Agriculture in Africa, 2016

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March 4, 2018

Abstract

This paper uses Food and Agriculture Organization of the United Nations (FAO) data to examine the relationship between yield, production, and area harvested in Africa.

1 Introduction

This is my intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex.

This is my nice intro to my great paper, I will explain the cool things I can do with my new 'computational thinking' powers combined with some Latex.

```
> #get data
> faostat=read.csv("https://github.com/howlem/projectData/raw/master/Production_Crops_E_All_
> ##YIELD##
> #just keep yield data
> yield_1=faostat[faostat$'Element'!='Production',]
> yield=yield_1[yield_1$'Element'!='Area harvested',]
> head(yield)
> #aggregate by country
> yield=aggregate(yield$'Y2016',by=list(yield$'Area'),sum)
> names(yield)=c('country','TotYield2016')
> yield
> ##PRODUCTION##
> #just keep production data
> prod_1=faostat[faostat$'Element'!='Yield',]
> prod=prod_1[prod_1$'Element'!='Area harvested',]
> head(prod)
> #aggregate by country
> prod=aggregate(prod$'Y2016',by=list(prod$'Area'),sum)
> names(prod)=c('country','TotProd2016')
> prod
> ##AREA HARVESTED##
> #just keep area harvested data
> area_harv_1=faostat[faostat$'Element'!='Yield',]
```

```
> area_harv=area_harv_1[area_harv_1$'Element'!='Production',]
> head(area_harv)
> #aggregate by country
> area_harv=aggregate(area_harv$'Y2016',by=list(area_harv$'Area'),sum)
> names(area_harv)=c('country','TotAreaHarv2016')
> area_harv
> #merge yield, production, and area harvested data into one dataset
> combinedYP=merge(yield,prod)
> combinedYPAH=merge(combinedYP,area_harv)
> head(combinedYPAH)
> ##MAP DATA##
> #get zip file from github
> compressedMap="https://github.com/howlem/projectData/blob/master/worldMap/worldMap.shp?raw
> #unzip the file
> temp=tempfile()
> download.file(compressedMap,temp)
> unzip(temp)
> #select the map (shp file) needed
> thefile=file.path('worldMap','worldMap.shp')
> worldMap <- rgdal::readOGR(thefile,stringsAsFactors=F) # use the names
> #only keep African countries
> worldMap=worldMap[worldMap$REGION==2,]
> #rename "NAME" column to "country"" so can merge
> names(worldMap)[names(worldMap)=='NAME'] <- 'country'
> #merge the two datasets into one, by country
> YPAHforMap <- merge(worldMap,combinedYPAH,
+                     by=c("country"))
>
```