COVID-19

CONCERNS & CHALLENGES - CBWTFs

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IMAGE – CBWTF
COMMON BIOMEDICAL WASTE TREATMENT FACILITY
Kanjikode, Palakkad, Kerala
is the Prestigious Project of Indian Medical Association, (IMA KSB), developed for the scientific management of Biomedical Waste generated from HCEs in Kerala

Commenced operation in 2004.
Presently the Largest CBWTF in India
The only CBWTF for the entire state of Kerala
COVID-19 CONCERNS & CHALLENGES in Biomedical Waste Management

1. Increasing **Quantity** of the Biomedical Waste
2. Altered **Quality** of the Biomedical Waste
3. Frequent **Maintenance** of Treatment & Monitoring Equipment
4. Increased **Expenses** for the Covid Waste Management
5. **Environmental Concerns**

6. CPCB Covid BM Waste Tracking **Mobile App** (COVID19BWM)
7. Effect on the **Recycling** Sector
8. **Safety** of Waste Handlers
9. **Collection** – related issues
10. **Transportation** - related issues
11. **Space Constraints** in the CBWTFs for the reception & storage of Covid Waste
12. Increased Workload related to the **Documentation**
<table>
<thead>
<tr>
<th>Pre-Covid</th>
<th>COVID-19</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>15,727</strong> HCEs</td>
<td><strong>48.4 TPD</strong></td>
<td><strong>350 Gms</strong></td>
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<tr>
<td></td>
<td>(Total BMW Quantity)</td>
<td></td>
<td>Per Patient Bed/Day</td>
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<tr>
<td></td>
<td>16,307 HCEs</td>
<td><strong>55 TPD</strong></td>
<td><strong>450 Gms</strong></td>
</tr>
<tr>
<td></td>
<td><strong>580 HCEs</strong>*</td>
<td><strong>25 TPD</strong></td>
<td><strong>1 Kg</strong></td>
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<td></td>
<td></td>
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<td>Per Active Case</td>
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</tbody>
</table>

↑14%
COVID-19
CONCERNS & CHALLENGES in Biomedical Waste Management

Increasing Quantity of Biomedical Waste

- Increasing No. of Covid-19 Cases, being cared in the HCEs
- Increased use of PPEs in the care of Covid cases
- Mixing of Solid waste with Biomedical waste
- Non-BMW (PPEs used by Public) – sent along with BMW

1 Kg of Covid Waste/Covid Case per Day
(Pre-Covid: 250 - 350 gms / Bed / Day)

14 %

Capacity Modification of the CBWTF:
biggest challenge to be considered for the effective management of this additional biomedical waste
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Altered Quality of Biomedical Waste

Improper Segregation
- Plastic containing materials
- Food Waste & Food Packaging
- General Solid Waste

Higher Calorific Value of Biomedical Waste Mix *

Regular BMW Mix = 3,000 – 4,000 kcal/Kg (12 – 16,000 KJ)
PPEs / Plastics (60-65%) = 8,000 – 9,000 kcal/Kg (34 – 37,000 KJ)

Tremendous Heat Quantity of Incineration Particulate Matter
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Frequent Maintenance of Treatment Equipment & Monitoring Devices at CBWTF
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Increased Expenses for the Covid Waste Management

- Additional Separate Vehicles for Covid Waste Collection
- Increased use of PPEs & Disinfectants
- Additional Pool of Workers for the collection, transportation & plant operation
- Extra payments / Risk Allowances to the workers
- High Repair & Maintenance cost of Incinerators / Vehicles
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Environmental Concerns

• Efficiency of APCD (Air Pollution Control Devices) of Incinerators

• Incineration of Plastic / Semi-plastic PPEs

• Nitrile Gloves (Synthetic Acrylonitrile Butadiene Gloves)

• Incineration of Materials disinfected with Chlorinated Chemicals
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CPCB Covid BM Waste Tracking Mobile App (COVID19BWM)
COVID-19

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Recyclable Waste Scrap & Effect on the Recycling Sector
COVID-19

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Safety of Workers
COVID-19
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Covid Waste - Collection - Issues
COVID-19 CONCERNS & CHALLENGES in Biomedical Waste Management

Covid Waste - Transportation - Issues
Space Constraints in the CBWTF for the reception & storage of Covid Waste
Increased Workload related to Documentation & Reporting
“Let the waste of the society contaminate the living healthy”