



# PROJEKT REKUK

Vocation Training for Chefs and Executive Chefs  
of Large-Scale Kitchens in Sustainable Food and  
Kitchen Management

## Module Waste Training Folder



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**EXERCISE 1:** Note down ecological, social and economic problems which are caused by waste.

- Exploitation of limited resources (water, oil, paper, energy, precious metals, ...)
- Damage of climate and environment (pollution of air, land and water)
- High costs for waste disposal for companies and communes (taxpayer)

**EXERCISE 2:** Fill out the table with benefits of waste prevention.

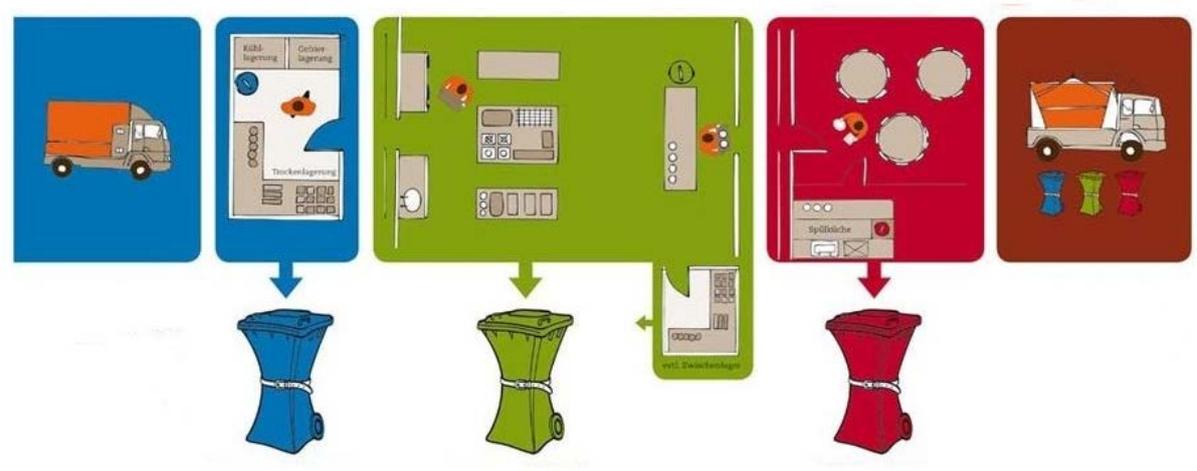
Economic benefits	Ecological benefits	Social benefits
<ul style="list-style-type: none"> <li>✓ High cost savings through significant reduction of costs in all fields of the companies value chain</li> <li>✓ Efficient waste prevention concept of the company may offer competitive advantages in accordance to customer acquisition and co-working with different stake holders</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reduction of greenhouse gas emissions</li> <li>✓ Reduction of the entry of harmful substances in air, land and water</li> <li>✓ Consideration of limited resources</li> <li>✓ The opportunity of the usage of foods with high quality (specially ecological produced foods) on the base of reduced costs for waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>✓ Improvement of the communication channels in the team</li> <li>✓ Support the team spirit in the company</li> <li>✓ Higher motivation of the single employees</li> <li>✓ Better identification of the single employee with his company</li> <li>✓ Stimulation of the employees´ and costumers´ environmental awareness</li> </ul>

**EXERCISE 3:** Give a suitable definition to the headings. Note down a few examples.

Avoidable waste	Partly avoidable waste	Unavoidable waste
<p>➤ Products / materials which can be used unlimited till the date of their disposal. Therefore they can be reused or exchanged with products/materials with less waste/packaging according to law regulations</p> <p>e.g.:</p> <ul style="list-style-type: none"> <li>• changing one-way materials with more-way materials</li> <li>• exact weighting of meat parts, not only estimate</li> <li>• using vegetable peels for the preparation of broths [Waskow et al., 2016]</li> </ul>	<p>➤ Occurs partly through limited opportunities of the kitchen, through co-working with extern partners</p> <p>e.g.:</p> <ul style="list-style-type: none"> <li>• dictated container sizes and packaging offers of the deliverer</li> <li>• infrastructural possibilities for cooperation with social institutions or farmers</li> <li>• costumer demand</li> </ul>	<p>➤ Predominantly inedible constituent of foods like shells or bones. But it can also be waste that occurs in the value chain of a large scale kitchen because of hygiene standards</p> <p>e.g.:</p> <ul style="list-style-type: none"> <li>• cleaning materials and so on</li> </ul>

