INTERVIEW SCHEDULE

A study on **Urban Solid Waste Management: Problem Dimensions and Development Alternatives (with special reference to Bangalore City)** for Doctor of Philosophy (Ph.D) degree in Management, Alagappa Institute of Management, Alagappa University, Karaikudi, Tamil Nadu.

**I. Personal Profile**

1) Name of the Household / Householder (if you please):

2) Profession:

3) Area / Locality you belong:

4) Age:
   i) less than 30  
   ii) 30-45  
   iii) above 45

5) Education:
   i) school (upto 10th)  
   ii) college(10+2,3)  
   iii) B E / P G

6) Family size:
   i) less than 4 members  
   ii) 4-6 members  
   iii) more than 6
7) Total family income per month in Rs:
   i) less than 12,000     ii) 12,000-24,000     iii) above 24,000

II. Household Waste Generation

1) Amount of solid waste both food items/organics and plastics (wet & dry) generated per day in (kg)
   i) upto 0.300 kg     ii) 0.300 to 0.750 kg     iii) more than 0.750 kg

2) Amount of only dry waste (plastics or non-degradable) generated per week
   i) upto 1 kg     ii) 1 to 2 kg     iii) more than 2 kgs

3) The extent to which wastes are segregated and collected separately as food items (wet) and Plastics (dry) waste at source (i.e. in your house) before disposed.
   i) not at all     ii) partial     iii) perfect segregation

III. Factors behind the enormity of urban waste generation

Factors behind the enormity of urban waste generation in the order of disposition, as High, Medium or Low, in the boxes.

a) Urban concentration.  

□ □ □

b) Poverty

□ □ □

c) Population growth.

□ □ □
d) High rate of migration.

e) Changes in technology

f) Technological innovation

g) Lack of concern.

h) Changes in lifestyle (throw away)

i) Social wasteful habits

j) Growth in Information Technology (IT) and software industry

k) Poor municipal services

l) Automation

m) Paperless offices (like demat)

n) Increase in per capita and disposable income of population
o) Apathy of citizens

p) Government towards environment

q) Industrialization

r) Lack of strict laws

s) Lack of penalties for defaulters

t) Lack of political commitment

u) Public attitude of NIMBY (Not In My Back Yard) syndrome

IV. Aspects of solid waste collection

1) The provision of waste collection available at your household
   a) door-to-door collection  b) community bin in street  c) no provision at all

2) Frequency at which sanitary workers collect waste from household
   a) daily  b) Irregularly  c) not at all

3) Time at which waste is collected by sanitary workers
   a) morning  b) no specific timings  c) not at all
4) Amount spent for waste disposal per month
   a) Rs 10 –15  b) Rs 20-40  c) more than Rs 40

5) Privatization of waste collection rather than municipalities involved in waste collection / disposal yields better results
   a) yes  b) no  c) can’t say

6) Pay- as –you- throw (PAYT), the weight based fee scheme for household waste collection (as adopted in developed countries) than flat fee is preferable
   a) yes  b) no  c) can’t say

7) Are you willing to pay more for better improved services of solid waste management in your area
   a) yes  b) no  c) can’t say

8) Privatization of solid waste services can yield good results, if privatization is
   a) 100%  b) 50 %  c) 0 %

9) For collection of waste from marriage halls, vegetable and meat markets, there is a need to have a special pick up arrangements
   a) agree  b) disagree  c) moderately agree
10) The responsibility for waste collection from marriage halls and other function hall should be held with
   a) party holders    b) owners of function hall    c) local municipalities

11) Level of satisfaction with present solid waste collection waste system as

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<th>High</th>
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<tr>
<td>Provision for waste collection</td>
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<td>Periodicity of collection</td>
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<td>Provision of community bins at your locality</td>
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<td>Behavior of waste collecting workers</td>
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V. Aspects of solid waste segregation

1) Segregation of domestic solid waste into wet (organic) and dry (inert) by citizens on their own is near impossible
   a) agree    b) moderately agree    c) disagree

2) Providing a 2-bin system for storage of wet and dry waste at household can be effective method for waste segregation at source.
   a) agree    b) moderately agree    c) disagree
3) Encouraging ragpickers to become doorstep collectors rather than allowing to pick recyclable solid waste from streets, bins and disposal sites can facilitate source segregation at source.
   a) agree       b) moderately agree       c) disagree

4) NGO involvement, active community participation and Government interventions are must for motivation of citizens for waste segregation.
   a) agree       b) moderately agree       c) disagree

5) Imposition of penalties and fines on households for not segregating their domestic waste can be helpful
   a) agree       b) moderately agree       c) disagree

6) Value education on waste segregation can help in long way of awareness building
   a) agree       b) moderately agree       c) disagree

VI. Development Alternatives of solid waste disposal

Please tick the following, in the order of disposition as High, Medium and Low in the boxes.

