

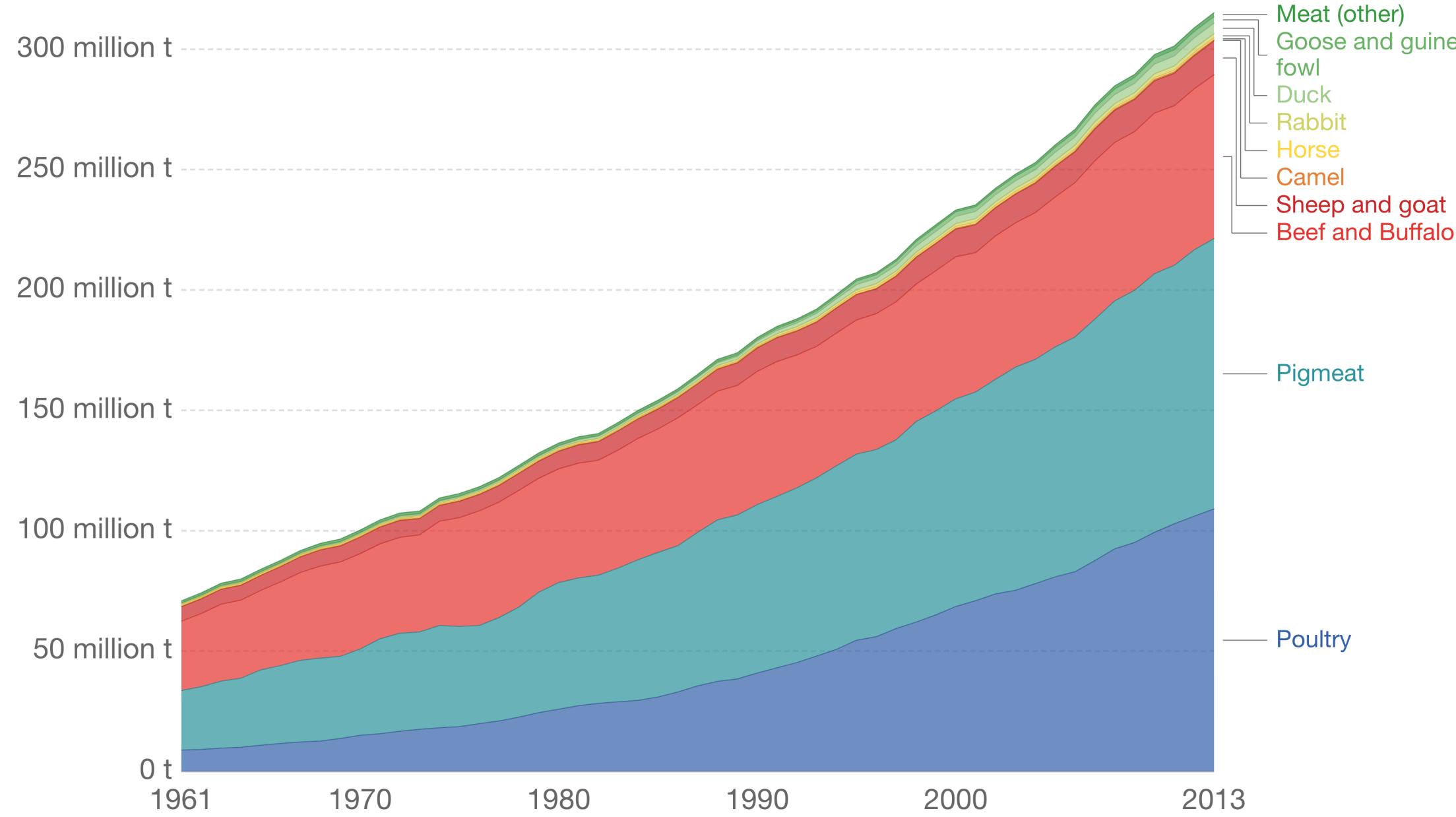
Water Footprint of Food

Javascript Final

Kalyani

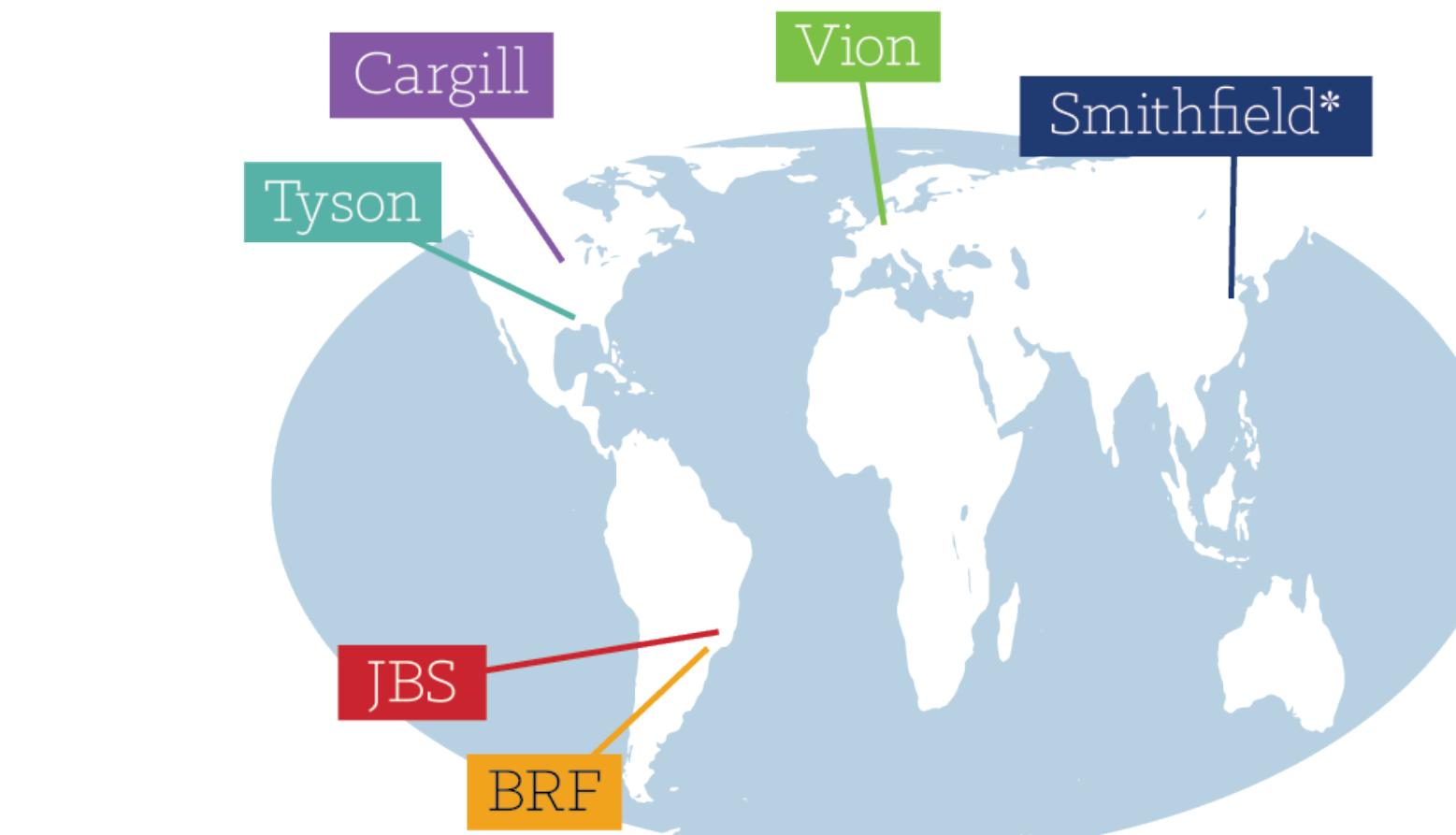
Meat production by livestock type

Meat production by commodity or product type, measured in tonnes per year. All data shown relate to total meat production, from both commercial and farm slaughter. Data are given in terms of dressed carcass weight, excluding offal and slaughter fats.



