Baseline long survey

Abigail

2025-01-06

Installing packages and calling out libraries

Importing data set

The data was exported from CommCare on 23/12/2024.

```
Mangwana_Baseline_Survey <- read_excel("~/Mangwana/MERL analyses in R/Mangwana - Baseline Survey.xlsx",
                                        sheet = "Forms")
summary(Mangwana_Baseline_Survey)
```

```
##     number             formid          form.Section_I_group.data_e_hora
##  Length:112         Length:112         Length:112
##  Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character
##  form.Section_I_group.gps form.Section_I_group.consentimento
##  Length:112               Length:112
##  Class :character         Class :character
##  Mode  :character         Mode  :character
##  form.Section_II_group.voc_tem_um_filho_entre_0_e_24_meses
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_II_group.qual__o_nome_da_criana_entre_0_e_24_meses
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_II_group.alguma_vez_qual__o_nome_da_criana_entre_0_e_24_meses_foi_amamentado
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_II_group.em_quanto_tempo_depois_do_nascimento_qual__o_nome_da_criana_entre_0_e_24_me
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_II_group.durante_os_primeiros_2_dias_depois_do_parto_deram_para_qual__o_nome_da_cria
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_II_group.oa_qual__o_nome_da_criana_entre_0_e_24_meses_foi_amamentado_ontem_durante_o
##  Length:112
##  Class :character
```

```
##    Mode  :character
##    form.Section_II_group.ontem_durante_o_dia_ou_noite_oa_qual__o_nome_da_criana_entre_0_e_24_meses_b
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.llquidos_agua
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.llquidos_formula_infantil
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.se_sim_quantas_vezes__que_qual__o_nome_da_criana_entre_0_e_24_meses_tomou_l
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.leite_de_origem_animal_incluindo_lquido_ou_em_p
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.quantas_vezes_oa_qual__o_nome_da_criana_entre_0_e_24_meses_tomou_leite
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.o_leite_era_adoado_ou_com_sabor
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.achocolatado_como_milo_cremora_ou_leite_condensado
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.sumos_ou_sumos_em_p
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.refrescos_como_coca-cola_fanta_frozy_ou_fizz_ou_bebidas_energticas_como_o_r
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.ch_caf_ou_bebidas__base_de_plantas_ou_ervas
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.a_bebida_foi_adoada  form.Section_II_group.sopa_ou_caldo
##    Length:112                                 Length:112
##    Class :character                           Class :character
##    Mode  :character                           Mode  :character
##    form.Section_II_group.algum_outro_lquido
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.copy-1-of-algum_outro_lquido
```

```
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.copy-1-of-a_bebida_foi_adoada
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.iogurte
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.quantas_vezes_oa_qual__o_nome_da_criana_entre_0_e_24_meses_tomou_iogurte
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.qual__o_nome_da_criana_entre_0_e_24_meses_tomou_iogurte_liquido
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.era_um_tipo_de_bebida_doce_ou_com_sabor
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.arroz_po_massa_esparguete_xima_de_farinha_de_milho_processada_papas_de_fari
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.xima_ou_papas_de_milho_no_processado_mexoeira_mapira_maaroca_po_integral_ou
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.batata_batata_doce_branca_inhame_mandioca_xima_de_mandioca_ou_papas_de_mand
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.feijo_comum_feijo_nhemba_ervilha_feijo_boer_feijo_jugo_feijo_soroco_ou_soja
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.cenoura_abbora_ou_batata_doce_de_polpa_alaranjada
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.couve_folhas_de_abobora_folhas_de_cacana_folhas_de_batata_doce_folha_de_fei
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.brculos_espinafres_folhas_de_moringa_folhas_de_amaranto_ou_quiabo_de_folha
##    Length:112
##    Class :character
##    Mode  :character
##    form.Section_II_group.tomate_repolho_quiabo_beringela_ou_cogumelos
##    Length:112
##    Class :character
```

```
##   Mode   :character
##   form.Section_II_group.alface_pepino_feijo_verde_ou_pimento_verde
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.manga_madura_papaia_madura_ou_maracuj
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.laranja_ou_tangerinas
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.bananas_melancia_abacate_lichia_caju_anans_ou_malambe
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.ma_pra_goiaba_massala_ata_mapfilo_tintsiva_ou_mafurra
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.bolos_bolinhos_bolachas_doces_argolas_fritas_bolas_de_berlim_ou_fiosso
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.chupa_chupa_ou_doces_bombom_chocolate_sorvete_ou_gelinho
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.ovos form.Section_II_group.queijo
##   Length:112                 Length:112
##   Class :character           Class :character
##   Mode   :character          Mode   :character
##   form.Section_II_group.fgado_moela_corao_ou_rim
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.paloni_salsichas_ou_enchidos_como_chourio_linguia_rachel_russian_ou_vorse
