

L^AT_EX Style for FAO Yearbook *

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Abstract

This package provides class for typesetting FAO Yearbook

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1 Introduction

FAO UN publishes yearbooks of statistical data. This class is intended to typeset them. It was commissioned by FAO, and the copyright rests with UN.

2 User Guide

2.1 Installation

The class relies on the following software and packages installed on your system:

1. Fonts and L^AT_EX font support packages `arev` [1] and `paratype` [2].
2. `graphics` bundle [3].
3. `xcolor` package [4].
4. `fancyhdr` package [5].
5. `TikZ` and `PGF` packages [6].
6. `geometry` package [7].
7. `paralel` and `pdfcolparallel` packages [8, 9].
8. `float` and `caption` packages [10, 11].
9. `booktabs` and `longtable` packages [12, 13].
10. `lscape` package [14].
11. `xkeyval` package [15].
12. `array` package [16].
13. `multicol` package [?].
14. `hhline` package [17].

The installation of the class follows the usual practice [18] for L^AT_EX packages:

1. Run `latex` on `faoyearbook.ins`. This will produce the L^AT_EX class `faoyearbook.cls`.
2. Put the file `faoyearbook.cls` to the place where L^AT_EX can find it (see [18] or the documentation for your T_EX system).
3. Update the database of file names. Again, see [18] or the documentation for your T_EX system for the system-specific details.
4. The file `faoyearbook.pdf` provides the documentation for the package (this is the file you are probably reading now).

As an alternative to items 2 and 3 you can just put the file `faoyearbook.cls` in the working directory where your `.tex` file is.

2.1.1 Packages troubleshooting

Paratype Installing the PT sans font from package `paratype` can prove difficult. On windows, this should not make any major problem with MikTeX. On Linux on the other side, it be be advantageous to use the debian package: http://www.bilbo.dynip.com/debian/dists/woody/updates/binary-all/paratype_20110509-1_all.deb. In case a message such as:

```
!pdfTeX error: pdflatex (file ectt3583): Font ectt3583 at 600 not found
```

arises, one should (re) install the package `ec`, at best from the `cm-super` bundle available in Debian/Ubuntu repos.

Geometry Another issue that can happen is a message like:

```
! Missing number, treated as zero.
<to be read again>
      \Gm@cnth
```

This is due to an outdated version of `geometry`. Version 5.6 will work.

2.2 Invocation

To use the class, put in the preamble of your document

```
\documentclass[<options>]{faoyearbook}
```

option If the option `web` (default) is chosen, the pages of the book have the dimensions corresponding to A4 paper. However, if the option `print` is chosen, then the pages are printed on a wider area, and crop marks are added for the trimming.

option If the option `issuu` is chosen, the internal links are transformed to external in the form suitable for <http://www.issuu.com>. Note that this option probably does not make much sense unless `web` option is also chosen. However, it is still possible to select both `print` and `issuu` option if someone needs it for an obscure purpose.

`altMargins` Some regional books are printed on A4 paper with slightly different margins. These options select alternative margins—either normal or narrow. Note that these options automatically select `print` setup, and should not be combined with the `print` option.

option The option `Draft` (note the capitalization!) leads to the the large word ‘DRAFT’ printed across the pages. The standard L^AT_EX option `draft` leads to the same result, but it also makes other changes, most notably, in the behavior of the `\includegraphics` command and warnings.

`\ifprint` It is possible to query the current mode using the macro `\ifprint`, for example

```
\ifprint
  Stuff for print version
\else
  Stuff for web version
\fi
```

Any branch of this conditional may be empty, so web-only stuff can be coded as

```
\ifprint\else Web-only stuff\fi
```

`\includegraphics` There is a special facility for `\includegraphics` command to choose a file depending on the current mode of the package. Namely, if there is a file `image_print.pdf` visible by L^AT_EX, then the commands `\includegraphics{image}` or `\includegraphics{image.pdf}` selects the file `image_print.pdf`. In the case this file is not found, the file `image.pdf` is selected instead. Similarly in the web mode the file `image_web.pdf` will be selected first, and only if it does not exist, `image.pdf` is selected. This rule works also for commands `\includeLargeGraphics` and `\includeExtraLargeGraphics` described below.