Source: UN Food and Agricultural Organization (FAO)

OurWorldInData.org/meat-and-seafood-production-consumption/ • CC BY-SA

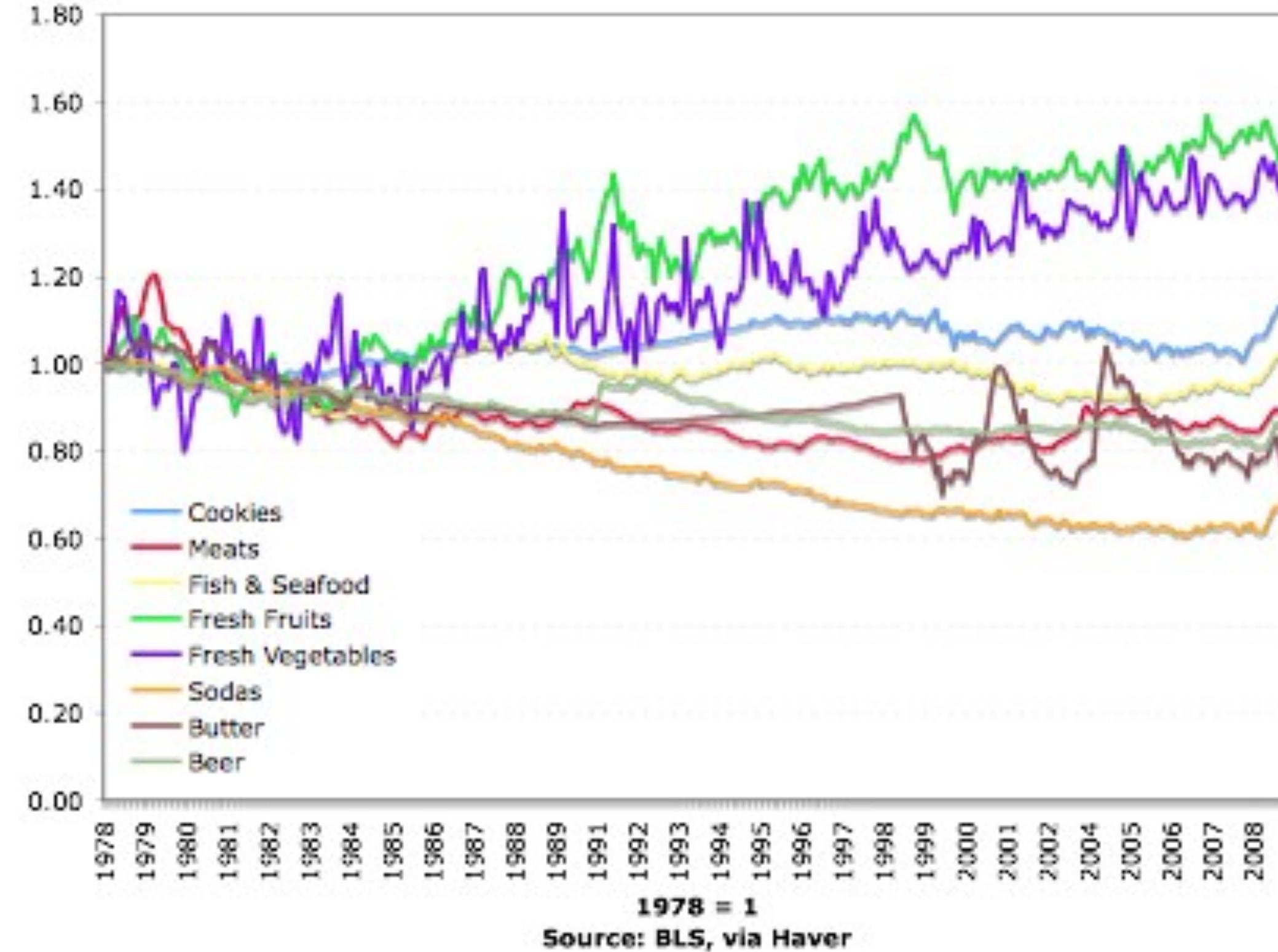


97%

meat comes from
factory farmed animals

Just a few decades back meat was considered a luxury and the consumption per person was substantially low. However today meat consumption has grown exponentially but the costs haven't. Why? Because we are producing industrial meat at the cost of environment and animals

Price of foods and beverages, inflation adjusted (taxes included)



1978 = 1
Source: BLS, via Haver

Table 1. The water footprint of different food items.

