



World food waste analysis (SQL)

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Description of the project

THE IDEA:

create a startup that aims to reduce food waste in some particular area of the world

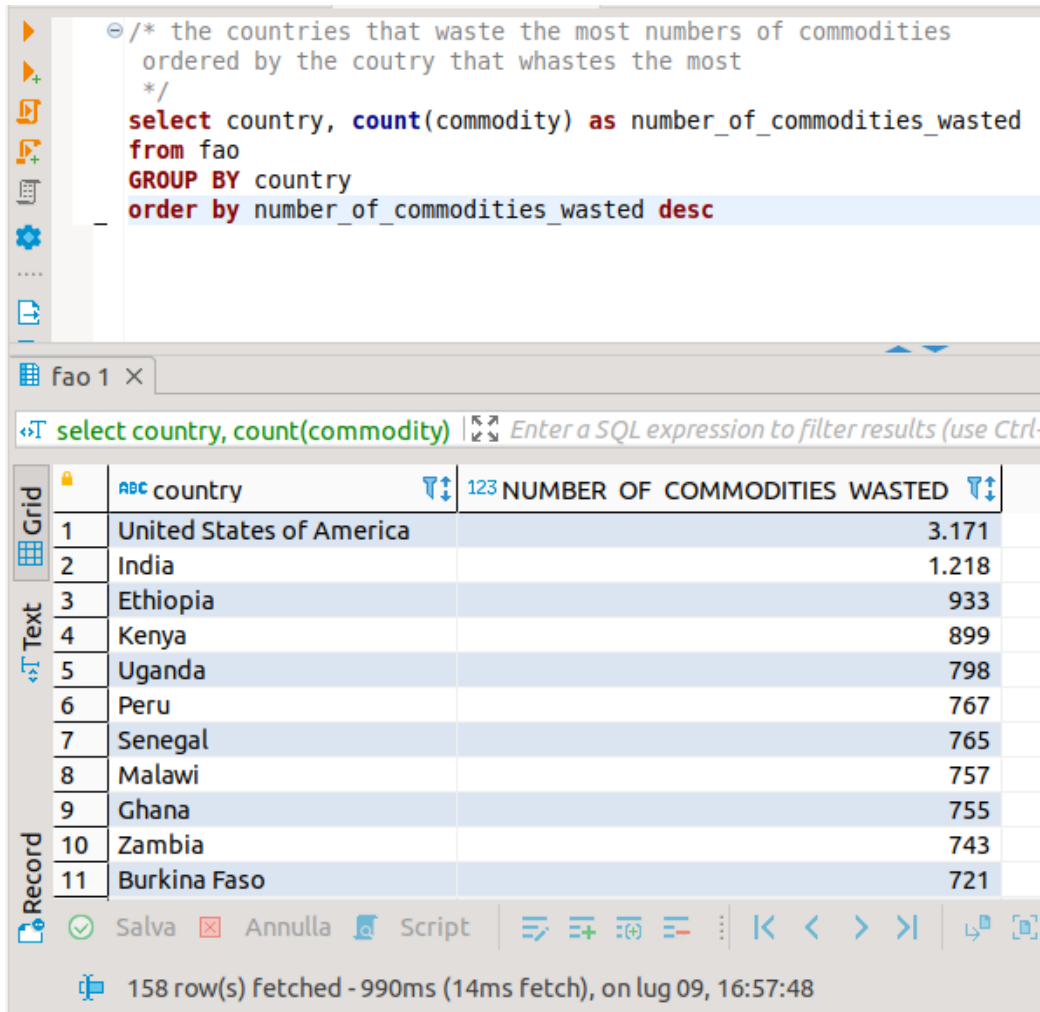
BUSINESS ANALYSIS:

identify the areas in the world that have the greatest food waste and then understand how to reduce waste

States that waste multiple different types of food

It is not strange that the US is the state that wastes more types of food than anyone in the world.

On the other hand, I was intrigued by the fact that on this list there are several African states; to create a startup that deals with eliminating food waste in the world it is necessary to understand not only in which states there is more waste, but also where this waste is located (in the supply chain? during the harvest?)



The screenshot shows a SQL IDE interface. At the top, a query is written in a text editor. Below the editor, a tab labeled 'fao 1' is active. The results of the query are displayed in a table with columns 'country' and 'NUMBER OF COMMODITIES WASTED'. The table lists 11 countries, with the United States of America at the top, having the highest number of wasted commodities (3,171). The interface includes a sidebar with icons for various functions, a status bar at the bottom showing '158 row(s) fetched - 990ms (14ms fetch), on lug 09, 16:57:48', and a toolbar with buttons for saving, undoing, and running scripts.

