SOLID WASTE MANAGEMENT IN TOURISM:
DATA SOURCES, GOOD PRACTICES AND CHALLENGES
1. DATA SOURCES
   1.1 General state of waste management in Navarre
   1.2 Local authorities
   1.3 Equivalent generation

2. GOOD PRACTICES
   2.1 Recycling Camino de Santiago
   2.2 Recyclable cups San Fermin

3. CONCLUSIONS
1. DATA SOURCES
1.1 Waste management if Navarre

- **Strategic framework:** Waste Master Plan of Navarre 2017-2027
- Tourism sector waste is managed as **domestic-commercial** waste.
- For **2020**, an objective was set to **recycle 50%** of domestic and commercial waste.
- For **2027** the **objective** is **75%**.

**Domestic-commercial waste 2020**
- 283,000 tonnes of domestic-commercial waste was generated
- 430 kg per person
- On average 46% of domestic and commercial waste was recycled.
- 14 out of 16 local authorities Navarre meet the objective of 50%
- Frontrunners reached 67-68%
1.2 Generation of equivalent waste

To estimate waste generation corresponding to tourists, we calculated the solid waste generation equivalent to the tourist population in 2020.

Assuming that tourists have the same pattern of waste generation as the resident population, the equivalent generation would be 1,789 tonnes of solid waste yearly.

Weaknesses:
- Not taking in to account seasonality.
- Limited utility for decision making

Average daily population of tourists: 4,207
Yearly overnight stays: 1,535,435

Waste generation with same consumption as local population:
Yearly: 1,789 t
Daily: 4,9 t
1.3 LOCAL AUTHORITIES

- Waste management is carried out by local authorities; therefore they can be an important source of information.

- Pamplona-Iruña offers an exclusive "door to door" service for hospitality and commerce in the old town.

**Example:**

**Collection of cardboard and glass from hospitality in the Old Town of Pamplona:**

2020
Cardboard -24.6%

2020
Glass -63.9%
2. Good practices
2.1 The Way of Saint James

- One on the most well know pilgrimages in the world

- About 60,000 pilgrims go through Roncesvalles-Orreaga each year

- The route goes through mainly small villages

- The Way of Saint James is a source of income for the local population but also generates a considerable amount of solid waste.
2.1 The Way of Recycling

Wasted collected for recycling:
- Raise awareness
- Promoting the recycling
- Distributing bags to avoid littering
- Placing extra bins at hostels

34 participating hostels along the way of Saint James in Navarre

Separated Waste collected for recycling (June-September 2021):

- 9.033 kg
- 3.641 kg
San Fermin is a festival that we celebrate in Pamplona, the capital of Navarre from the 6 to the 14 of July.

- Thousands of people from around the world flood the streets of the city.

- Especially the old town receives many visitors

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**Old town of Pamplona San Fermín 2019**

Local population: 11,529

Visitors: 183,000
2.2 SAN FERMÍN

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- Thousands of people from around the world flood the streets of the city.

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Old town of Pamplona San Fermín 2019

Local population: 11,529

Visitors: 183,000
**Objective:** Minimize the waste produced at parties and events in the city.

**How:** The user pays one euro for the reusable cup, which is returned when the cup is returned. Each day the glasses are washed and ready for the next day.

**Logistic and cleaning of cups:** carried out by non-profit associations favoring labor market inclusion.

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### CO2 saved:
- **2017:** 4,900 kg
- **2019:** 21,900 kg

### Overall waste reduction:
- **2019:** 14%

### Plastic saved:
- **2019:** 14,167 kg
3. Conclusions
3. Conclusion

- Overall data on domestic and commercial waste
- No destination wide data on tourism
- Difficult to estimate the proportion of waste originating from tourism.
- Potential of data from local authorities
- Data from projects
- Good practices show results
Thank you for your attention!

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