Food item	Unit	Global average water footprint (litres)
Apple or pear	1 kg	700
Banana	1 kg	860
Beef	1 kg	15,500
Beer (from barley)	1 glass of 250 ml	75
Bread (from wheat)	1 kg	1,300
Cabbage	1 kg	200
Cheese	1 kg	5,000
Chicken	1 kg	3,900
Chocolate	1 kg	24,000
Coffee	1 cup of 125 ml	140
Cucumber or pumpkin	1 kg	240
Dates	1 kg	3,000
Groundnuts (in shell)	1 kg	3,100
Lettuce	1 kg	130
Maize	1 kg	900
Mango	1 kg	1,600
Milk	1 glass of 250 ml	250
Olives	1 kg	4,400
Orange	1 kg	460
Peach or nectarine	1 kg	1,200
Pork	1 kg	4,800
Potato	1 kg	250
Rice	1 kg	3,400
Sugar (from sugar cane)	1 kg	1,500
Tea	1 cup of 250 ml	30
Tomato	1 kg	180
Wine	1 glass of 125 ml	120

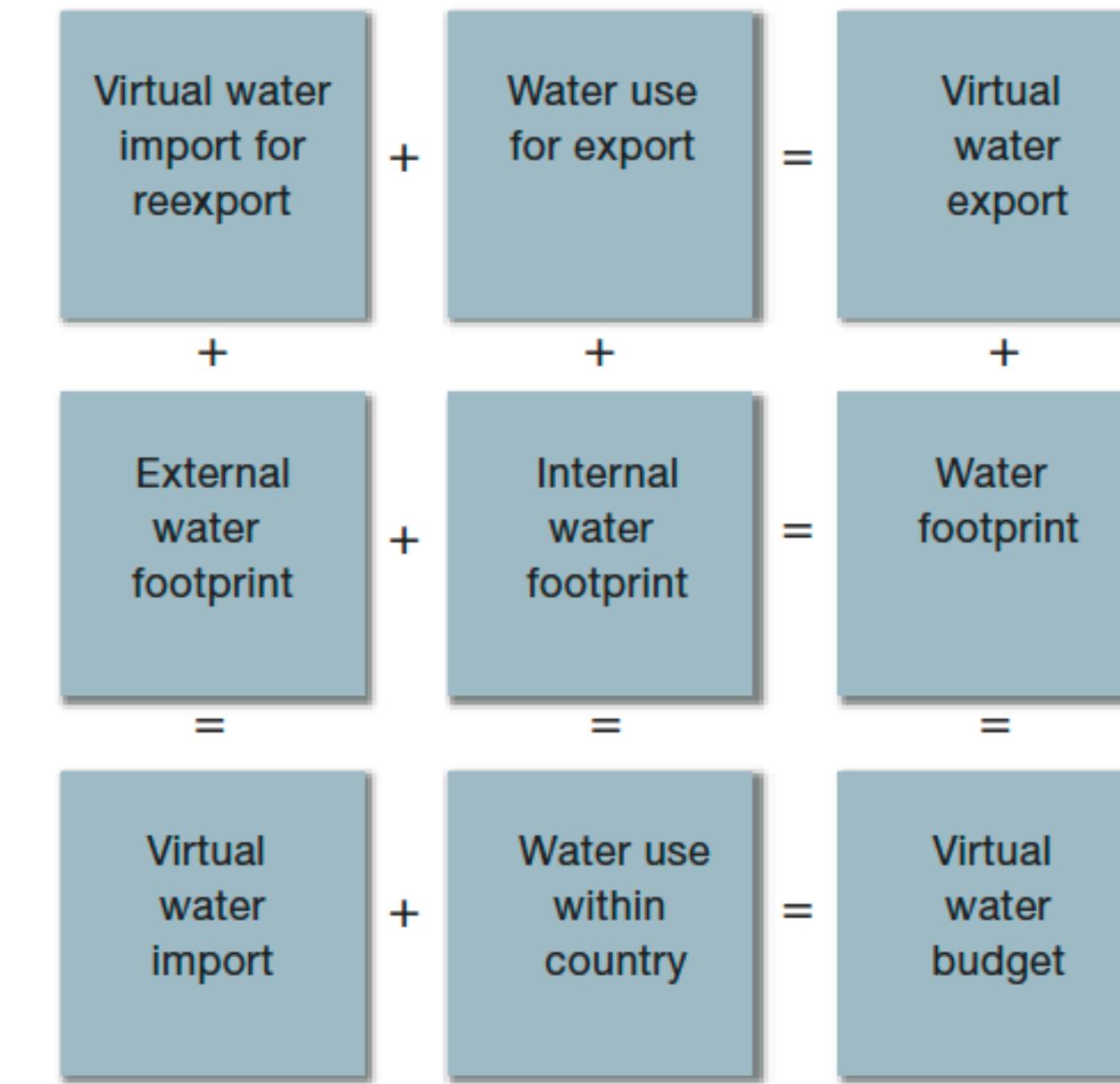
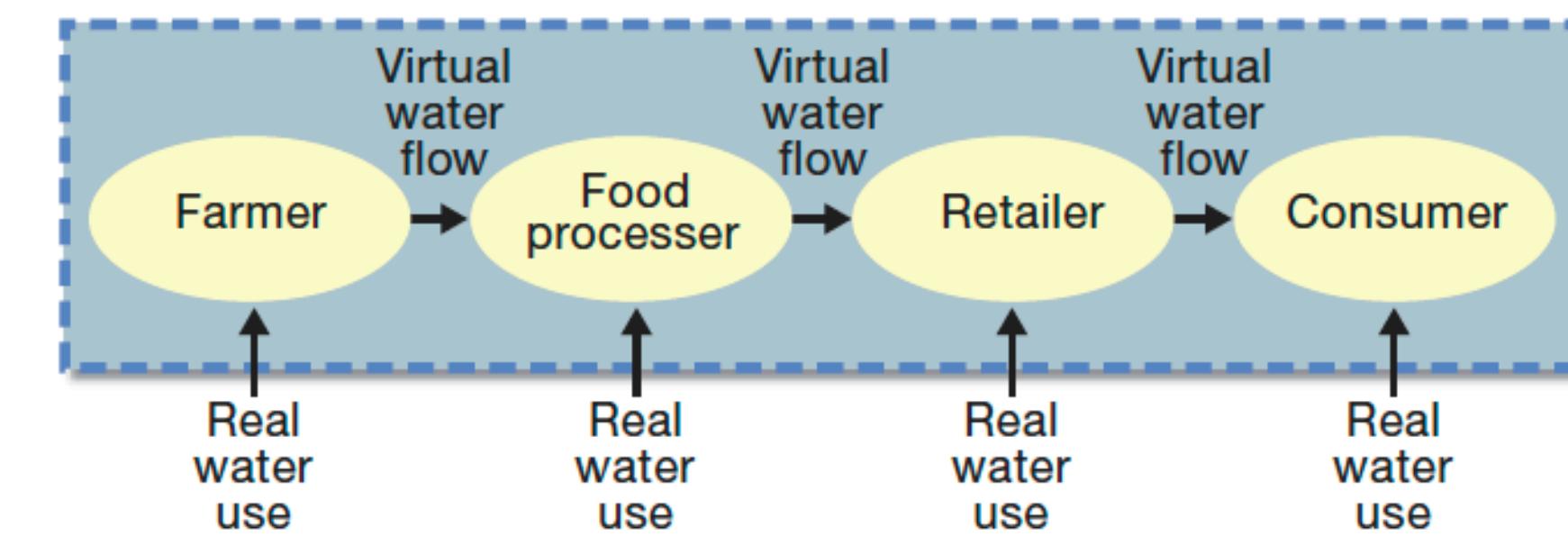


