Foodgrain Stock

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Key Points

- Total foodgrain stocks peaked at 100.5 lakh tonnes (Feb 2025), driven by unmilled paddy (50.1 lakh tonnes).

- Wheat stocks fluctuated significantly, dropping to 7.5 lakh tonnes (Apr 2024) and rising to 34 lakh tonnes (Feb 2025).

- Rice stocks steadily increased from 21.1 lakh tonnes (Mar 2023) to 34 lakh tonnes (Feb 2025).

Let's visualized the data

Load necessary packages

```
library(data.table)
library(ggplot2)
library(tidyverse)
library(tidyr)
library(scales)
library(ggforce)
library(gt)
```

Read the data and cleaning

```
fread("~/stocks/stocksall.csv", sep = ",", header = T)->stocksall
unique(stocksall)->stocksall
fread("~/stocks/pdsold.csv", sep = ",", header = T)->oldstocks
oldstocks[,coarsegrains := stocks_total-stocks_rice-stocks_wheat]
melt(stocksall,id = c("Year", "Commodity"))->t
```

```r
as.Date(paste(01, t$variable, t$Year, sep = "-"), "%d-%b-%Y")->t$Date
factor(t$Commodity, levels = c("Rice", "Wheat",
                              "Unmilled Paddy",
                              "Coarsegrain", "Total"))->t$Commodity
separate(oldstocks, col = Year, sep = "-", into = c("v1", "year"))->oldstocks
as.Date(paste("01", "04", oldstocks$year, sep = "-"), "%d-%m-%y")->oldstocks$Date
setDT(oldstocks)
oldstocks[Date<as.Date("01-01-2003", format="%d-%m-%Y")
          ,.(Date, Rice = stocks_rice, Wheat = stocks_wheat,
             Coarsegrain = coarsegrains)]->oldstocks
melt(oldstocks, id = "Date")->t1
t1$value * 10->t1$value
names(t1)[names(t1) == "variable"]<-"Commodity"
t[Commodity != "Total",.(Date, Commodity, value)]->t
t[!is.na(value)]->t
t1[!is.na(value)]->t1
rbind(t, t1)->t1
as.numeric(t1$value)/10->t1$value
t1[!is.na(value)]->t1
t1[,.(Commodity, value = cumsum(value)),.(Date)]->t1
factor(t1$Commodity, levels = rev(c("Rice", "Wheat",
                                    "Unmilled Paddy",
                                    "Coarsegrain")))->t1$Commodity
t1[order(Commodity, Date)]->t1
```

Custom theme for plots

```r
my_theme <- theme_bw(base_size = 16) +  ## Start with theme_bw and increase base size
    theme(text = element_text(family = "serif", color = "#333333"), ## Set font family and c
          plot.title = element_text(size = 20, face = "bold",
                                    hjust = 0.5, margin = margin(10, 0, 10, 0)), ## Center a
          axis.title = element_text(size = 18),
          axis.text = element_text(size = 14),
          legend.position = "bottom",
          legend.title = element_blank(),  ## Remove legend title
          panel.grid.major = element_line(color = "#EEEEEE"), ## Lighter grid lines
          panel.border = element_blank(), ## Remove panel border
          axis.line = element_line(color = "#333333"), ## Add axis lines
          axis.text.x = element_text(angle = 90, vjust = 0.5, hjust=1),
          strip.background = element_rect(fill = "#F2F2F2", color = NA) ## Style facet strip
          )
```