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.carne_de_vaca_carne_de_cabrito_carne_de_ovelha_gazela_ou_bufalo
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.carne_de_porco_carne_de_ratazana_ou_coelho
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.galinha_pato_peru_codorniz_ou_passarinhos
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_II_group.peixe_fresco_ou_seco_camaro_fresco_ou_seco_caranguejo_lulas_ou_ameijoa
```

```
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.camaro_voador_caracol_da_terra_trmita_ou_ishwa
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.amendoim_manteiga_de_amendoim_amendoim_modo_castanhas_de_caj_ou_sementes_de
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.chips_pipocas_de_pacote_ou_niknaks
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.massa_instantnea
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.batatas_fritas_badjia_peixe_frito_ou_frango_frito
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.leo_de_palma_vermelho
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.algum_outro_alimento_slido_semi-slido_ou_pastoso
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.qual_era_a_comida
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_II_group.copy-1-of-leo_de_palma_vermelho
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.missed_food form.Section_III_group.Months_missed_food
##   Length:112                          Length:112
##   Class :character                    Class :character
##   Mode  :character                    Mode  :character
##   form.Section_III_group.why_missed_food form.Section_III_group.Specify
##   Length:112                             Length:112
##   Class :character                       Class :character
##   Mode  :character                       Mode  :character
##   form.Section_III_group.What_was_impact_HH_total_income
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.What_impact_food_availability
##   Length:112
##   Class :character
```

```
##   Mode  :character
##   form.Section_III_group.you_feared_HH_not_have_enough_food
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.how_may_times_HH_not_have_enough_food
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.not_enough_food
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.how_many_times_not_enough_food
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.all_day_night_not_eating
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_III_group.how_many_times_all_day_night_not_eating
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.que_tipo_de_inqurito_est_a_realizar
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.para_o_inqurito_de_acompanhamento_para_a_ltima_estao_esta__a_estao_s
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_DroughtSeason.main_porpose_dry_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_DroughtSeason.selected_crops
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_DroughtSeason.challenges_dry_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_DroughtSeason.Specify_challenges_drought_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_ChuvaSeason.main_porpose_chuva_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_ChuvaSeason.selected_crops_chuva
```

```
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_ChuvaSeason.challenges_Chuvosa_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_I_ChuvaSeason.Specify_challenges_Chuvosa_season
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.Silviculture_Practise
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.main_porpose_silviculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.crop_name_Silviculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.challenges_silviculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.Specify_other_challenge_silviculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.raise_aninals
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.qual_tipo_de_pecuria_voc_pratica_selecione_t
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.especifique
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.main_porpose_livestock
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.quantos_qual_tipo_de_pecuria_voc_pratica_sel
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.quantos_dias_por_semana_voc_trabalhou_na_pe
##   Length:112
##   Class :character
```

```
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.quantas_horas_por_dia_voc_trabalhou_na_pecua
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.voc_recebeu_ajuda_de_outros_membros_da_faml
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.question21
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.em_mdia_quantos_dias_por_semana_eles_ajudara
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.em_mdia_quantas_horas_por_dia_eles_ajudaram_
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.voc_contratou_mo_de_obra_permanente
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.quantos_trabalhadores_permanente_voc_contrat
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.copy-2-of-em_mdia_por_quantos_dias_por_seman
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.copy-2-of-em_mdia_quantas_horas_por_dia_eles
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.em_mdia_por_quantos_dias_por_semana_voc_os_c
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.em_mdia_quantas_horas_por_dia_eles_trabalha
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.voc_contratou_mo_de_obra_sazonal
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.quantos_trabalhadores_sazonais_voc_contratou
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.copy-1-of-em_mdia_por_quantos_dias_por_seman
```