Note that at this time there is no similar facility for the `\input` command.

2.3 Setting Parameters

`\faoset` Some parameters in the class can be set with the command `\faoset{<key=value>}`, for example

```
\faoset{bgcolor=blue}
```

Most of the parameters are explained below.

2.4 Fonts

`\narrowfamily` The class uses PT Sans fonts [2] for body text and Arev fonts [1] for math. It defines two additional families: Narrow and Caption, corresponding to the PT Sans Narrow and PT Sans Caption font. They can be selected by the declarations `\captionfamily` `\textcaption` `\narrowfamily` and `\captionfamily` or by the commands `\textnarrow{<text>}` and `\textcaption{<text>}` following the usual L^AT_EX conventions. Note that since PT Sans does not provide math alphabet, this choice does not change the mathematical text.

PT Sans Narrow may be useful for typesetting tables, for example,

```
\begin{tablepages}
\scriptsize\narrowfamily
\rowcolors{4}{@bgcolor!30}{@bgcolor!20}
\input{./Tables/P1.DEM_1.tex}
\end{tablepages}
```

2.5 Setting Color

`\setbgcolor` Each part of the Yearbook is typeset with its own background color. It is used as a theme in the “special sections” (see below), indicator pages, etc. The color is selected with the macro `\setbgcolor[<color>]`, where `[<color>]` can be in any form acceptable by xcolor package [4], for example

```

\setbgcolor{blue}
\setbgcolor{-green!25!blue!60}
\setbgcolor{rgb,9:red,4;green,2;yellow,1}

```

The command must be issued *before* the corresponding `\part` command.

key An alternative way is to use the key-value interface with the command
bgcolor `\faoset:`

```

\faoset{bgcolor=rgb,9:red,4;green,2;yellow,1}

```

key The key `tableheadcolor` sets the color for the headers of tables defined by H
tableheadcolor or P key (see Section 2.8). Normally it is 30% of the current `bgcolor` color, but
it can be set to any required value.

`\selectcolor` The command `\setbgcolor` by itself does not change the background color: it
is changed by the next `\part` macro. However, if by any reason you need to change
the color *before* the next `\part`, you can do it using the command `\selectcolor`,
which is similar to the `\selectfont` command of the standard L^AT_EX. In most
cases the user probably should not employ this command directly.

2.6 Setting spacing

key If necessary user can make the table of contents stretch using the parameter
tocpartskip `tocpartskip` (by default, zero), for example:

```

\faoset{tocpartskip=12pt plus 12pt}

```

Not that this command must be issued *before* `\tableofcontents`. This parameter
gives the extra space before the Part entries in the table of contents.

2.7 Sectioning

`\part` The main division of the text are `\parts`. The command `\part{<title>}` is used for
`\section` numbered parts, while the command `\part*{<title>}` is used for unnumbered parts.
`\subsection` The next division are `\sections` and `\subsections`. They are never numbered.
The style does not use `\chapters`.
`\EndPartIntro` The sections immediately following new parts are special: they are typeset in
one column on specially colored pages. The command `\EndPartIntro` switches to
the “normal” sections.
`\appendix` Some parts of the text belong to *appendices*. The usual command `\appendix`
should be issued before these parts. The parts typed after this command have
special formatting—in particular, they do not produce colored bands in the table
of contents.

2.8 (Non)Floats

Illustrative materials in L^AT_EX are usually called floats because they “float” from page to page, and T_EX processor finds the best place for them. We still use the same name, but our floats *do not* float: instead they are pinned to the place where they are defined (so “nonfloats” might be a better name for them). Normally they occur in the graphics part of the indicator pages (see Section 2.11), but the class does not produce an error if they are in any other place of the book. There are three types of floats defined by the class:

table	tabular material,
chart	plots and other charts,
map	mapped data.
minitab	mini tables.

caption Each of these kinds of material is typeset using the corresponding environment: **table**, **chart**, **minitab** or **map**. Note that the caption for each of these environments *must* precede the graphical material, for example:

```
\begin{chart}
  \centering
  \caption{Hunger Data}
  \label{chart:hunger}
  \includegraphics{hunger.pdf}
\end{chart}
```