**EXERCISE 4:** Name the single parts of the value chain where waste occurs.

Purchase	Storage	Mise en place	Preparation	Portioning	Disposal
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**EXERCISE 5:** Note in the table, if the waste causing irregularities in your kitchen are avoidable, partly avoidable or unavoidable.

### Purchase

<ul style="list-style-type: none"> <li>• Purchase of too large amounts of food because of cheaper prices or a missing merchandise management system</li> </ul>	Avoidable
<ul style="list-style-type: none"> <li>• Usage of one-way packaging:             <ul style="list-style-type: none"> <li>○ Cardboards</li> <li>○ Tetra packaging</li> <li>○ Drinks and preservative tins</li> <li>○ One-way bottles</li> <li>○ Synthetic material packaging</li> </ul> </li> </ul>	Partly avoidable

### Storage

	Preventability
<ul style="list-style-type: none"> <li>• Storage losses owing to careless storage like inopportune combination of certain foods, light influence, ...</li> </ul>	Avoidable
<ul style="list-style-type: none"> <li>• Storage losses owing to over-maturing of the products, interruption of the cold chain or a missing quality control of the foods while goods purchase</li> </ul>	Avoidable
<ul style="list-style-type: none"> <li>• Inopportune order on the shelves (ignorance of the first-in-first-out principle)</li> </ul>	Avoidable

### Preparation

	Preventability
<ul style="list-style-type: none"> <li>• Waste intensive kitchen system</li> </ul>	Partly avoidable
<ul style="list-style-type: none"> <li>• Incomplete utilization of the fresh materials</li> </ul>	Partly avoidable
<ul style="list-style-type: none"> <li>• Production mistakes (e.g. overcooked noodles)</li> </ul>	Avoidable
<ul style="list-style-type: none"> <li>• Unused, bulky raw goods (potatoes, cucumbers, apples, ...)</li> </ul>	Avoidable
<ul style="list-style-type: none"> <li>• Not for consumption suitable wastes (e.g. shells, pips, bones,</li> </ul>	Unavoidable



stalks, egg shells, coffee filters)

- Used oil/fat

Unavoidable

### Portioning/serving of meals

#### Preventability

- Leftovers on the basis of under portioned serving of meals
- Missing/difficult calculation of the exact number of participants at the catering
- Leftover from the pattern plate
- Delivery of single meals in one-way packaging (e.g. aluminium shells)

Partly avoidable

Partly avoidable

Avoidable

Avoidable

### Food return

#### Preventability

- Leftovers from plates because of too large portions or portions not according to the wish of the customer

Partly avoidable

### Hygiene/Cleaning

#### Preventability

- Latex gloves
- One-way head cover
- Paper towels
- Cleaning utilizations

Partly avoidable

Avoidable

Partly avoidable

Partly avoidable

### Disposal

#### Preventability



- Ignorance of the regulations for waste separation through which measures for obeying the waste hierarchy aren't possible anymore

Avoidable



**EXERCISE 6:** Write in keywords beside the ticks possible regulation measures for the prevention of food waste.

1. Planning of the meals:

- ✓ Oriented on saesonality and regionality
- ✓ Oriented on the goods in stock
- ✓ Leftovers from the day before get included in the meal planning (counts especially for warm catering)
- ✓ Exact calculation of the number of portions

2. Purchase:

- ✓ Purchase in line with demand

3. Preparation:

- ✓ Preparation of fresh foods as restless as possible

4. Serving of the meals:

- ✓ To offer variable portion sizes and work with a ladle plan

**EXERCISE 7:** Which possibilities for restless food utilization can you use?

- Oriented on seasonality and regionality
- Oriented on the goods in stock
- Leftovers from the day before get included in the meal planning (counts especially for warm catering)
- Exact calculation of the number of portions

**EXERCISE 8:** Through an exact calculation of amounts leftovers can get reduced and an overview over goods in stock is kept. What do you have to consider during the calculation?

