Mikkabi Population CSV Export & Graphs

```
file_path <- "C:/Users/pirat/Documents/mikkabi_population_analysis/data/processed/mikkabi_population_co
output_csv <- "C:/Users/pirat/Documents/mikkabi_population_analysis/data/processed/mikkabi_population_t

roman_titles <- c("Mikkabi (Overall)","Ushi","Osaki","Ooya","Okamoto",
                  "Kamiona","Komaba","Sakume","Shimoona","Tadaki",
                  "Tsuzuki","Tsutsusaki","Tsuri","Nueshiro","Hibisawa",
                  "Hirayama","Fukunaga","Honzaka","Makaya","Mikkabi")

all_sheets <- excel_sheets(file_path)
sheets_april <- all_sheets[str_detect(all_sheets, "-04$")]

tidy_data <- data.frame()

for (sheet in sheets_april) {
  dat <- read_excel(file_path, sheet = sheet, col_names = FALSE)
  year_val <- as.character(str_sub(sheet, 1, 4))

  all_age0_4     <- as.numeric(unlist(dat[3 + 45*(0:19), 2]))
  all_age5_9     <- as.numeric(unlist(dat[9 + 45*(0:19), 2]))
  all_age10_14   <- as.numeric(unlist(dat[15 + 45*(0:19), 2]))
  all_age15_19   <- as.numeric(unlist(dat[21 + 45*(0:19), 2]))
  all_age20_24   <- as.numeric(unlist(dat[27 + 45*(0:19), 2]))
  all_age25_29   <- as.numeric(unlist(dat[33 + 45*(0:19), 2]))
  all_age30_34   <- as.numeric(unlist(dat[39 + 45*(0:19), 2]))
  all_age35_49   <- as.numeric(unlist(dat[3 + 45*(0:19), 6]))
  all_age50_54   <- as.numeric(unlist(dat[9 + 45*(0:19), 6]))
  all_age55_59   <- as.numeric(unlist(dat[15 + 45*(0:19), 6]))
  all_age60_64   <- as.numeric(unlist(dat[21 + 45*(0:19), 6]))
  all_age65_69   <- as.numeric(unlist(dat[27 + 45*(0:19), 6]))
  all_age70_74   <- as.numeric(unlist(dat[33 + 45*(0:19), 6]))
  all_age75_79   <- as.numeric(unlist(dat[39 + 45*(0:19), 6]))
  all_age80_84   <- as.numeric(unlist(dat[3 + 45*(0:19), 10]))
  all_age85_89   <- as.numeric(unlist(dat[9 + 45*(0:19), 10]))
  all_age90_94   <- as.numeric(unlist(dat[15 + 45*(0:19), 10]))
  all_age95_plus <- as.numeric(unlist(dat[21 + 45*(0:19), 10]))
  all_total      <- as.numeric(unlist(dat[44 + 45*(0:19), 10]))

  for (i in 1:20) {
    df <- data.frame(
      Year = year_val,
      Region = roman_titles[i],
      Age_0_4 = all_age0_4[i],
      Age_5_9 = all_age5_9[i],
      Age_10_14 = all_age10_14[i],
      Age_15_19 = all_age15_19[i],
      Age_20_24 = all_age20_24[i],
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      Age_25_29 = all_age25_29[i],
      Age_30_34 = all_age30_34[i],
      Age_35_49 = all_age35_49[i],
      Age_50_54 = all_age50_54[i],
      Age_55_59 = all_age55_59[i],
      Age_60_64 = all_age60_64[i],
      Age_65_69 = all_age65_69[i],
      Age_70_74 = all_age70_74[i],
      Age_75_79 = all_age75_79[i],
      Age_80_84 = all_age80_84[i],
      Age_85_89 = all_age85_89[i],
      Age_90_94 = all_age90_94[i],
      Age_95_plus = all_age95_plus[i],
      Total = all_total[i],
      stringsAsFactors = FALSE
    )
    tidy_data <- rbind(tidy_data, df)
  }
}
```

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## New names:
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## * `` -> `...16`
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## * `` -> `...18`
## * `` -> `...19`
## * `` -> `...20`
```

```
write_csv_safe(tidy_data, output_csv)
```

```
data <- read_csv(output_csv)
data$Year <- factor(data$Year, levels = sort(unique(data$Year)))

outdir <- "C:/Users/pirat/Documents/mikkabi_population_analysis/figures/population/mikkabi"
dir.create(outdir, showWarnings = FALSE, recursive = TRUE)

age3_colors <- c("Age_0_14" = "#4DAFD8", "Age_15_64" = "#13A576", "Age_65_plus" = "#0A68AF")
age1_colors <- c("Age_0_14" = "#4DAFD8", "Age_15_64" = "#13A576", "Age_65_plus" = "#0A68AF",
                 "Age_0_4" = "#895393", "Age_75_plus" = "#AF1E25")

data <- data %>%
  mutate(
    Age_0_14 = Age_0_4 + Age_5_9 + Age_10_14,
    Age_15_64 = Age_15_19 + Age_20_24 + Age_25_29 + Age_30_34 + Age_35_49 + Age_50_54 + Age_55_59 + Age
    Age_65_plus = Age_65_69 + Age_70_74 + Age_75_79 + Age_80_84 + Age_85_89 + Age_90_94 + Age_95_plus,
    Age_75_plus = Age_75_79 + Age_80_84 + Age_85_89 + Age_90_94 + Age_95_plus
  )

regions <- unique(data$Region)

for (region in regions) {
  df <- data %>% filter(Region == region)

  pdf(file.path(outdir, paste0(region, ".pdf")), width = 12, height = 9)

  df_long <- df %>%
    select(Year, Age_0_14, Age_15_64, Age_65_plus) %>%
    pivot_longer(-Year, names_to = "Group", values_to = "Population")
  df_long$Group <- factor(df_long$Group, levels = c("Age_65_plus", "Age_15_64", "Age_0_14"))

  print(ggplot(df_long, aes(x = Year, y = Population, fill = Group)) +
          geom_bar(stat = "identity") +
          scale_fill_manual(values = age3_colors) +
          labs(title = paste0(region, " - Age Group Composition"), x = "Year", y = "Population") +
          theme(axis.text.x = element_text(angle = 50, hjust = 1, size = 20, colour = 1),
                axis.text.y = element_text(size = 15, colour = 1),
                plot.title = element_text(size = 30, hjust = 0.5, colour = 1),
                axis.title = element_text(size = 25, colour = 1)))

  vars <- c("Age_0_14", "Age_15_64", "Age_65_plus", "Age_0_4", "Age_75_plus")

  for (v in vars) {
    print(ggplot(df, aes_string(x = "Year", y = v)) +
            geom_bar(stat = "identity", fill = age1_colors[v]) +
            labs(title = paste0(region, " - ", v, " Population"), x = "Year", y = "Population") +
            theme(axis.text.x = element_text(angle = 50, hjust = 1, size = 20, colour = 1),
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                  axis.text.y = element_text(size = 15, colour = 1),
                  plot.title = element_text(size = 30, hjust = 0.5, colour = 1),
                  axis.title = element_text(size = 25, colour = 1)))
  }

  dev.off()
}
```