\footnotebars The source for the graphics sometimes is put after the graphics itself. In this case the command **\footnotebars** produces a bar separating the source from the graphics, for example

```
\begin{chart}
  \centering
  \caption{Hunger Data}
  \label{chart:hunger}
  \includegraphics{hunger.pdf}
  \footnotebars
  Source: FAO, Statistics Division, WEB: \url{http://www.fao.org}
\end{chart}
```

\listoftables The standard L^AT_EX has the command **\listoftables** to produce the list of tables in the document. Our class retains this command and produces two additional commands **\listofcharts** and **\listofmaps** with the obvious meaning.

key Normally each (non)float besides long tables is set in the box with the width equal to one column of text and the height equal to the natural height of the float (including the caption). The width of the float can be changed with the key **floatwidth**:

`\faoset{floatwidth=0.5\columnwidth}`

key
fixedfloatheight For gridded floats it is useful to make the floats to have the same height to align in the adjacent columns. To achieve this effect one can set the Boolean key **fixedfloatheight**, normally **false**, to **true**:

`\faoset{fixedfloatheight=true}`

key
floatheight By default the height of the float is chosen to be 0.45 of the height of the page (two floats per column). One can override this decision by setting **floatheight** to another value, for example, to get three plots per column, one sets

`\faoset{floatheight=0.3\textheight}`

key
fixedcaptionheight For gridded floats it is useful to typeset the caption in a box of fixed height, so the graphics is aligned. When the Boolean key **fixedcaptionheight**, normally **false**, is set to **true**, the captions are typeset to fixed height, which is equal to **captionheight** (normally equal to $2\backslash\text{baselineskip}$). For example, if all captions are one line long, one can use

`\faoset{fixedcaptionheight=true, captionheight=2\baselineskip}`

2.9 Tables

tablepages Long tables at the end of sections are typeset in the special style: no headers of footers, slightly colored pages, small margins. This style is selected by the environment **tablepages**:

```
\begin{tablepages}
  TABLES
\end{tablepages}
```

key
tablebg Normally the color selected by the **tablepage** style is the same as the main color of the section. However, it can be changed by the command `\aoset` using the key **tablebg**, for example

```
\faoset{tablebg=blue!5}
\pagestyle{tablepage}
```

The rules for typesetting tables can be found in **booktabs** and **longtable** packages. Here we just remind the rules:

1. A table starts with `\toprule` and ends with `\bottomrule`. The header is separated with `\midrule`.

2. For `longtables` the commands `\endfirsthead` and `\endhead` denotes the header on the first and subsequent pages.
3. The command `\endfoot` denotes the footer repeated on every page.
4. Caption can be set on the first header. The command `\caption[]{\langle Caption \rangle}` is used on the subsequent heads.

By default the rows of a table are colored using the background color of the current part.

key `d` To typeset numerical items one should use `d` column identifier with the format `d{\langle a.b \rangle}`, where a is the number of decimal in the integer part of the number, and b is the number of decimal digitst in the fractional part. For example, a number 12.345 corresponds to `d{2.3}`. The column headers are usually *not* numerical, so one need to use `\multicolumn` entries to typeset them. The class defines several such entries:

key `H` `H` produces a centered entry.

key `P` `P` produces an entry of a given length, for example, `P{1.5cm}`

key `C` `C` produces an entry of the length corresponding to the given number of numerical columns. For example, `C{2}` corresponds to a header of two numerical columns. Each column is assumed to be of the size enough to store -99.999 .