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```
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.copy-1-of-em_mdia_quantas_horas_por_dia_ele:
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.challenges_livestock
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.Specify_other_challenge_livestock
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.Aquaculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.main_porpose_Aquaculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.indique_o_tipo_de_peixe_produzido
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.que_unidade_usa_para_medir_a_produo_de_pei:
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.que_quantidade_de_peixe_no_ltima_poca
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.qual_foi_o_preo_practicado_para_a_venda
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quantos_dias_por_semana_voc_trabalhou_para_:
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quantas_horas_por_dia_voc_trabalhou_para_p:
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.onde_vendeu_os_seus_produtos
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.como_determina_os_preos_de_venda_de_seus_pr:
##   Length:112
##   Class :character
```

```
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.copy-1-of-especificar
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.voc_recebeu_ajuda_de_outros_membros_da_fam
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quantos_membros_da_famlia_ajudaram_voc_se_
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.em_mdia_quantos_dias_por_semana_eles_ajuda
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.em_mdia_quantas_horas_por_dia_eles_ajudara
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.voc_contratou_mo_de_obra_permanente
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quantos_trabalhadores_sazonais_voc_contrato
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.em_mdia_por_quantos_dias_por_semana_voc_os_
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.em_mdia_quantas_horas_por_dia_eles_trabalha
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quais_so_os_insumos_que_usa_para_a_produo_
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.copy-2-of-especificar
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.quais_so_os_principais_desafios_que_enfren
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.especificar
##   Length:112
##   Class :character
##   Mode   :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.Challenges_Aquaculture
```

```
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.Specify_other_challenges_Aquaculture
##   Length:112
##   Class :character
##   Mode  :character
##   form.seco_vi_papel_na_tomada_de_decises_no_lar_em_relao__produo_e_renda.seco_vi_papel_na_tomada_de_d
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.warnings_weather_or_nature-related_issues
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.de_que_fonte_recebe_avisos_antecipados_sobre_o_clima_ou_pro
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.Specify
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.A_place_to_store_your_harvest
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.onde_guarda_a_sua_colheita
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.Specify_storage
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.what_else_do_you_do_to_support_your_family
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.Specify_other_source_income
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.in_case_of_production_losses
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.assess_ability_to_cope_with_shocks_livelihood
##   Length:112
##   Class :character
##   Mode  :character
##   form.Section_VII_ResilienceShocks_group.especificarundefined
##   Length:112
##   Class :character
```

```
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.conservation_practices_implementated
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.Specify_ConservationPractises
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.How_long_implementing_conservation_practices
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.participate_in_projects_help_protect_your_plantation
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.quais_prticas_de_conservao_oa_senhora_implementa_na_s
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-1-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-2-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-3-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-4-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-5-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.copy-6-of-em_quantos_hectares_voc_implementa
## Length:112
## Class :character
## Mode  :character
## form.Section_VIII_Conservation_Practises_group.selecione_adequadas_mangwana
## Length:112
## Class :character
## Mode  :character
## form.Section_I_group.name form.Section_I_group.idade form.Section_I_group.sex
```