Figure 2. The virtual-water chain.



I found this data set about the Virtual water involved in the processes of producing food. It calls for more transparency in the industrial food production system.

92%

of the water we use is
hidden in our food

150 L

1 Kilo vegetables

15,400 L

1 Kilo beef

I wanted to highlight the difference our diet can make on the water footprint. We would assume that it would be saving water in our everyday domestic activities. But 92% of water actually lies in our diet and that amounts to 3496 liters of water every single day.





Informed by this data set I made an interactive object that prints water receipts for 1 kilo salad vs 1 kilo steak. I used receipts to talk about the 'true costs' of our food. However I needed a tool that provides a wider reach. Hence I decided to make a website.

Beef : 15,400 litres

HIDDEN WATER

The water footprint of a good or a service is the total amount of water external and internal that is required to produce it. The concept is an analogue to the ecological and the carbon footprint. It is calculated by the volume of freshwater used to produce the product, measured over the various steps of the value chain. Water is measured in terms of the volumes consumed (evaporated) or polluted. It is a geo-graphically explicit indicator that not only shows volumes of water use and pollution, but also the locations.

It takes a shocking amount of water to put food on our plate. In the United States, agriculture is responsible for 80 percent of all water consumed (water that is evaporated or otherwise removed from the watershed). 92% of the water we use is hidden in our food. That amounts to 5496 litres of water.