- Number of consumers
- Average portion sizes
- Results from leftovers
- Current goods in stock

**EXERCISE 9:** In your large scale kitchen in the **hospital 1/3 of the distributed meals are disposed**. You are responsible for **breakfast, lunch and dinner**.

What can you do to find out the reasons therefore? Which appropriate measures can you implement to decrease the food waste?

Individual answers

**EXERCISE 10:** How can you act more sustainable regarding to the hygiene? Analyze and evaluate the used hygiene clothing of your employees as well as the quantity and quality of the used cleaning stuff.

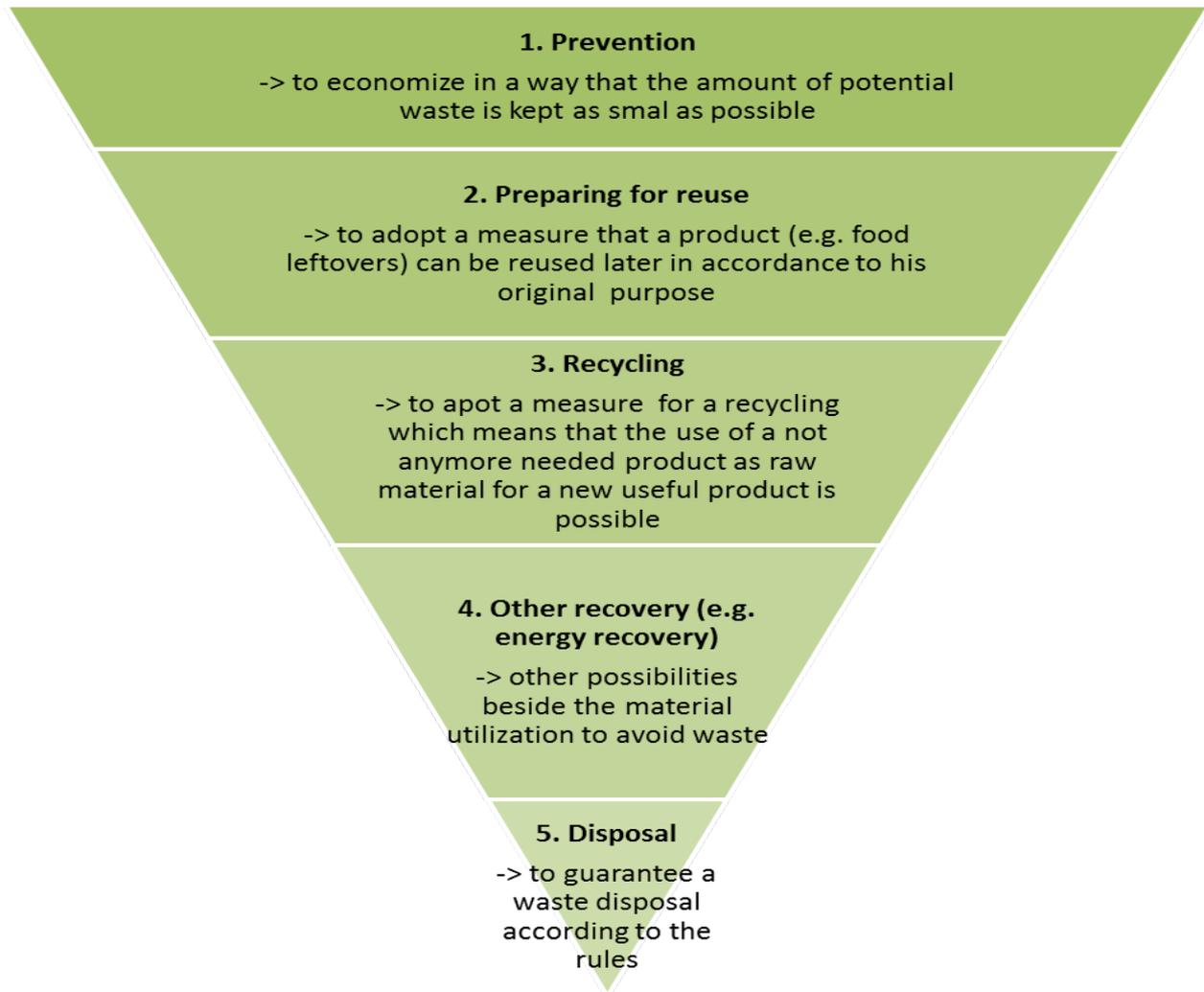
- Replace one-way aprons and hair protection with washable clothing out of cotton
- Training of the employees in good hand hygiene
- Renunciation of gloves (except when injury)
- Optimisation of the cleaning expenditure
- Cleansing liquids in container sizes, dosage as help
- Cleansing liquids which already have an optimized cleaning force in low dose
- Renunciation of cleansing liquids that contain phosphate, formaldehyde, chlorine or sulphate