```
##  Length:112             Length:112             Length:112
##  Class :character        Class :character        Class :character
##  Mode  :character        Mode  :character        Mode  :character
##  form.Section_I_group.povoado form.Section_I_group.client_id
##  Length:112                 Length:112
##  Class :character            Class :character
##  Mode  :character            Mode  :character
##  form.Section_I_group.telefone
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_IV_ProductionAreas.Section_IV_I_DroughtSeason.selected_crops_count
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_IV_ProductionAreas.Section_IV_I_ChuvaSeason.selected_crops_count_chuva
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_IV_ProductionAreas.Section_IV_III_Silviculture.selected_silviculture_practices_count
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_IV_ProductionAreas.Section_IV_IV_Livestock.selected_animais
##  Length:112
##  Class :character
##  Mode  :character
##  form.Section_IV_ProductionAreas.Section_IV_V_FishFarming.selected_piscicultura
##  Length:112
##  Class :character
##  Mode  :character
##  form.seco_vi_papel_na_tomada_de_decises_no_lar_em_relao__produo_e_renda.seco_vi_papel_na_tomada_de_d
##  Length:112
##  Class :character
##  Mode  :character
##  form.case.@case_id completed_time     started_time        username
##  Length:112         Length:112         Length:112         Length:112
##  Class :character   Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character   Mode  :character
##  received_on        form_link          hq_user
##  Length:112         Length:112         Length:112
##  Class :character   Class :character   Class :character
##  Mode  :character   Mode  :character   Mode  :character
```

Selecting indicators of interest

A sub set of the indicators were selected depending on the goal of the calculation and the indicators needed.

Number of peeople with diverse and adequate diet

I made a separate calculation for the child and the adult.

```r
Selected_Child_indicators <- Mangwana_Baseline_Survey %>%
  select(form.Section_II_group.voc_tem_um_filho_entre_0_e_24_meses, form.Section_II_group.llquidos_formu
         form.Section_II_group.sumos_ou_sumos_em_p,`form.Section_II_group.refrescos_como_coca-cola_fanta
         form.Section_II_group.xima_ou_papas_de_milho_no_processado_mexoeira_mapira_maaroca_po_integral_
         form.Section_II_group.tomate_repolho_quiabo_beringela_ou_cogumelos, form.Section_II_group.alfac
         form.Section_II_group.ovos, form.Section_II_group.queijo, form.Section_II_group.paloni_salsicha
         form.Section_II_group.amendoim_manteiga_de_amendoim_amendoim_modo_castanhas_de_caj_ou_sementes_