Revealing how much water/ resource is hidden in the food we eat, can help bolster strategic change towards a sustainable future. At a macro level, it can help people make better choices. At a micro level, it can prompt key changes through hard numbers. Animal products have a relatively large water footprint because of the water needed to grow the feed. From a water saving point of view then, it is obviously more efficient to eat the crops directly than having them first processed into meat.

Sheep : 10,400 litres

Pork : 6,000 litres

Goat : 5,500 litres

Chicken : 4,300 litres

Cheese : 3,180 litres

Rice : 2,500 litres

Soyabean : 2,145 litres

Wheat : 1,830 litres

Barley : 1,425 litres

Maize : 1,220 litres

Apples : 822 litres

Before I started with the website, I made this poster to understand the data set better. This gave me the idea that I could use fluctuating water levels to convey the message about the water footprint.

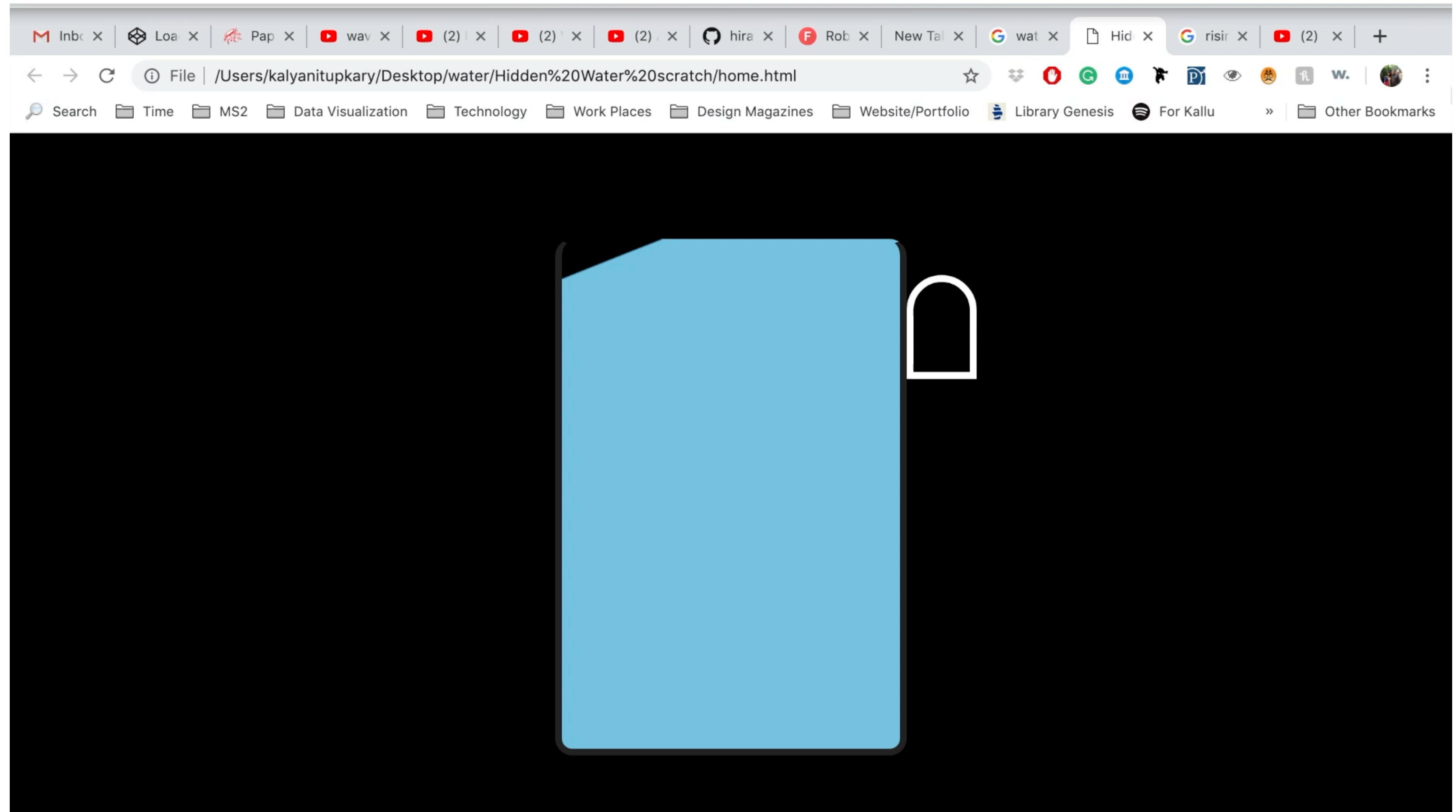


Features of the website

/Questionnaire about the
users diet

/Unique water footprint
calculator

/ Tips about how to
reduce the water footprint



Interactive water level- explorations

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← → ⌂ File | /Users/kalyanitupkary/Desktop/water/Hidden%20Water_02/footprint2.html