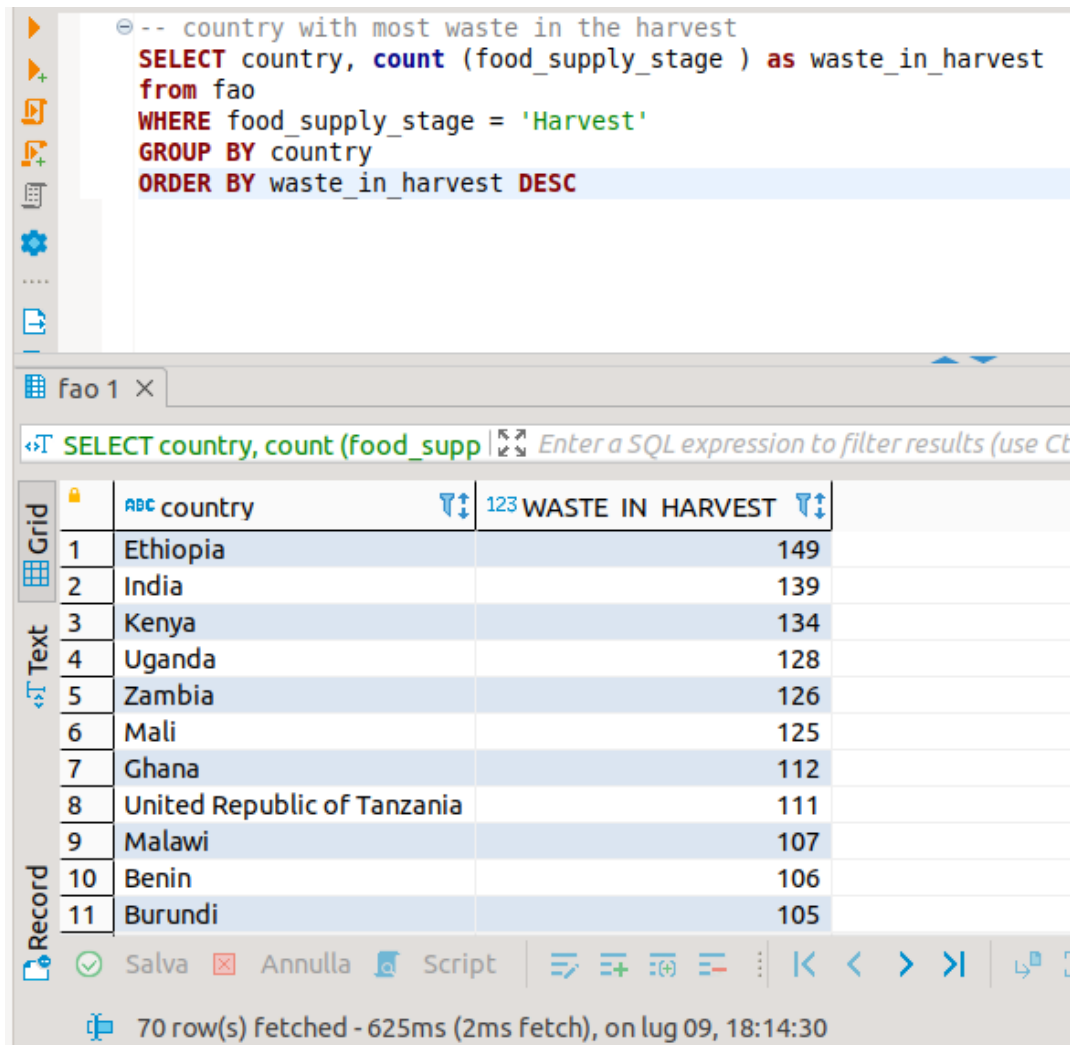
```
/* the countries that waste the most numbers of commodities
ordered by the coutry that whastes the most
*/
select country, count(commodity) as number_of_commodities_wasted
from fao
GROUP BY country
order by number_of_commodities_wasted desc
```

	country	NUMBER OF COMMODITIES WASTED
1	United States of America	3.171
2	India	1.218
3	Ethiopia	933
4	Kenya	899
5	Uganda	798
6	Peru	767
7	Senegal	765
8	Malawi	757
9	Ghana	755
10	Zambia	743
11	Burkina Faso	721

States with higher crop waste

As expected, many African states have a lot of crop waste.

A startup idea could be to help some states, among those that have the most crop waste, to eliminate this waste (perhaps, with the mechanization of work)