Visualization

```
ggplot(t1, aes(x = Date, ymax = value, ymin = 0)) +
    geom_ribbon(aes(fill = Commodity)) +
    scale_y_continuous("Million tonnes") +
    scale_x_date(date_breaks = "1 year",
                 date_labels = "%Y") +
    my_theme +
    ggtitle(paste0("Foodgrain Stocks",
                   " ", "1972", "-", max(year(t1$Date)))) +
    facet_zoom(xlim = c(as.Date("2018-01-01"), as.Date(max(t1$Date))))->p
p
```
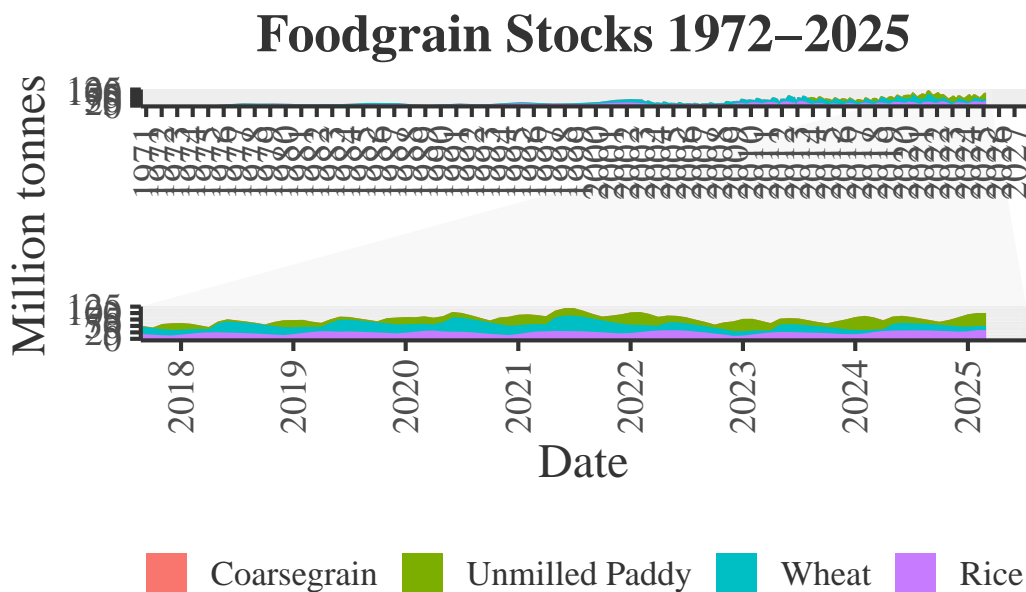
Foodgrain Stocks 1972–2025

Table of Last 24 Months Foodgrain Stocks

```
melt(stocksall, id = c("Year", "Commodity"))->t
paste(01, t$variable, t$Year, sep = "-")->t$Date
as.Date(t$Date, "%d-%b-%Y")->t$Date
t[!is.na(value)]->t
as.numeric(t$value)/10->t$value
factor(t$Commodity, levels = c("Wheat", "Rice",
                               "Unmilled Paddy",
                               "Coarsegrain", "Total"))->t$Commodity
```

Date	Wheat	Rice	Unmilled Paddy	Coarsegrain	Total
Apr-2023	8.3	24.9	27.6	0.4	61.3
May-2023	29.0	26.5	22.7	0.5	78.7
Jun-2023	31.4	26.2	22.7	0.4	80.7
Jul-2023	30.1	25.3	23.3	0.4	79.2
Aug-2023	28.0	24.3	19.6	0.4	72.3
Sep-2023	26.0	23.3	16.1	0.3	65.7
Oct-2023	24.0	22.2	13.8	0.2	60.3
Nov-2023	21.9	20.0	26.3	0.2	68.4
Dec-2023	19.2	18.4	37.6	0.2	75.4
Jan-2024	16.4	18.2	50.0	0.2	84.7
Feb-2024	13.3	21.0	54.7	0.4	89.4
Mar-2024	9.7	26.3	47.3	0.4	83.7
Apr-2024	7.5	30.2	34.3	0.4	72.4
May-2024	26.0	31.9	28.3	0.5	86.7
Jun-2024	29.9	32.5	26.8	0.4	89.6
Jul-2024	28.3	32.6	23.7	0.6	85.2
Aug-2024	26.8	32.8	19.0	0.6	79.2
Sep-2024	25.1	32.3	14.8	0.4	72.6
Oct-2024	23.8	31.1	11.4	0.2	66.4
Nov-2024	22.3	29.7	21.5	0.3	73.7
Dec-2024	20.6	28.0	35.1	0.2	84.0
Jan-2025	18.4	29.1	47.6	0.2	95.3
Feb-2025	16.2	34.0	50.1	0.2	100.5
Mar-2025	16.2	34.0	50.1	0.2	100.5

```
t[Commodity != "Total",.(value, Commodity, Date)]->t
t[,.(value = sum(value),
     Commodity = "Total"), Date]->t1
rbind(t, t1)->t
t[,value := round(value, 1)]
dcast(t, Date~Commodity, sum)->t
format(t$Date, "%b-%Y")->t$Date
gt(tail(t, n = 24))
```