use\_case.3.3.R

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#...................................................................................#  
#  
# USE CASE 3 example  
#  
# Perform analysis  
#  
#...................................................................................#  
  
  
  
  
# Always load fadnUtils and data.table  
library(fadnUtils)  
library(data.table)  
  
  
# The fist step is to set the current data.dir  
set.data.dir("H:/IFM-CAP/sample.fadnutils.dir")  
  
  
# Let's see what countries and years are available for loading  
show.data.dir.contents()  
  
#We load structured data for all available countries and years  
my.data = load.fadn.str.rds()  
  
  
  
# .............. HOW MANY FARMS FOR EACH COUNTY AND EACH YEAR .....................#  
  
# we use the info DT, and group by YEAR-COUNTRY  
my.data$info[,.N,by=list(YEAR,COUNTRY)]  
  
  
#We can also use dcast, to show a more tabular format  
dcast(  
 my.data$info,  
 YEAR~COUNTRY,  
 fun.aggregate = length,  
 value.var =  
)  
  
# We can also export to clipboard, using the write.excel utility function  
# After running the following command, open excel and paste. The result will appear.  
write.excel(  
 dcast(  
 my.data$info,  
 YEAR~COUNTRY,  
 fun.aggregate = length,  
 value.var =  
 )  
)  
  
  
  
# .............. ALL CROP AREAS PER COUNTRY-YEAR ...................................#  
  
# First, calculate the weighted area  
my.data$crops[  
 VARIABLE=="LEVL",  
 VALUE.w:=WEIGHT\*VALUE/1000  
]  
  
# Then dcast that variable  
dcast(  
 my.data$crops[VARIABLE=="LEVL"],  
 COUNTRY+CROP~YEAR,  
 value.var = "VALUE.w",  
 fun.aggregate = sum,  
 na.rm = T  
)  
  
  
  
# .............. ALL CROP PRODUCTION PER COUNTRY-YEAR..............................#  
  
dcast(  
 my.data$crops[VARIABLE=="GROF",VALUE.w:=WEIGHT\*VALUE/1000],  
 COUNTRY+CROP~YEAR,  
 value.var = "VALUE.w",  
 fun.aggregate = sum,  
 na.rm = T  
)  
  
  
  
# .............. BARLEY PRODUCTION PER COUNTRY-YEAR................................#  
  
dcast(  
 my.data$crops[  
 VARIABLE=="GROF" & CROP=="BARL",  
 VALUE.w:=WEIGHT\*VALUE/1000  
 ],  
 COUNTRY~YEAR,  
 value.var = "VALUE.w",  
 fun.aggregate = sum,  
 na.rm = T  
)  
  
  
  
# .............. DISTRIBUTION OF NUMBER OF CROPS PER COUNTRY-YEAR ..................#  
  
crops.data = my.data$crops #catering for easier access at next steps  
  
#this contains the number of crops for each farm-country-year/  
# Be carefule, we hav to filter to count only the LEVL variable  
crops.data.Ncrops = crops.data[VARIABLE=="LEVL",.N,by=list(COUNTRY,YEAR,ID)]  
  
# This displays the quantiles of the number of crops  
crops.data.Ncrops[,as.list(quantile(N)),by=list(YEAR,COUNTRY)][order(COUNTRY)]  
  
# R excels on graphic representation of results  
library(ggplot2)  
  
ggplot(crops.data.Ncrops,aes(y=N,x=1)) +  
 geom\_boxplot() +  
 facet\_grid(YEAR~COUNTRY) +  
 theme(axis.title.x=element\_blank(),  
 axis.text.x=element\_blank(),  
 axis.ticks.x=element\_blank()  
 )+  
 ylab("Number of Crops")