**EXERCISE 11:** Create a mind map to the topic “waste prevention in my kitchen”.

Individual answers



**EXERCISE 12:** Always act according to the principles of the waste hierarchy. Note down the single points in the graphic.



**EXERCISE 13:** Write in key words how you want to take action in your own kitchen to economize in sense of waste prevention.

Individual answers

Planning:

Purchase/delivery:

Storage:

Preparation:

Serving of the meals:

Reuse/disposal:

Hygiene/cleaning:

**EXERCISE 14:** What can you do to find out the individual sections of your kitchen where waste occurs?

Individual answers

**EXERCISE 15:** You already found out the waste positions in your large scale kitchen. How can you take care that also your employees keep to a low-waste preparation of the meals?

Individual answers

**EXERCISE 16:** Some of the consumers didn't eat everything from their plates although your tries of adapted portion sizes. But at least they want to get their leftovers packed for takeaway.

Which possibilities according to a sustainable and low-waste packaging do you have?

- The general devise: more-way instead of one-way, as much as possible!
- If it's not always possible to use more-way systems, use low-waste and environmental friendly packaging (the packaging material is recyclable and free from environmentally harmful substances like PVC or aluminium)

**EXERCISE 17:** Which measures from the best practice examples could translate into practice in your kitchen? Which expenditure and benefits occur therefore?

Individual answers

Measure	Expenditure	Benefit

**EXERCISE 18:** How is the current situation in your large-scale-kitchen? The checklist under in the script p. 14-17 could help you.

Individual answers

**EXERCISE 19:** Which concrete goals towards waste management do you pursue?

Individual answers

**EXERCISE 20:** Which optimization potential does exist in your large-scale-kitchen in comparison to others?

Individual answers

**EXERCISE 21:** Make a list with already implemented measures towards waste prevention in you large-scale-kitchen.

Individual answers

Position	Goals	Already implemented measures	Measure implemented since
<b>Purchase</b>	Reduction of packaging waste about 30 %	<ul style="list-style-type: none"> <li>- Establish more-way packaging systems</li> <li>- Prefer deliverers who offer a large selection of unpacked foods</li> </ul>	<ul style="list-style-type: none"> <li>- February 2018</li> <li>- January 2018</li> </ul>
<b>Storage</b>			
<b>Preparation</b>			
<b>Serving of the meals</b>			
<b>Reuse/disposal</b>			
<b>Hygiene/cleaning</b>			
<b>Interaction with table guests</b>			



**EXERCISE 23:** Analyse the delivery situation of your own kitchen. Which possibilities for a low-waste delivery chain do already exist? Also think about eventual alternatives or suggestions for improvement that you could discuss with your deliverers.

Individual answers