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1. Scope

The scope of this working group is to provide recommendations to MSDEC which are practical and easy to implement on a local level in order to address the issue of food waste generation.

2. Composition of Working Group

The working group was composed of various individuals representing entities which have a direct relationship to food waste management in the Maltese islands. The main contributors hailed from:

1. Catering and Hospitality sector
2. Food Retailers
3. Regulators of Waste Management legislation
4. Local Councils
5. Health Sector
6. Waste collection companies
7. Compliance schemes
8. Opposition
9. Academia/ Educational institutions

3. Terms of Reference

The following terms of reference were put forward by the MSDEC to the working group which were expanded upon by the same members.

1. Identify current activities and sources leading to the generation of food waste in the Maltese Islands.
2. Provide action plan to mitigate the effect of food waste in the Maltese Islands.
3. Offer practical recommendations adapted to the local scenario.
4. Instil the idea that less food waste results in a better environment and increased purchasing power for households.
5. Propose guidelines to the coordinators of the forthcoming education campaign targeting ‘Food Waste’.

4. Definition of Food Waste

Food waste is defined by the European Commission (EC, 2010) as: “raw or cooked food materials and includes food loss before, during or after meal preparation in the household, as well as food discarded in the process of manufacturing, distribution, retail and food service activities.”

This waste stream is mainly composed of the following materials:

- Vegetable Peelings
- Spoiled or excess ingredients
- Bones
- Organs
- Meat trimmings
- Prepared food
- Carcasses

The National Statistics Office (NSO, 2002), defines food remains as the fraction that:

“Consisted mainly of kitchen waste which included seasonal vegetables and fruits peels, and bread. The small quantity of garden waste found in the waste that was analysed was included with this fraction too”.

According to the European Commission (2010), food waste in households in EU member states can be defined as “[…] food waste from meal preparation, leftovers, and purchased food not used in time”.

Food waste can be both edible and inedible. Edible food waste is considered avoidable (one could avoid wasting it), although the Waste Resources Action Programme (WRAP) describes some of this as “possibly avoidable” given that certain foods are not unanimously considered edible. WRAP categorises food and drink waste in three groups according to their “avoid ability” (WRAP, 2009b).

Both the possibly avoidable and unavoidable food and drink waste fraction is further subdivided into reasons for its disposal (WRAP, 2009b).

These are grouped in the following classes:

**Avoidable** – food and drink which is disposed of because it is no longer wanted or has been allowed to go past its best before date. The majority of *avoidable* food is composed of material that was, at some point prior to disposal, edible, even though a proportion is not edible at the time of disposal due to deterioration.

**Possibly Avoidable** – food and drink that some people eat while others do not, also this can be eaten when prepared in one way but not in another. Just like avoidable waste, *possibly avoidable* waste is composed of material that was at some point or other edible before disposal. These include foods that some people eat while others do not, such as bread crusts, or food that can be eaten when food is prepared in one way but not another, such as potato skin.

**Unavoidable** – waste that arises from food and drink preparation that is not and has not been edible under normal circumstances. These include pineapple skin, apple cores, meat bones and tea bags.

A substantial amount of this food waste can be prevented; the results shown by research conducted by WRAP in the UK approximately 5.3 million tonnes of food waste could have been avoided with a *certain level of certainty*, while 1.5 million tonnes could have been *possibly* avoided in the UK (WRAP, 2008a).
The working group is recommending that the above definitions are utilised in the local context considering that food waste generation patterns are very similar in Europe, from where such definitions were extracted.

5. Causes of Food Waste

According to the European Commission (2010), a multitude of reasons lead to generation of food waste depending on the sector. The following are the causes identified for generation of current food waste levels in the household sector:

