electrical Wiring</td>
<td>35,000.00</td>
<td>---</td>
<td>35,000.00</td>
</tr>
<tr>
<td>10.</td>
<td>Installation Charges</td>
<td>1,25,000.00</td>
<td></td>
<td>1,25,000.00</td>
</tr>
<tr>
<td>11.</td>
<td>Pre-operative Expenses</td>
<td></td>
<td></td>
<td>1,00,000.00</td>
</tr>
</tbody>
</table>

TOTAL = 17,13,000.00

TOTAL FIXED CAPITAL = Rs. 20,93,000.00
C] WORKING CAPITAL:

i) Raw-Materials (Monthly):

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Price / Ltr. (Rs.)</th>
<th>Qty.(Ltrs.)</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ethanol</td>
<td>70.00</td>
<td>17,500</td>
<td>12,25,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>Hydrogen Peroxide</td>
<td>35.00</td>
<td>2,500</td>
<td>87,500.00</td>
</tr>
<tr>
<td>3.</td>
<td>Glycerol</td>
<td>40.00</td>
<td>2,500</td>
<td>1,00,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>Sterile Water</td>
<td>20.00</td>
<td>2,500</td>
<td>50,000.00</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> =</td>
<td></td>
<td></td>
<td><strong>14,62,500.00</strong></td>
</tr>
</tbody>
</table>

(ii) Packing Material:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Price (Rs.)</th>
<th>Qty. (Nos.)</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bottle</td>
<td>6.00</td>
<td>25,000</td>
<td>1,50,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>Cartons</td>
<td>30.00</td>
<td>2,500</td>
<td>75,000.00</td>
</tr>
<tr>
<td>3.</td>
<td>Wraps &amp; Levels</td>
<td>4.00</td>
<td>25,000</td>
<td>1,00,000.00</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> =</td>
<td></td>
<td></td>
<td><strong>3,25,000.00</strong></td>
</tr>
</tbody>
</table>
### (iii) Utilities:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Price (Rs.)</th>
<th>Qty.</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gas</td>
<td>1000.00/Cylinder</td>
<td>2</td>
<td>1600.00</td>
</tr>
<tr>
<td>2.</td>
<td>Water</td>
<td>----</td>
<td>25,000 Ltrs</td>
<td>2000.00</td>
</tr>
<tr>
<td>3.</td>
<td>Electricity</td>
<td>10.00/unit</td>
<td>1500 units</td>
<td>15,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>TOTAL =</strong> 18,600.00</td>
</tr>
</tbody>
</table>
(v) Man-Power Requirements:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Nos.</th>
<th>Salary(Rs.)</th>
<th>Total(Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Manager</td>
<td>1</td>
<td>15,000.00</td>
<td>15,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>Sales Executive</td>
<td>1</td>
<td>8,000.00</td>
<td>8,000.00</td>
</tr>
<tr>
<td>3.</td>
<td>Store-keeper cum Clerk</td>
<td>1</td>
<td>8,000.00</td>
<td>8,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>Skilled Workers</td>
<td>4</td>
<td>9,000.00</td>
<td>36,000.00</td>
</tr>
<tr>
<td>5.</td>
<td>Watchman cum Peon</td>
<td>2</td>
<td>7,000.00</td>
<td>14,000.00</td>
</tr>
<tr>
<td></td>
<td>Perquisites @15%</td>
<td></td>
<td></td>
<td>12,000.00</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td></td>
<td>93,000.00</td>
</tr>
</tbody>
</table>

TOTAL WORKING CAPITAL REQUIREMENT PER MONTH

= Rs. 19,86,000.00

PROJECT COST

a. Fixed Capital = Rs. 20,93,000.00

b. Working Capital for two months = Rs. 39,72,000.00

TOTAL = Rs. 60,65,000.00
MACHINERY UTILISATION:

Capacity utilization is considered as 75% of installed capacity is considered to achieve the projected target.

FINANCIAL ANALYSIS:

Cost of Production (per year) (Rs.)

1. Recurring expenses 2,38,32,000=00
2. Depreciation on machinery @ 10% 1,19,000=00
3. Depreciation on office furniture @ 20% 34,400=00
4. Depreciation on Tools @20% 18,000=00
5. Interest on total investment @ 14% 8,49,000=00

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Total          =    2,48,52,000=00

Sales Revenue (per year):

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Qty.</th>
<th>Rate / Bottle (Rs.)</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alcohol based Hand Sanitizer in 500 ML. Bottles</td>
<td>4,00,000 Bottles</td>
<td>45.00</td>
<td>1,80,00,000.00</td>
</tr>
<tr>
<td>2.</td>
<td>Alcohol based Hand Sanitizer in 1 Ltr... Bottles</td>
<td>1,00,000 Bottles</td>
<td>85.00</td>
<td>85,00,000.00</td>
</tr>
</tbody>
</table>

TOTAL = 2,65,00,000.00
Profit : Sales Revenue - Cost of Production

: Rs. (2,65,00,000.00 - 2,48,52,000.00)

: Rs. 16,48,000.00

Tax : Rs. 3,00,000.00

Net Profit : Rs. 13,48,000.00

Net Profit Ratio : 5.09%

Return on Investment : 22.22%

BREAK-EVEN-POINT:

Fixed Cost (Annual)

1. Depreciation on Machinery & equipments @ 10% Rs. 1,19,000.00
2. Depreciation on Tools @ 25% Rs. 18,000.00
3. Depreciation on Office Furniture @ 20% Rs. 34,400.00
4. Interest on Capital Investment @14% Rs. 8,49,000.00
5. 40% Salary & Wages Rs. 3,88,800.00
6. 40% Other Expenses except Insurance & Tax Rs. 2,73,600.00
7. Insurance Rs. 48,000.00

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Total Rs. 17,30,800.00
Say Rs. 17,31,000.00

Break Even Point

Fixed Cost X 100 = 56.22%
Fixed Cost + Profit
I. Names and Addresses of Machinery Suppliers:-

1. M/s Shristi Food Equipment Exim Pvt. Ltd. G-17/47, Ground Floor Sector-15 Rohini, Delhi-85

2. M/s Rapid Cool B-151 Mayapuri Industrial Area Phase-I, New Delhi-64


II. Name and addresses of Pet Bottle suppliers:-

1. M/s Teknobyte India Pvt. Ltd. Plot No. 10, Pocket-D, Sector-4, DSIDC Industrial Area, Bawana, Delhi – 39

2. M/s Usha Poly Craft Pvt. Ltd. 520-A14 opp. Mansarover Park Metro Station Shahdara , Delhi-95


III. Name and addresses of Corrugated Boxes manufacture and suppliers:-

1. M/s Neeta Industries D-1531, DSIIDC, Industrial Area, Narela Delhi – 110040


Raw Material :

Raw Material for the above project is easily available in the local sugar factories, distilleries and local market.