

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 The objectives of the study viz., to examine present waste segregation practice and awareness among the households in the city of Visakhapatnam, their willingness to participate in waste segregation, their limitation to participation, were identified with the aim to suggest measures to *promote source segregation*. The results as obtained from the study, are presented in the succeeding paragraphs.

Factors Affecting Household Practice and Participation

5.2 The results of the study with regard to source segregation by households has brought out the following facts :-

(a) Majority of households **47.4%** collect their household waste in a **waste basket**, 25.9% collect in recyclable plastic bags and 25.4 % in any plastic bag.

(b) **Source segregation is undertaken by 60.5% of the households**

(c) Households not undertaking segregation have cited, **“not having separate bins”** as the major reason (52.8%) followed by **“no system in the colony”** (22.5%), and **“lack of enforcement”** 15.7%.

(d) Waste segregation in the households is generally undertaken by **“wife”** (50.4%), followed by **“servant”** (23.2%) and households which have indicated **“everyone”** is only 16.2%.

(e) Present household practice for disposal of recyclables, brings out that **only news paper is sold by the households**, generally to the buyers who come to the house. Other recyclables viz., **PET bottles, beverage cans, tetra packs and glass bottles** are thrown along with the waste. Old appliances and metal scrap to a large extent is sold to scrap dealers who purchase from the households.

(f) **Waste from majority of the households is collected by GVMC** appointed Public Health worker and the coverage is extensive across the city.

(g) An **average expenditure of Rs 77/- is incurred by the household** for waste management and disposal, either for purchase of material or paying to help / public health worker.

5.3 The study reveals that **awareness of households is good** with 86% of the respondents being aware of the requirement and process of source segregation. This is primarily on account of the vigorous campaigns being conducted by GVMC, including door to door campaigns. The source of information to the households has been primarily GVMC (57.9%), followed by Radio / TV (17.5%). Survey brings out that sufficient awareness has been created for the purpose of undertaking source segregation.

5.4 The role of RWAs has been positive with 72.8% of the households indicating that they are active in their localities. The role envisaged by the households for the RWAs is **timely waste collection, public education, coordinating with GVMC officials for waste clearance.**

Measures Promoting Source Segregation

5.5 The survey reveals that 56% of households feel that providing **separate waste bins** by the municipal administration will enable households to segregate waste at source. Further, 34.6% of the respondents want the administration to run awareness campaigns to ensure education and compliance. Interestingly, 33.3% of the households feel that establishing systematic waste management program by GVMC will also act as an enabling factor for household waste segregation.

5.6 The role of FMCG for contributing towards responsibly managing, packaging which is produced in the first instance by them, was sought and it has been ascertained that 49.6 % of the households feel that they should start a **Container Deposit Scheme** for return of the packaging including Tetra pack, PET, cans and bottles. The scheme can also provide benefits to the households, by providing **discount coupons** against return of packaging.

5.7 Presently, it is not mandatory to segregate household waste, and is voluntary. As per SWM 2016, local authorities are required to legislate for enforcing source segregation by households. The survey reveals that **91.6 % of the households will undertake segregation** if such a legislation is issued by GVMC as required by SWM

2016 rules. Therefore, time is right for bringing a source segregation legislation for the city of Visakhapatnam.

5.8 The factors which promote source segregation by households has thrown up mixed results, with a clear difference in the way households **staying in own houses and rented dwelling units perceive**. Households staying in own houses, 46.8% of them, feel that imposing fines as the most important factor for promoting segregation over incentivising the households for source segregation. However, 43.3 % of the households, staying in rented houses, feel that incentivising households by way of house tax / water charges rebate, will promote source segregation.

5.9 Involvement of community is considered essential, with RWAs playing a important role in ensuring efficient management of household waste. Majority (52.2%) of the households want the RWAs to be involved in conducting awareness campaigns, 40.4% wanted a active role or RWAs in ensuring segregated waste is maintained in segregated manner and handed over for processing by approved agencies.

Recommendations

5.10 As per the study, *there exists a conducive environment for implementing source segregation of household waste in the city of Visakhapatnam*. To promote compliance the following measures may be considered :-

- (a) Formulate and pass a local *legislation for source segregation* by households as mandated by SWM Rules 2016 at the earliest.