`\hhline` Unfortunately, the command `\cmidrule` from the `booktabs` package is not working well with the colored headings: the columns that do not the rule display a white band instead. Therefore for the rules that do not span the table width `\hhline{\langle specification \rangle}` command from the `hhline` package should be used. The `\langle specification \rangle` argument of this command has many variants, but for our purposes we need only one variant: the command `-` produces a horizontal line spanning one column. The color of this line is determined by the command `\arrayrulecolor{\langle color \rangle}`, issued in the last `>\langle argument \rangle` command before the `-` specification. Therefore the command `>\arrayrulecolor{@tableheadcolor}-` produces a line of the color `@tableheadcolor`, which is seen as the absence of line. The command `>\arrayrulecolor{black}---` produces a black line spanning three columns. Thus if we have a four-column table and want a rule spanning columns 2–3, the following command should be issued:

```
\hhline{>\arrayrulecolor{@tableheadcolor}}-% Column 1, no rule
>\arrayrulecolor{black}--% Columns 2 and 3, black rule
>\arrayrulecolor{@tableheadcolor}}-% Column 4, no rule
```

The usual `*` specification may be used for repeating patterns, for example, `*{5}{-}` is equivalent to `-----`.

The vertical bar `|` specification in the `\hhline` argument means an interruption of the line. The interruption is by default a black interval, to make it the same color as the header background, use `>\arrayrulecolor{@tableheadcolor}}|`.

2.10 Large Maps

`\includeLargeGraphics`
`\includeExtraLargeGraphics`

There is a special case of very large maps that can take either three or even four columns of width. They can be typeset in a spread, when the left part takes a recto page while the right part takes a verso page of an indicator (see Section 2.11). The special commands `\includeLargeGraphics{<file>}` and `\includeExtraLargeGraphics{<file>}` are used to typeset three column and four column maps correspondingly. Since they take care to align the graphics vertically and assume the existence of a caption, they do not work outside a (non)float.

A three-column map can be included inside `indicator` (see Section 2.11) in the following way:

```
\begin{indicator}
  \begin{indicatorText}
    Text part
  \end{indicatorText}
  \begin{indicatorGraphics}
    \begin{map}
      \caption{A Caption}
      \label{map:ALargeMap}
      \includeLargeGraphics{large_map.pdf}
    \end{map}
  \end{indicatorGraphics}
\end{indicator}
```

For a four-column map we need `indicatorC`:

```
\begin{indicatorC}
  \begin{indicatorGraphics}
    \begin{map}
      \caption{A Caption}
      \label{map:AVeryLargeMap}
      \includeExtraLargeGraphics{very_large_map.pdf}
    \end{map}
  \end{indicatorGraphics}
\end{indicatorC}
```

key
`leftfraction`

Normally the commands `\includeLargeGraphics` and `\includeExtraLargeGraphics` leave 0.36 or 0.5 of the image on the left and put the rest of the image on the right. However, you can change this using the key `leftfraction`, for example, the command

```
\includeLargeGraphics[leftfraction=0.4]{large_map.pdf}
```

splits the image as 4 : 6.

`\largeGraphicsNotes`

All the material typed before `\includeLargeGraphics` is typeset before the graphics material. All the material typed after `\includeLargeGraphics` is typeset in the recto page after the right part of the graphics. However, sometimes

one need to typeset some material on the verso page after the left part of the map. The command `\largeGraphicsNotes{<material>}` should be issued before the graphics. The `{<material>}` is saved and typeset after the graphics, for example

```
\begin{map}
  \caption{Caption}
  \largeGraphicsNotes{% Material to be typeset on the left
    \begin{itemize}
      \item One
      \item Two
    \end{itemize}}
  \includeLargeGraphics{map}
  Material to be typeset on the right
\end{map}
```

graphicKey Sometimes a large map requires a small rectangular key. The environment `graphicKey` typesets its contents at the right lower corner of the map. If it contains more than an `\includegraphics` command, you need to tell T_EX the width of the corresponding box. For this you can use the optional parameter, for example

```
\begin{graphicKey}
  \includegraphics{key}
\end{graphicKey}
or
\begin{graphicKey}[4cm]
  \includegraphics{key}\\
  This is the key
\end{graphicKey}
```

Note that the key should be *outside* the `map` environment, otherwise T_EX cannot position it properly.

key Sometimes the parts of the large graphics must be slightly moved to the
leftpartoffset left or to the right. The keys `leftpartoffset` and `rightpartoffset` allow this
key manipulation, for example
rightpartoffset

```
\includeLargeGraphics[leftpartoffset=-1cm,
  rightpartoffset=1cm]{large_map.pdf}
```

The default values for `\includeLargeGraphics` are

```
leftpartoffset=-20pt, rightpartoffset=0pt
```

2.11 Indicator Pages

The main illustrative device for the book is called *indicator*. Indicator pages consist of text and illustrative material (tables, graphs, maps). The text and the illustrations are visually separated and flow independently.