  rename(have_child = form.Section_II_group.voc_tem_um_filho_entre_0_e_24_meses,
         infant_formula = form.Section_II_group.llquidos_formula_infantil,
         animal_milk = form.Section_II_group.leite_de_origem_animal_incluindo_lquido_ou_em_p,
         chocolate_milk = form.Section_II_group.achocolatado_como_milo_cremora_ou_leite_condensado,
         juices = form.Section_II_group.sumos_ou_sumos_em_p,
         soft_drinks = `form.Section_II_group.refrescos_como_coca-cola_fanta_frozy_ou_fizz_ou_bebidas_en
         plant_base_drink = form.Section_II_group.ch_caf_ou_bebidas__base_de_plantas_ou_ervas,
         soups_broth = form.Section_II_group.sopa_ou_caldo,
         yoghurt = form.Section_II_group.iogurte,
         processed_porridge = form.Section_II_group.arroz_po_massa_esparguete_xima_de_farinha_de_milho_p
         green_leafy_vegetables = form.Section_II_group.brculos_espinafres_folhas_de_moringa_folhas_de_a
         shrimp_snails = form.Section_II_group.camaro_voador_caracol_da_terra_trmita_ou_ishwa,# Flying
         unprocessed_porridge = form.Section_II_group.xima_ou_papas_de_milho_no_processado_mexoeira_map
         root_crop_porridge = form.Section_II_group.batata_batata_doce_branca_inhame_mandioca_xima_de_ma
         beans = form.Section_II_group.feijo_comum_feijo_nhemba_ervilha_feijo_boer_feijo_jugo_feijo_sor
         orange_vegetables = form.Section_II_group.cenoura_abbora_ou_batata_doce_de_polpa_alaranjada,#
         leafy_vegetables = form.Section_II_group.couve_folhas_de_abobora_folhas_de_cacana_folhas_de_ba
         tomato_cabbage_mushroom = form.Section_II_group.tomate_repolho_quiabo_beringela_ou_cogumelos,
         salad_vegetables = form.Section_II_group.alface_pepino_feijo_verde_ou_pimento_verde, # Lettuce
         yellow_fruits = form.Section_II_group.manga_madura_papaia_madura_ou_maracuj, # Ripe mango, rip
         citrus = form.Section_II_group.laranja_ou_tangerinas,
         long_cycle_fruits = form.Section_II_group.bananas_melancia_abacate_lichia_caju_anans_ou_malamb
         apples = form.Section_II_group.ma_pra_goiaba_massala_ata_mapfilo_tintsiva_ou_mafurra, # Apple,
         cakes = form.Section_II_group.bolos_bolinhos_bolachas_doces_argolas_fritas_bolas_de_berlim_ou_
         eggs = form.Section_II_group.ovos,
         cheese = form.Section_II_group.queijo,
         sausages = form.Section_II_group.paloni_salsichas_ou_enchidos_como_chourio_linguia_rachel_russ
         meat = form.Section_II_group.carne_de_vaca_carne_de_cabrito_carne_de_ovelha_gazela_ou_bufalo,
         pork_rabbit = form.Section_II_group.carne_de_porco_carne_de_ratazana_ou_coelho, # Pork, rat or
         poultry = form.Section_II_group.galinha_pato_peru_codorniz_ou_passarinhos, # Chicken, duck, tu
         fish = form.Section_II_group.peixe_fresco_ou_seco_camaro_fresco_ou_seco_caranguejo_lulas_ou_ame
         nuts = form.Section_II_group.amendoim_manteiga_de_amendoim_amendoim_modo_castanhas_de_caj_ou_se
         popcorns = form.Section_II_group.chips_pipocas_de_pacote_ou_niknaks, # Chips, popcorn or NikNa
         instant_pasta = form.Section_II_group.massa_instantnea,
         fries = form.Section_II_group.batatas_fritas_badjia_peixe_frito_ou_frango_frito, # Deep fried
         palm_oil = form.Section_II_group.leo_de_palma_vermelho,
         fast_foods = `form.Section_II_group.copy-1-of-leo_de_palma_vermelho`, # KFC, Debonairs Pizza,
         sweets = form.Section_II_group.chupa_chupa_ou_doces_bombom_chocolate_sorvete_ou_gelinho)  %>%

  mutate(
    across(c(have_child,infant_formula,animal_milk,chocolate_milk,juices,soft_drinks,plant_base_drink,s
             beans, orange_vegetables,leafy_vegetables,green_leafy_vegetables,tomato_cabbage_mushroom,sa
             fish,nuts,popcorns,instant_pasta,fries,palm_oil,fast_foods,sweets), ~ ifelse(. == "sim", 1
  ) %>%
```