<table>
<thead>
<tr>
<th>Causes</th>
<th>Underlying reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of awareness</td>
<td>(i) on the quantity of food waste generated individually; (ii) on the environmental problem that food waste presents; and (iii) on the financial benefits of using purchased food more efficiently.</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>on how to use food efficiently such as making the most of leftovers, and cooking with available ingredients.</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Food is undervalued by consumers.</td>
</tr>
<tr>
<td>Preferences</td>
<td>Many parts of food are discarded due to personal taste.</td>
</tr>
<tr>
<td>Planning issues</td>
<td>Buying too much and lack of shopping planning is frequently cited as causes of household food waste.</td>
</tr>
<tr>
<td>Labelling issues</td>
<td>Misinterpretation or confusion over date labels is widely recognised as contribution to household food waste generation, leading to the discard of food which is still edible.</td>
</tr>
<tr>
<td>Storage</td>
<td>Suboptimal storage conditions lead to food waste throughout the supply chain including the household sector.</td>
</tr>
<tr>
<td>Packaging issues</td>
<td>Packaging methods and materials can impact the longevity of food products.</td>
</tr>
<tr>
<td>Portion sizes</td>
<td>Such issues as preparing too much food hence leading to uneaten leftovers as well as purchasing the correct portions of food; individually sized portions can minimise food waste but often create additional packaging waste.</td>
</tr>
<tr>
<td>Socio-economic factors</td>
<td>Single person households and young couples generate more food waste.</td>
</tr>
</tbody>
</table>

Household waste composition surveys in the Maltese Islands have been carried out twice, in 2002 and recently in 2012.

The Household Waste Survey carried out by the NSO in 2002, indicated that the highest waste fraction by weight and percentage was made up of food remains. This amounted to 59% of the total recovered waste.

On the other hand, the household waste composition survey carried out in 2012 by the NSO reports a decrease of 7.5% in food remains generation. However, food waste generation by households at 52.1% remains the largest contributor (NSO, 2012).

Furthermore, the National Statistics Office (2013) stated that an average of 22% of the amount of purchased food ends up being wasted and discarded through the waste stream, untouched.

7. Food Waste in the Maltese Islands – Views of Working Group Participants on Sources and Causes of Food Waste

During various meetings held between July and September 2014, the participants of the Food Waste working group, shared their views on the potential causes and sources of food waste in the Maltese Islands.

The participants concluded that the two main sources of food waste are:

- Households
- Food retailers & Catering Establishments
Food retailers and catering establishments were subdivided as follows:

- Hotels / accommodation establishments
- Restaurants
- Snack bars & take away kiosks
- Confectioners
- Canteens
- Tuck shops in schools
- Outside catering –
  - functions / weddings
  - Airlines
  - Hospitals & Old people’s homes
- Food & Beverage suppliers (including wholesalers/retailers)

According to the participants of the working group, the main causes of food waste by households, include:

<table>
<thead>
<tr>
<th>Lack of planning by the householder – one of the reasons being the lack of use of a shopping list</th>
<th>Trends of consumption by household members are not always considered when purchasing food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overbuying of products especially food and vegetables</td>
<td>Buying in bulk</td>
</tr>
<tr>
<td>Wasteful children’s eating habits</td>
<td>Marketing campaigns and special offers could lead to more food waste, since a number of extra food items may be purchased although not required</td>
</tr>
<tr>
<td>First in First Out Policy (FIFO) not utilised</td>
<td>Some householders cannot distinguish between best before and expiry dates, and do not consume food items depending on the ones that will expire first</td>
</tr>
<tr>
<td>Recommended fridge and freezer temperatures are not followed. Possible lack of maintenance</td>
<td>Wrong storage techniques lead to food waste since items may no longer be good for consumption</td>
</tr>
</tbody>
</table>
Portion sizes tend to be larger than can be consumed | Lack of availability of food in smaller portions at supermarkets – such as bachelor loaf vs family loaf

Furthermore, the working group identified a number of causes leading to food waste by food retailers & catering establishments. These include:

1. **Cost of Food vis-a-vis Charge to customer**
   - There is a substantial difference between the cost of food and the price charged to the customer, thus people expect larger portions and extra ingredients such as side dishes to justify the price charged.

2. **Large portions**
   - Catering establishments have to monitor trends and if they observe too many leftovers particularly due to large portions being served, they should revise the portion size to avoid food waste. The mentality that large portions offered by certain catering establishments results in the establishment’s popularity, should be replaced by more sustainable reasons for it being demanded by customers.

3. **Visual implications**
   - The visual appearance of the food served is an important factor for catering establishments whereby they would rather throw away food as long the servings are visually appealing, which although can be eaten is not visually at its optimal state.