1) Extended Producer Responsibility i.e. producer of the product to provide disposal / recycling facility for its product through authorised operators. □ □ □
2) Redesign product & Packaging (accordance to the concept of zero waste), which involves planning in advance to limit resource consumption, toxicity and waste.

3) New legislation in laws & rules to reward resource conserving behavior and penalize resource wasting behavior.

4) Public awareness campaign to be launched by popular personalities like film stars, sportspersons and other well known artists as a social cause can have better impact than conventional campaign.

5) Promote Urban Agriculture Practices i.e. using vacant idle spaces within the city into green and productive spaces and converting discarded containers, roof tops, terrace into crop fields.

6) Strengthen laws & rules to incorporate community waste management participation as mandatory and provide incentives and recognition.

7) Increasing the price of plastic bags will discourage its use and encourage reuse.

8) The cost of the products should include the cost of environmental degradation and public health impacts associated with virgin resource extraction, manufacturing and disposal of that product.
9) Government should initiate to develop the market for compost manure by providing subsidies and concession for farmers for city’s total organic waste.

10) To constitute an autonomous technology mission for improving SWM in the country under Ministry of Urban Development.

11) Special Attention to be paid to slums & traditionally dirty areas of the city.

12) To initiate and adopt zero waste principles wherever applicable and as practiced elsewhere in the world

13) Provision of incentives and positive recognition for units like households and industries for following zero waste

14) Providing subsidies for units like industries, societies for meeting the cost of zero waste

15) Introduction of Waste Tax
Interview Schedule for Sanitary Workers

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I. General Information

1) Name of the worker (if you please):

2) Sex: Male / Female

3) Nature of work: Rag Picker / Waste transport / Waste collection

4) Age group:
   a) less than 15  
   b) 15-30  
   c) above 30

5) Educational qualification:
   a) uneducated  
   b) school drop out  
   c) 10 + 2 and above

6) Nativity / resident
   a) local  
   b) non-local within state  
   c) other state
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<tr>
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<th>Under performance of sanitary workers is due to</th>
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<tbody>
<tr>
<td>a)</td>
<td>absence of scientific work norms</td>
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<td>b)</td>
<td>lack of effective monitoring system</td>
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<td>c)</td>
<td>lack of motivation</td>
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<td>d)</td>
<td>large scale absenteeism</td>
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<td>e)</td>
<td>lack of supervision by senior officials</td>
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<td>f)</td>
<td>outdated and inefficient equipment and tools given to workers</td>
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<td>g)</td>
<td>indiscipline among workers</td>
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<td>h)</td>
<td>low salary wages and income</td>
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<td>i)</td>
<td>Low esteem that public have for the workers</td>
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<td>j)</td>
<td>Lack of co-operation from the households/ institutions</td>
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### The suggestion for improvement of Solid Waste Management in the order of disposition as High, Medium and Low are:

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<tr>
<td>1) Direct lifting of containers through hydraulic system or non-hydraulic devices into transporting vehicle</td>
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<td>M</td>
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<td>2) Optimization of transport route through GIS / Remote sensing</td>
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<td>3) Providing 2-bin system for storage of wet &amp; dry waste.</td>
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<td>4) Recognition to sanitary workers by issuing I.D. cards &amp; other facilities</td>
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<tr>
<td>5) To create market for recycled products</td>
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<td>6) Increase the awareness on civic sense among citizens</td>
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<td>7) Ban on plastics</td>
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<td>8) To impose penalty for adhering to stipulated norms</td>
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IV Improvements and suggestions for waste collection systems in the order of Priorities as 1, 2, 3 is

1) For slum areas, the best way for waste collection is
   i) door-to-door  ii) community association participation  iii) community bin
   [ ] [ ] [ ]

2) For multi-storyed building, the best way for waste collection is
   i) door-to-door  ii) community association participation  iii) community bin
   [ ] [ ] [ ]

3) In high dense and traffic area, the best time for waste collection is
   i) door-to-door  ii) community association participation  iii) community bin
   [ ] [ ] [ ]