```r
  mutate(

    mdd_w = (rowSums(tibble(processed_porridge, unprocessed_porridge, root_crop_porridge) == 1) > 0) + #
      (rowSums(tibble(beans) == 1) > 0) + # Pulses
      (rowSums(tibble(nuts) == 1) > 0) + # Nuts and seeds
      (rowSums(tibble(animal_milk, cheese, yoghurt) == 1) > 0) + # Dairy
      (rowSums(tibble(meat, sausages, pork_rabbit, poultry, fish, shrimp_snails) == 1) > 0) + # Meat, p
      (rowSums(tibble(green_leafy_vegetables, leafy_vegetables) == 1) > 0) + # Dark green leafy vegetab
      (rowSums(tibble(eggs) == 1) > 0) + # Eggs
      (rowSums(tibble(orange_vegetables, tomato_cabbage_mushroom, yellow_fruits, citrus, apples) == 1) 
      (rowSums(tibble(long_cycle_fruits) == 1) > 0),# Other fruits
    all_5 = (rowSums(tibble(processed_porridge, unprocessed_porridge, root_crop_porridge) == 1) > 0) + 
      (rowSums(tibble(green_leafy_vegetables, leafy_vegetables, orange_vegetables, tomato_cabbage_mushro
      (rowSums(tibble(yellow_fruits, citrus,long_cycle_fruits, apples) == 1) > 0) + # Fruits
      (rowSums(tibble(beans,nuts) == 1) > 0) + # Pulses, nuts and seeds
      (rowSums(tibble(animal_milk, yoghurt, eggs, cheese, sausages, meat, poultry, fish, shrimp_snails)
    ncd_protect = (rowSums(tibble(unprocessed_porridge) == 1) > 0) + # Whole grain
      (rowSums(tibble(beans) == 1) > 0) + # Pulses
      (rowSums(tibble(nuts) == 1) > 0) + # Nuts and seeds
      (rowSums(tibble(citrus) == 1) > 0) + # Citrus
      (rowSums(tibble(orange_vegetables) == 1) > 0) + # Vitamin A-rich orange vegetable
      (rowSums(tibble(green_leafy_vegetables, leafy_vegetables) == 1) > 0) + # Dark green leafy vegetab
      (rowSums(tibble(apples, yellow_fruits) == 1) > 0) + # Vitamin A-rich fruits
      (rowSums(tibble(tomato_cabbage_mushroom) == 1) > 0) + # Other vegetables
      (rowSums(tibble(long_cycle_fruits) == 1) > 0),# Other fruits
    ncd_risk = (rowSums(tibble(chocolate_milk, juices, soft_drinks) == 1) > 0) + # Represents: Soft dri
      (rowSums(tibble(cakes) == 1) > 0) + # Baked/grain-based sweets
      (rowSums(tibble(sweets) == 1) > 0) + # Other sweets
      2 * (rowSums(tibble(sausages) == 1) > 0) + # Processed meat
      (rowSums(tibble(meat, pork_rabbit) == 1) > 0) + # Unprocessed meat
      (rowSums(tibble(fries) == 1) > 0) + # Deep fried food
      (rowSums(tibble(fast_foods, instant_pasta) == 1) > 0) + # Fast food & instant noodles
      (rowSums(tibble(popcorns) == 1) > 0), # Packaged ultra-processed salty snacks

    mdd_w_binary = ifelse(mdd_w >= 5, 1,0), # Calculating binary MDD_W

    all_5_binary = ifelse(all_5 == 5, 1,0), # Calculating binary All- 5

    gdr_score = (ncd_protect - ncd_risk) + 9, # Calculating General Dietary Recommendation (GDR score)

  )
```

Selecting indicators for child's diverse and adequate diet

```r
head(Selected_Child_indicators)
```

Displaying updated data and calculation

```
## # A tibble: 6 x 45
##   have_child infant_formula animal_milk chocolate_milk juices soft_drinks
```

15

```
##          <dbl>          <dbl>        <dbl>        <dbl>  <dbl>        <dbl>
## 1            0              0            0            0      0            0
## 2            1              0            0            0      0            0
## 3            0              0            0            0      0            0
## 4            1              0            0            0      0            0
## 5            1              0            0            0      0            0
## 6            0              0            0            0      0            0
## # i 39 more variables: plant_base_drink <dbl>, soups_broth <dbl>,
## #   yoghurt <dbl>, processed_porridge <dbl>, green_leafy_vegetables <dbl>,
## #   shrimp_snails <dbl>, unprocessed_porridge <dbl>, root_crop_porridge <dbl>,
## #   beans <dbl>, orange_vegetables <dbl>, leafy_vegetables <dbl>,
## #   tomato_cabbage_mushroom <dbl>, salad_vegetables <dbl>, yellow_fruits <dbl>,
## #   citrus <dbl>, long_cycle_fruits <dbl>, apples <dbl>, cakes <dbl>,
## #   eggs <dbl>, cheese <dbl>, sausages <dbl>, meat <dbl>, ...
```