The screenshot shows a SQL IDE interface. At the top, a query is written in a text editor: `-- country with most waste in the harvest`, `SELECT country, count (food_supply_stage) as waste_in_harvest`, `from fao`, `WHERE food_supply_stage = 'Harvest'`, `GROUP BY country`, `ORDER BY waste_in_harvest DESC`. Below the editor, a tab labeled 'fao 1' is active. A SQL editor bar shows the query: `SELECT country, count (food_suppp`. Below this, a table with 11 rows is displayed. The table has two columns: 'country' and 'WASTE IN HARVEST'. The rows are numbered 1 to 11. The countries listed are Ethiopia, India, Kenya, Uganda, Zambia, Mali, Ghana, United Republic of Tanzania, Malawi, Benin, and Burundi. The waste values are 149, 139, 134, 128, 126, 125, 112, 111, 107, 106, and 105 respectively. At the bottom, a status bar indicates '70 row(s) fetched - 625ms (2ms fetch), on lug 09, 18:14:30'.

```
-- country with most waste in the harvest
SELECT country, count (food_supply_stage ) as waste_in_harvest
from fao
WHERE food_supply_stage = 'Harvest'
GROUP BY country
ORDER BY waste_in_harvest DESC
```

	country	WASTE IN HARVEST
1	Ethiopia	149
2	India	139
3	Kenya	134
4	Uganda	128
5	Zambia	126
6	Mali	125
7	Ghana	112
8	United Republic of Tanzania	111
9	Malawi	107
10	Benin	106
11	Burundi	105

70 row(s) fetched - 625ms (2ms fetch), on lug 09, 18:14:30

States with higher crop waste

Deepening, we can go and look for those countries that, for example, have a percentage of waste greater than 7%, after 2015.

We could therefore choose Burkina Faso which had a peak of waste in 2016.

```
/* countries with loss_percentage > 7 in Harvest,
after the year 2015 */
SELECT country, food_supply_stage, loss_percentage, year
from fao
WHERE food_supply_stage = 'Harvest'
AND loss_percentage > '7'
AND "year" > '2015'
ORDER by loss_percentage DESC
```

1 x

SELECT country, food_supply_stage, loss_percentage, year

Enter a SQL expression to filter results (use

country	food supply stage	loss percentage	year
Burkina Faso	Harvest	9.98	2016
Senegal	Harvest	9.86	2016
Senegal	Harvest	8.66	2016
Mexico	Harvest	8	2016
India	Harvest	7.63	2016

```

/* the countries that waste less numbers of commodities */
select country, count(commodity) as number_of_commodities_wasted
from fao
GROUP BY country
order by number_of_commodities_wasted ASC

```

	country	NUMBER OF COMMODITIES WASTED
1	Cyprus	1
2	Africa	1
3	Gabon	1
4	Bahrain	1
5	Morocco	1
6	Oman	1
7	Saint Kitts and Nevis	1
8	Uruguay	1
9	Algeria	2
10	Australia and New Zealand	3
11	Tajikistan	3

The most virtuous states

It is not credible that there have been states that present only one type of wasted food: there is probably a lack of data.

To identify the truly virtuous states I would say that a good value is on the 10 different types of wasted food, for which Cyprus is among the most virtuous.

```
SELECT country, commodity, loss_percentage, food_supply_stage, year
from fao
WHERE loss_percentage = '9.99'
ORDER by "year" DESC
```

fao 1 ×						
SELECT country, commodity, loss_percentage, food_supply_stage, year						
Enter a SQL expression to filter results (use Ctrl+Space)						
Grid	country	commodity	loss_percentage	food_supply_stage	year	
1	Chad	Wheat	9.99	Whole supply chain	2016	
2	Norway	Potatoes	9.99	Whole supply chain	2015	
3	Venezuela (Boli	Oranges	9.99	Whole supply chain	2010	
4	Cuba	Onions and shallots, dry (excluding dehydrated)	9.99	Whole supply chain	2007	
5	Panama	Beans, dry	9.99	Whole supply chain	2006	
6	Panama	Beans, dry	9.99	Whole supply chain	2004	
7	Panama	Pigeon peas, dry	9.99	Whole supply chain	2000	
8	Denmark	Potatoes	9.99	Whole supply chain	1999	
9	Israel	Refined sugar	9.99	Whole supply chain	1997	
10	Panama	Beans, dry	9.99	Whole supply chain	1997	
11	Panama	Pigeon peas, dry	9.99	Whole supply chain	1996	

The most wasted food

The maximum percentage of the waste is 9.99% and the most wasted food, in recent times (2016), is wheat in Chad where waste is present throughout the supply chain.

Conclusions

If we want to commit ourselves to find a solution to food waste around the world, these data can give us a starting point to be able to move.

The commitment of a hypothetical startup could be to choose between:

- focus on waste, for example at the crop level, taking into account a percentage of waste greater than 7%. In this case, Burkina Faso turns out to be a state to be attentive to and in which to deepen the analysis to understand how and where to intervene; also because it presents these percentages of waste in recent times (2016).
- focus on the maximum percentage of waste (9.99%) in recent times (2016), for which it appears that the candidate state is Chad, which has wasted the maximum percentage of wheat detected, and the waste is widespread throughout the supply chain.

Probably, the challenge to solve the problem in Chad would be more difficult than in Burkina Faso because the waste in Burkina Faso is at the crop level, so perhaps mechanization of work could solve the problem; while in Chad waste is throughout the supply chain, so in addition to needing a more in-depth analysis, various means are certainly needed to solve the problem.