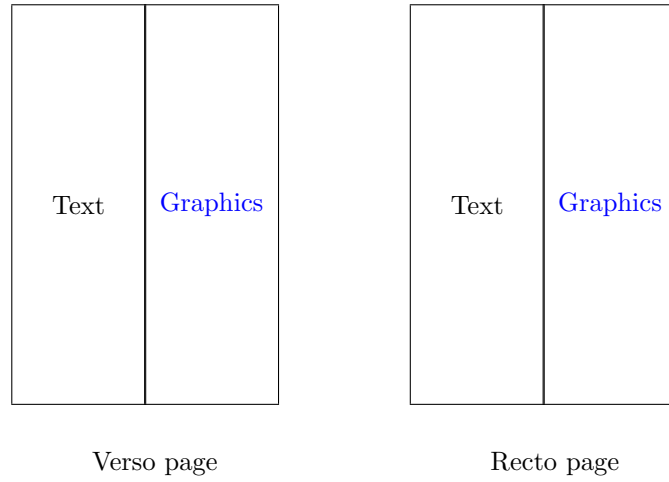


Figure 1: Indicator, Variant A

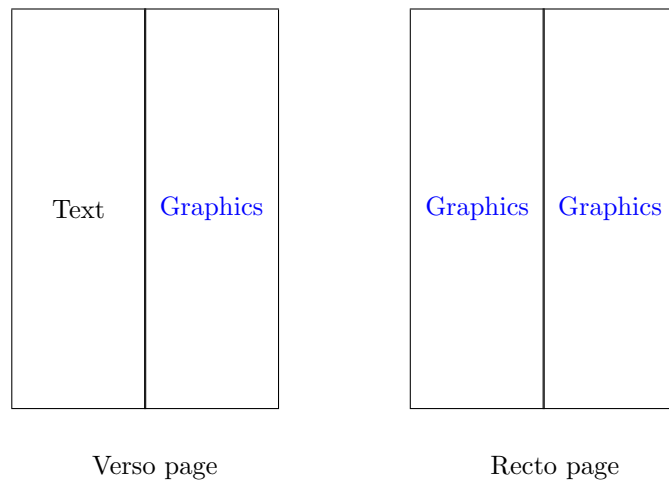


Figure 2: Indicator, Variant B₁

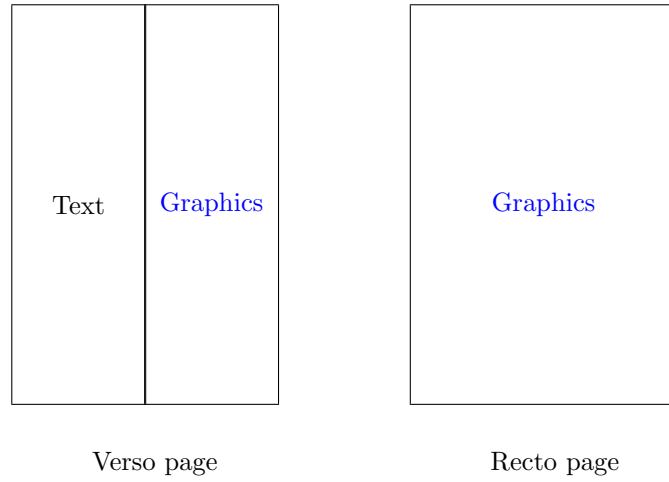


Figure 3: Indicator, Variant B₂

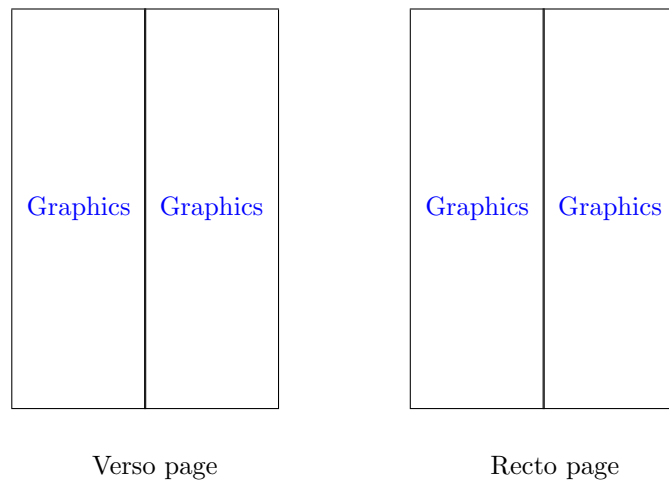


