```
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/conte
```

```
#import libraries
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

```
food_file = '/content/drive/MyDrive/Colab Notebooks/FoodBalanceSheets_E_Africa_NOFLAG.csv'
fao = pd.read_csv(food_file, encoding = "latin-1")
```

```
fao.head()
```

	Area Code	Area	Item Code	Item	Element Code	Element	Unit	Y2014	Y2015	Y20
0	4	Algeria	2501	Population	511	Total Population - Both sexes	1000 persons	38924.00	39728.00	40551
1	4	Algeria	2501	Population	5301	Domestic supply quantity	1000 tonnes	0.00	0.00	0
2	4	Algeria	2901	Grand Total	664	Food supply (kcal/capita/day)	kcal/capita/day	3377.00	3379.00	3372

```
fao.shape
```

```
(60943, 12)
```

```
fao.isnull().sum()
```

```
Area Code          0
Area               0
Item Code          0
Item               0
Element Code       0
Element            0
Unit               0
Y2014           1589
Y2015           1548
```

```
Y2016           1535
Y2017           1506
Y2018           1436
dtype: int64
```

```
#checking for duplicates
fao.duplicated().any()
```

```
False
```

```
#The sum of each unique value in Area
fao.groupby('Area')['Area'].count()
```

```
Area
Algeria                         1313
Angola                          1424
Benin                           1285
Botswana                        1378
Burkina Faso                    1409
Cabo Verde                      1260
Cameroon                        1460
Central African Republic        1344
Chad                            1343
Comoros                           45
Congo                           1413
Côte d'Ivoire                   1467
Djibouti                        1095
Egypt                           1488
Eswatini                        1284
Ethiopia                        1447
Ethiopia PDR                      39
Gabon                           1245
Gambia                          1168
Ghana                           1354
Guinea                          1410
Guinea-Bissau                   1128
Kenya                           1560
Lesotho                         1150
Liberia                         1206
Madagascar                      1439
Malawi                          1447
Mali                            1293
Mauritania                      1195
Mauritius                       1378
Morocco                         1393
Mozambique                      1427
Namibia                         1283
Niger                           1403
Nigeria                         1474
```

```
Rwanda                          1426
Sao Tome and Principe           1177
Senegal                         1462
Seychelles                        68
Sierra Leone                    1242
South Africa                    1399
Sudan                           1316
Sudan (former)                    53
Togo                            1294
Tunisia                         1338
Uganda                          1458
United Republic of Tanzania     1419
Zambia                          1451
Zimbabwe                        1393
Name: Area, dtype: int64
```

```
#count of Area
fao['Area'].unique().size
```

```
49
```

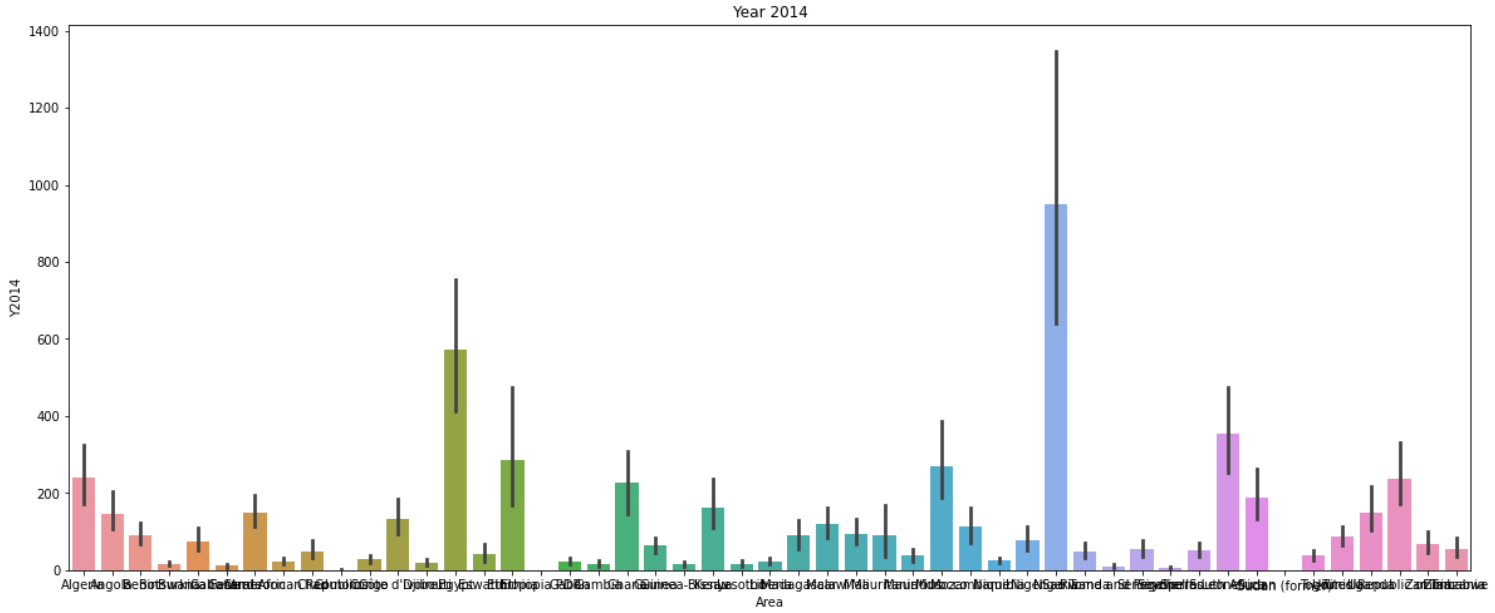
```
#fill missing values from Y2014 to Y2018
fao['Y2014'].fillna(value = fao.Y2014.median(), inplace=True)
fao['Y2015'].fillna(value = fao.Y2014.median(), inplace=True)
fao['Y2016'].fillna(value = fao.Y2014.median(), inplace=True)
fao['Y2017'].fillna(value = fao.Y2014.median(), inplace=True)
fao['Y2018'].fillna(value = fao.Y2014.median(), inplace=True)
```

```
fao.isnull().sum()
```

```
Area Code       0
Area            0
Item Code       0
Item            0
Element Code    0
Element         0
Unit            0
Y2014           0
Y2015           0
Y2016           0
Y2017           0
Y2018           0
dtype: int64
```

```
plt.figure(figsize=(20,8))
plt.title('Year 2014')
sns.barplot(x=fao.Area, y=fao['Y2014'])
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f6e536af150>
```



Colab paid products - Cancel contracts here

✓ 0s completed at 17:11