4. **Vast menu**
   - Too many ingredients purchased so as to cater for the various dishes available by the catering establishment. This therefore results in more food waste or health implications for the customer.
5. **Freshness of product**

   - The lack of freshness of ingredients (generally due to bulk buying for cost reduction) can lead to food waste by food retailers and catering establishments.

6. **Return system of expired goods to importer and distributor**

   - Supermarkets and food outlets do not have an incentive to minimise the amount of expired goods within their operation as the majority of importers and distributors have an agreement with these entities to take back their expired merchandise. Therefore, there is no motivation to purchase fewer quantities since the cost will not be burdened by the latter.

7. **Disposal Cost**

   - The cheap cost for disposal of mixed waste does not incentivise the sector to separate waste as the return on investment is low.

8. **Food Waste in the Maltese Islands – Views of Working Group on mitigation measures to prevent food waste**

The working group also provided its feedback on potential practical mitigation measures in order to prevent food waste.

Measures which were put forward for households include:

1. Intensive education & information campaign – this campaign needs to be tailor made for the general public
2. Introduction of separate household food waste collections
3. Stimulating composting of biodegradable waste
4. Introduction of mandatory participation in separate collection of waste
5. Introduction of a food waste prevention programme
Measures which were put forward for food retailers and catering establishments include:

1. Intensive education & information campaign – this campaign needs to be tailor-made for catering establishments.
2. Enforcement of separate food waste collections within the catering & commercial establishments.
3. Potential increase in cost gate fee for the disposal of mixed waste versus segregated food waste
4. Introduction of half portions by restaurants
5. Promotion of a more limited choice of menu / fresh ingredients
6. Promotion of entities which embrace environmental initiatives
7. Development of a guide on CSR (Corporate Social Responsibility) for catering establishments
8. Development of initiative whereby the customer pays the full price for smaller portions and the rest of the money goes to charity (or revised pricing for smaller portions)
9. Serving of bread and side dishes may not always be required
10. Restaurants should maintain a good HACCP (Hazard Analysis and Critical Control Point) programme
11. Promotion of packaging of left-overs which (of meal to) customers can take home
12. Specific menus in old people’s homes and hospitals, tailor made for patients / residents. In many instances, food served is wasted since meals are not in line with the dietary requirements of the individual
13. The Food handlers course should include a section on ‘waste management in the catering industry’ in order to make staff members aware of sustainable waste management routes for waste generated within their operation
9. Limitations of Report

The limitations of the study highlighted by the members of the working group are listed hereunder.

- No actual studies on the local scene (apart from the NSO household Waste Composition Survey) have been carried out which could give a more precise indication of the level of food waste generation
- The recommendations listed in the report are based on the viewpoints and perspectives of the participating members

10. Conclusions

The following conclusions can be gathered from the meetings carried out by this working group:

Households

1. The requirement of an extensive and targeted proactive education campaign for household food waste generators
2. Introduction of a food waste prevention programme
3. The introduction of household separate food waste collections for food waste that is generated which includes disposal
4. Make households aware of the real cost burdened by the local councils to provide waste management services within the locality
5. Stimulating composting of biodegradable waste
6. Introduction of mandatory participation in separate collection of waste
7. Households which do not conform with the waste management system are fined
8. The need for flanking waste management legislation to support any initiatives to be taken
Commercial & Catering Establishments

1. Intensive education & information campaign – this campaign needs to be tailor made for industrial & catering establishments
2. Introduction and enforcement of separate food waste collections within catering & industrial establishments
3. Potential increase in cost for the disposal of mixed waste vis-a-vie segregated food waste
4. Introduction of half portions by restaurants
5. Promotion of entities which embrace environmental initiatives
6. Development of a guide on CSR (Corporate Social Responsibility) for catering establishments
7. Development of initiative whereby customer pays full price for smaller portion and the rest of the money goes to charity (or revised pricing for smaller portions)
8. Specific menus in old people’s homes and hospitals tailor made for patients / residents. In many instances, food served is wasted since meals are not in line with the dietary requirements of the individuals.

The members of the working group would like to thank Hon. Minister Leo Brincat for giving them the opportunity to contribute to the study. Moreover the members are willing to meet up to discuss the suggestions listed in the report so as to ensure that the educational campaign on ‘Food Waste’ is an effective one.
Reference List