```r
  mean_mdd_w_score <- round(mean(Selected_Child_indicators$mdd_w),1) # Calculating the average MDD-W sc
  print(mean_mdd_w_score)
```

```
## [1] 1
```

```r
  mean_all_5_score <- round(mean(Selected_Child_indicators$all_5),1) # Calculating the average All 5 sc
  print(mean_all_5_score)
```

```
## [1] 0.9
```

```r
  mean_gdr_score <- round(mean(Selected_Child_indicators$gdr_score),1) # Calculating the average GDR sc
  print(mean_gdr_score)
```

```
## [1] 9.7
```

Selecting indicators to calculate adult diverse and adequate diet

Note: I did not find any adult data in the Excel file downoaded or ODataFeed. I tried answering survey questions but did not see the questions in th mobile App. Therefore questions under this section "ler___agora_gostaria_de_lhe_fazer_algumas_perguntas_de_sim_ou_no_sobre_os_al" do not appear in the survey. I confirmed it by filling a form myself. After the "KFC, Debonairs Pizza, Teka Famba, Burger House, Flaming Dogs or other places that serve pizza or burgers?" question, the survey moves to Section III.

Selecting indicators for Resilience to shocks

```r
Resilience <- Mangwana_Baseline_Survey %>%
  select(form.Section_III_group.missed_food, form.Section_III_group.Months_missed_food, form.Section_II
         form.Section_III_group.not_enough_food,form.Section_III_group.how_many_times_not_enough_food, :

  mutate(
    months_adequate_food = 12 - sapply(strsplit(ifelse(form.Section_III_group.Months_missed_food == "--
      across(c(form.Section_III_group.how_may_times_HH_not_have_enough_food, form.Section_III_group.how_
    hhs_score = form.Section_III_group.how_may_times_HH_not_have_enough_food + form.Section_III_group.ho
```

```
    hunger_scores = case_when(hhs_score <= 1 ~ "Little to no hunger in the household",
                              hhs_score <= 3 ~ "Moderate hunger in the household",
                              hhs_score <=6 ~ "Severe hunger in the household") # Classified the househ

  )

Average_months_of_adequate_food <- round(mean(Resilience$months_adequate_food),1) # Average months hous

Median_hhs_score <- median(Resilience$hhs_score) # Median value of HHS score
```

```
head(Resilience)
```

Displaying updated data and calculation

```
## # A tibble: 6 x 11
##   form.Section_III_group.missed_~1 form.Section_III_gro~2 form.Section_III_gro~3
##   <chr>                            <chr>                  <chr>
## 1 yes                              august                 yes
## 2 yes                              october                yes
## 3 yes                              september              yes
## 4 no                               ---                    no
## 5 yes                              september              yes
## 6 no                               ---                    no
## # i abbreviated names: 1: form.Section_III_group.missed_food,
## #   2: form.Section_III_group.Months_missed_food,
## #   3: form.Section_III_group.you_feared_HH_not_have_enough_food
## # i 8 more variables:
## #   form.Section_III_group.how_may_times_HH_not_have_enough_food <dbl>,
## #   form.Section_III_group.not_enough_food <chr>,
## #   form.Section_III_group.how_many_times_not_enough_food <dbl>, ...
```

```
print(Average_months_of_adequate_food)
```

```
## [1] 10.7
```

```
print(Median_hhs_score)
```

```
## [1] 0
```