filtering\_silvopastoral\_farmers

*installing tidyverse* #Load farmers.df

library(tidyverse)

## -- Attaching packages --------------------------------------------------------------- tidyverse 1.3.0 --

## v ggplot2 3.2.1 v purrr 0.3.3  
## v tibble 2.1.3 v dplyr 0.8.3  
## v tidyr 1.0.2 v stringr 1.4.0  
## v readr 1.3.1 v forcats 0.4.0

## -- Conflicts ------------------------------------------------------------------ tidyverse\_conflicts() --  
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag() masks stats::lag()

load("Dataframes/farmers.df.Rda")

###Filtering for Farmers that practice Silvopastorilfarming but don’t have Cattle

head(filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE))

## id\_house f1\_name f1\_latitud f1\_longitud  
## 1 E24 El Diviso 1.218440 -75.93277  
## 2 G28 Buenos Aires 1.280450 -75.91107  
## 3 I18 El Limonar 1.348061 -76.02748  
## f1\_landscape f1\_area\_total  
## 1 Lomerío (lomas, mesas y vallecitos 21.5  
## 2 Vega 48.0  
## 3 Cordillera-Montaña 147.0  
## f1\_area\_permanent\_cultures f1\_area\_temporal\_cultures  
## 1 0.25 0.25  
## 2 0.50 0.00  
## 3 4.00 0.00  
## f1\_area\_pasture\_wo\_sps f1\_area\_garden\_yard\_plot f1\_area\_fallow  
## 1 10.0 1.0 1  
## 2 32.5 0.5 10  
## 3 75.0 1.0 4  
## f1\_area\_sps f1\_area\_agroforestry f1\_area\_not\_cultivable f1\_area\_forest  
## 1 1.5 4 2.00 1  
## 2 1.0 2 0.25 1  
## 3 1.0 0 2.00 60  
## f1\_area\_wetlands f1\_area\_palms f1\_number\_of\_watersources silvopastoral  
## 1 0.50 0 3 TRUE  
## 2 0.25 0 5 TRUE  
## 3 0.00 0 29 TRUE  
## calves\_f calves\_m bulls cows\_in\_production cows\_dry cows\_pregnant tlu  
## 1 5 NA NA NA 4 3 NA  
## 2 NA 4 4 NA 4 NA NA  
## 3 6 11 11 18 6 18 45.6  
## stocking\_rate\_total stocking\_rate\_pasture stocking\_rate\_pasture\_silvo  
## 1 NA NA NA  
## 2 NA NA NA  
## 3 0.3102041 0.608 0.6  
## purpose\_milk purpose\_meat  
## 1 No lleva a cabo la actividad No lleva a cabo la actividad  
## 2 No lleva a cabo la actividad No lleva a cabo la actividad  
## 3 No lleva a cabo la actividad No lleva a cabo la actividad  
## pasture\_to\_area\_total pasture\_sps\_to\_area\_total forest\_to\_area\_total  
## 1 0.4651163 0.5348837 0.04651163  
## 2 0.6770833 0.6979167 0.02083333  
## 3 0.5102041 0.5170068 0.40816327  
## pasture\_to\_forest forest\_to\_pasture milkproduction meatproduction  
## 1 11.500000 0.08695652 FALSE FALSE  
## 2 33.500000 0.02985075 FALSE FALSE  
## 3 1.266667 0.78947368 FALSE FALSE  
## livestockproduction double\_purpose  
## 1 FALSE FALSE  
## 2 FALSE FALSE  
## 3 FALSE FALSE

Why do three Farmers say they have Silvopastoral Areas but don’t say they practice Milk or Meatproduction?

#Filter Farmers that have Silvopasture and not Livestockproduction. Only show Animal-columns

head(filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE)[,20:26])

## calves\_f calves\_m bulls cows\_in\_production cows\_dry cows\_pregnant tlu  
## 1 5 NA NA NA 4 3 NA  
## 2 NA 4 4 NA 4 NA NA  
## 3 6 11 11 18 6 18 45.6

All three farmers have Cows, however for two of them we don’t know whether they are in production. We can assert that all of them are also Livestock producers.

filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE)[,"f1\_area\_pasture\_wo\_sps"]

## [1] 10.0 32.5 75.0

All three have land in pasture.

filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE)[,c("stocking\_rate\_total", "stocking\_rate\_pasture", "stocking\_rate\_pasture\_silvo")]

## stocking\_rate\_total stocking\_rate\_pasture stocking\_rate\_pasture\_silvo  
## 1 NA NA NA  
## 2 NA NA NA  
## 3 0.3102041 0.608 0.6

Because two of them have unknown values for Cows we don’t know their Stocking Rate. Possible solution is to assume that NAs in COW are actually 0 animals.

head(farmers.df[,20:26])

## calves\_f calves\_m bulls cows\_in\_production cows\_dry cows\_pregnant tlu  
## 1 9 7 7 16 14 16 45.1  
## 2 4 4 4 8 4 8 20.8  
## 3 4 6 6 10 12 10 31.6  
## 4 3 4 4 7 6 7 20.3  
## 5 3 8 8 15 3 2 25.1  
## 6 3 3 3 3 5 NA NA

The value 0 doesn’t exist. So we assume, that NA=0.

#Set NA <- 0 in animals.

farmers.df.animals <- farmers.df[,20:26]  
farmers.df.animals[is.na(farmers.df.animals)] <- 0  
farmers.df[,20:26] <- farmers.df.animals

head(farmers.df[,20:26])

## calves\_f calves\_m bulls cows\_in\_production cows\_dry cows\_pregnant tlu  
## 1 9 7 7 16 14 16 45.1  
## 2 4 4 4 8 4 8 20.8  
## 3 4 6 6 10 12 10 31.6  
## 4 3 4 4 7 6 7 20.3  
## 5 3 8 8 15 3 2 25.1  
## 6 3 3 3 3 5 0 0.0

#Set TRUE for LIvestockproduction in Farmers with Silvopastorals

filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE)[, c("id\_house", "livestockproduction")] #<- TRUE

## id\_house livestockproduction  
## 1 E24 FALSE  
## 2 G28 FALSE  
## 3 I18 FALSE

farmers.df[farmers.df$id\_house == "E24", "livestockproduction"] <- TRUE  
farmers.df[farmers.df$id\_house == "G28", "livestockproduction"] <- TRUE  
farmers.df[farmers.df$id\_house == "I18", "livestockproduction"] <- TRUE

filter(farmers.df, silvopastoral ==TRUE, farmers.df$livestockproduction==FALSE)[, c("id\_house", "livestockproduction")] #<- TRUE

## [1] id\_house livestockproduction  
## <0 rows> (or 0-length row.names)

All Silvopastoral farmers are now also livestockfarmers.