Documentation on RHoMIS dataset

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Objectives

This empty document should records the steps and choices made to transform any dataset into the format of the farmhousehold Data Platform. It goes together and complements the script file `Get_XX.R`, and `Param_XX.R`.

Crop table

The crop table must contains at least 8 columns with information on crop cultivation and usage in standard unit (ha and kg). You should harmonize the name of crop and make sure all crop listed have values on energy content.

Name	Definition	Unit
hhid	household id	
name	name of the crop	
land_area_ha	land cultivated	hectare
harvest_kg	amount harvested	kg
consumed_kg	amount consumed	kg
sold_kg	amount sold	kg
income_lcu	income from sells	lcu

Livestock table

The livestock table must contains at least 3 columns with information on livestock herd. The name of livestock species should be harmonized, and all species listed must have a coefficient factor for the tropical livestock unit.

Name	Definition	Unit
hhid	household id	
name	name of the livestock	
n	number of livestock kept	

Livestock production table

The livestock production table contains, at least, 7 columns with information on livestock productions. Among other products, you can consider meat, milk, eggs, honey, manure, or even traction power if rented out.

Name	Definition	Unit
hhid	household id	
name	name of the livestock	
prod	livestock production	
harvest_kg	amount harvested	kg
consumed_kg	amount consumed	kg
sold_kg	amount sold	kg
income_lcu	income from sells	lcu

Household information table

The initial household information table should contain information on household composition, GPS location (if available), off farm activities, and food security.

Name	Definition	Unit
hhid	household id	
country	country of the survey	
year	year of the survey	
gps_lat	latitude in decimal degrees	°N
gps_lon	longitude in decimal degrees	°E
hh_size_members	size of the household in number of persons	
hh_size_mae	size of the household in male adult equivalent	MAE
head_age	age of the household head	
head_gender	gender of the household head	'f' or 'm'
off_farm_lcu	off farm income per year	lcu
off_farm_div	diversity of off farm activities	
currency_conversion_factor_ppp	conversion from	lcu/usd
hdds	household diet diversity score based on 10 groups	
fies	Food Insecurity Experience Scale based on 8 questions	
foodshortage_count	number of months with food shortage	
foodshortage_months	name of the months with food shortage	

Crop and Livestock summary

The household information table also contains 28 columns with summary information from crop and livestock tables. This is calculated automatically with the function `calc_farm_prod()`. The calculations are simple and summarize, per household, the quantities reported in the crop and livestock tables.

To run the calculation you need the energy conversion (`conv_energy`) for all crop and livestock product listed in the table above, and the TLU conversion factor (`conv_tlu`). For the energy content, a good source of information is the FoodData Central of the U.S.Departement of Agriculture (https://fdc.nal.usda.gov/).

Name	Definition	Unit
hhid	household id	
land_cultivated_ha	total land cultivated	ha
crop_div	number of crop cultivated	
crop_name	names of crop cultivated	
crop_harvest_kg	total crop harvest	kg
crop_yield_kg_per_ha	crop yield	kg/ha
crop_sold_kg	quantity of crop sold	kg
crop_sold_perc	percentage of quantities of crop sold	%
crop_income_div	number of different crop sold	
crop_income_lcu	total income from crop production	lcu
crop_value_lcu	value of crop produced but not sold	lcu
crop_consumed_kcal	energy value from crop consumed	kcal
livestock_tlu	herd size	tlu
lstk_div	number of livestock species herded	
lstk_name	names of livestock species herded	
lstk_harvest_kg	total livestock product harvested	kg
lstk_sold_kg	quantity of livestock product sold	kg
lstk_sold_perc	percentage of livestock production sold	%
lstk_income_div	number of different livestock products sold	
lstk_income_lcu	total income from livestock production	lcu
lstk_value_lcu	value of livestock production not sold	lcu
lstk_consumed_kcal	energy value from livestock consumed	kcal
farm_div	number of crop and livestock species	
farm_harvest_kg	total farm production	kg
farm_sold_perc_kg	percentage of farm production sold	%
farm_income_div	number of different farm products sold	
farm_income_lcu	total income from farm production	lcu
tot_income_lcu	total income (farm + off farm)	lcu
farm_consumed_kcal	energy value from farm production consumed	kcal
off_farm_perc	percentgae of income from off farm activities	%

GIS information

If interested, you can extract spatial information based on the GPS coordinates of households. Here are a list of spatial raster with relevant information, you can find more spatial data in the geodata package.
- the Dixon farming system classification for Sub-Saharan Africa Dixon et al. 2021 - the population density estimated by the Gridded Population of the World (GPWv4)
- the travel time to cities estimated by Nelson et al. 2019 - the Koeppen's Climate Classification from: Beck, H.E., et al. (2018) "Present and future Köppen-Geiger climate classification maps at 1-km resolution", *Nature Scientific Data*, 5, 180214 DOI 10.1038/sdata.2018.214