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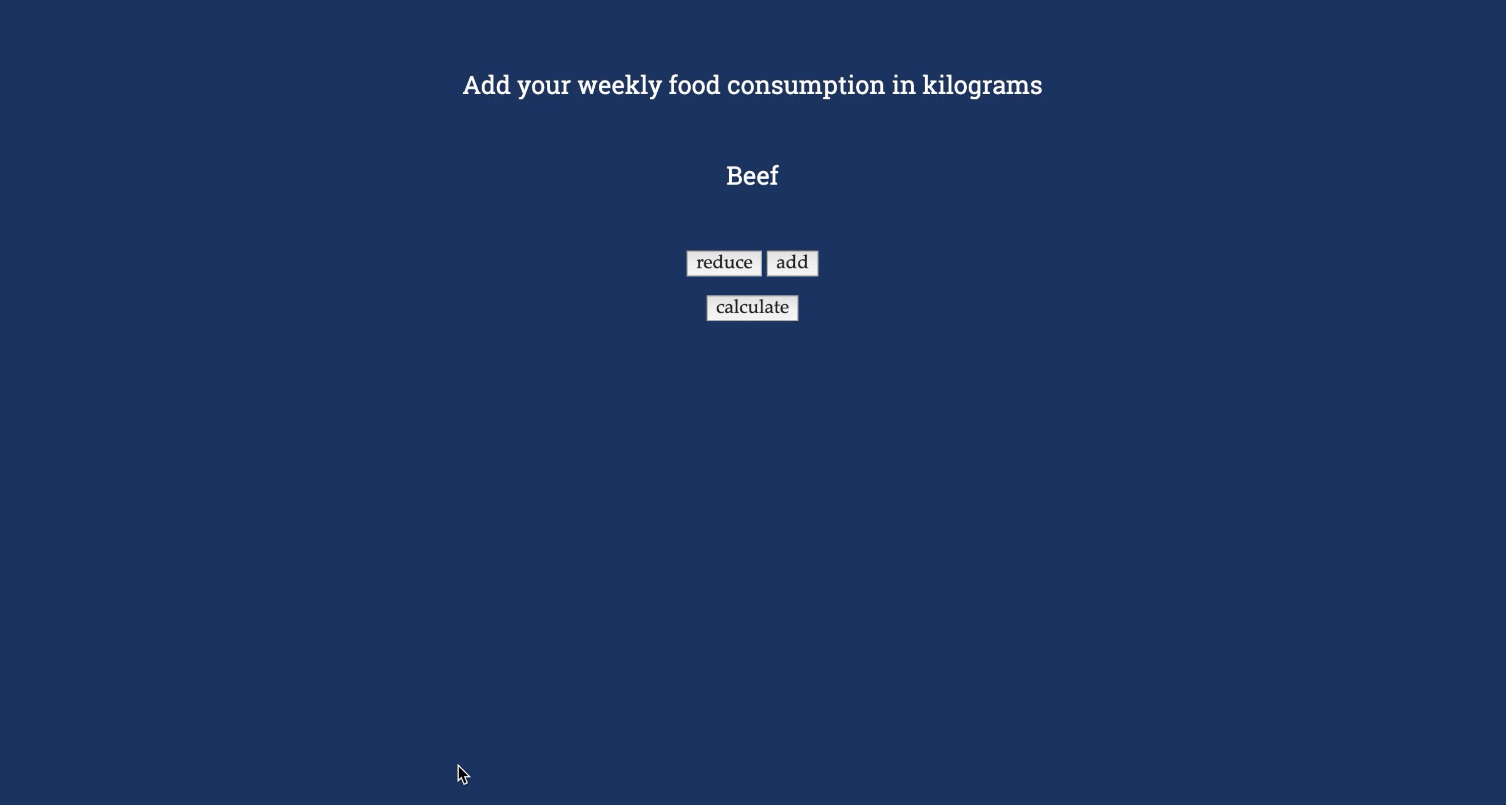
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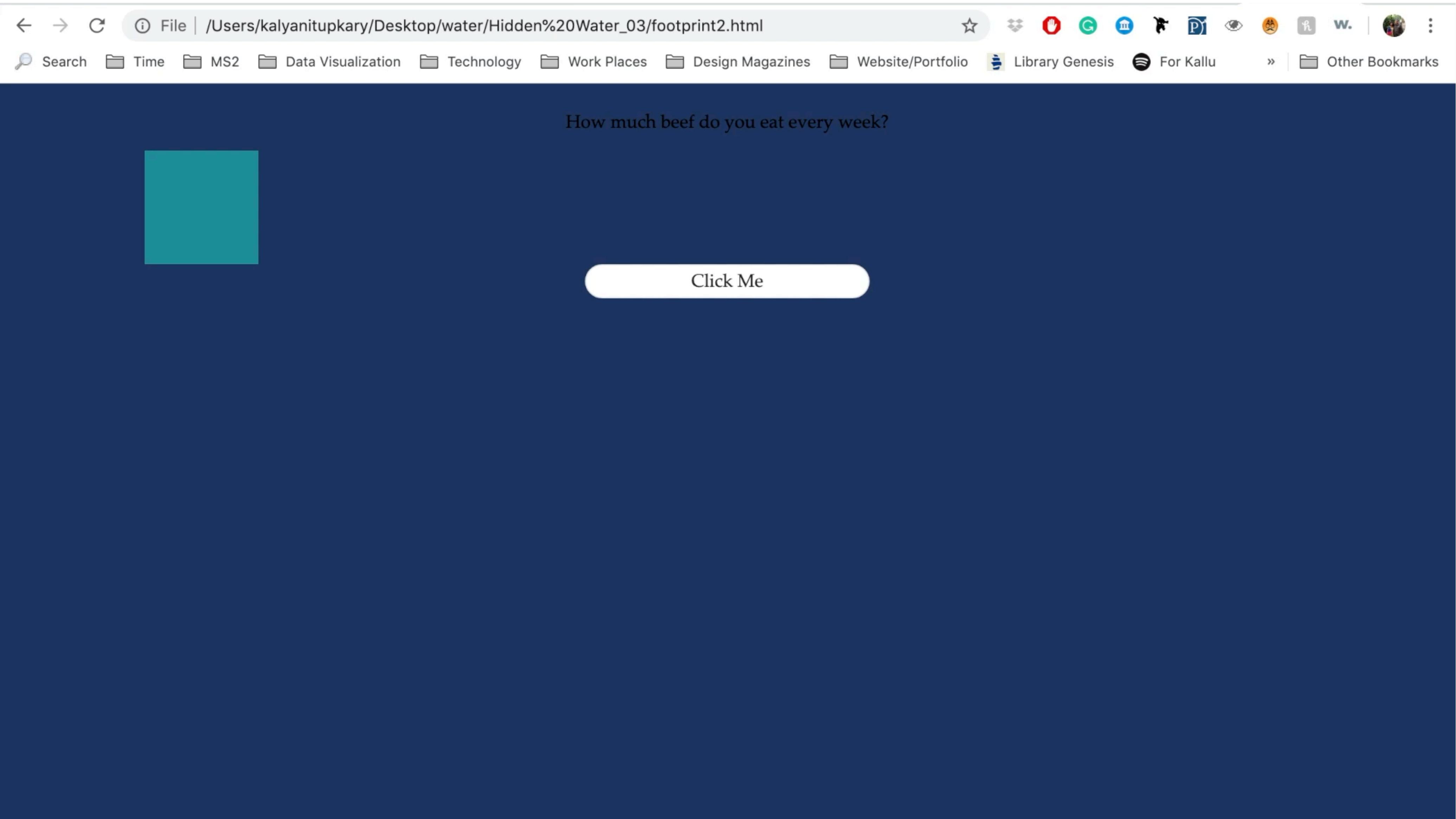
Add your weekly food consumption in kilograms

Beef

reduce add

calculate





Combining the water level and the calculator

[Link to code](#)

[https://github.com/Kalyani-Tupkary/
WebAdvanced_Spring2019_tupkk664/tree/master/
Hidden%20Water_03_final](https://github.com/Kalyani-Tupkary/WebAdvanced_Spring2019_tupkk664/tree/master/Hidden%20Water_03_final)