Figure 4: Indicator, Variant C₁

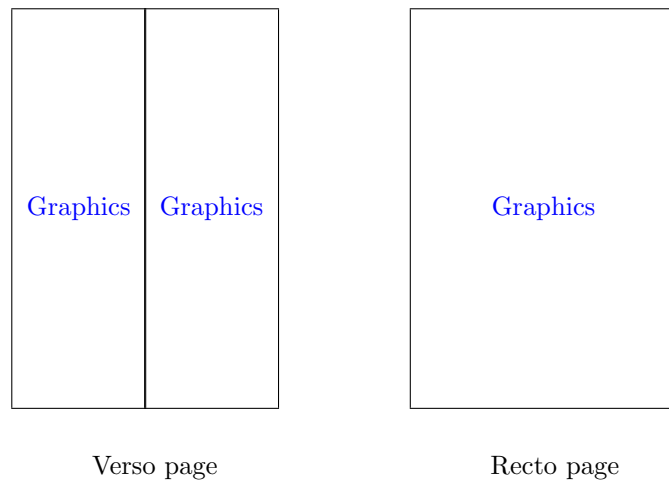


Figure 5: Indicator, Variant C₂

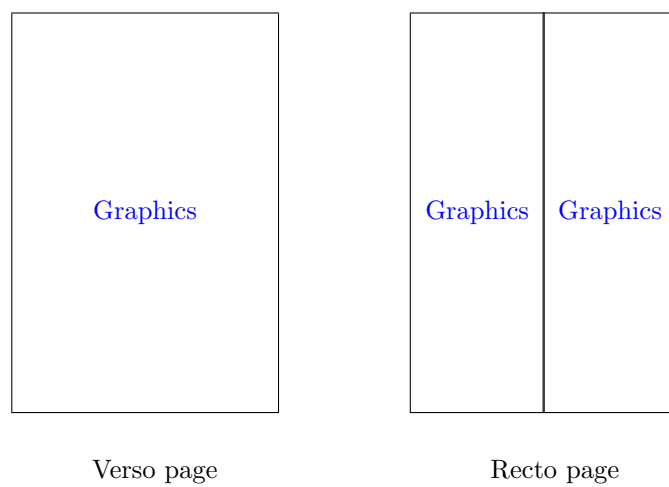


Figure 6: Indicator, Variant C₃

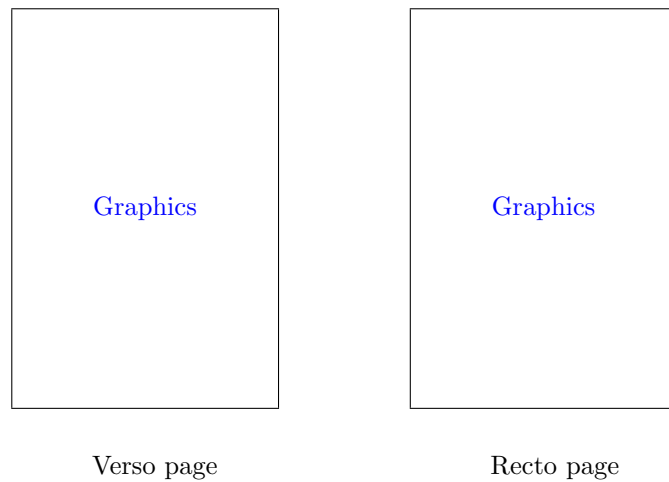


Figure 7: Indicator, Variant C₄

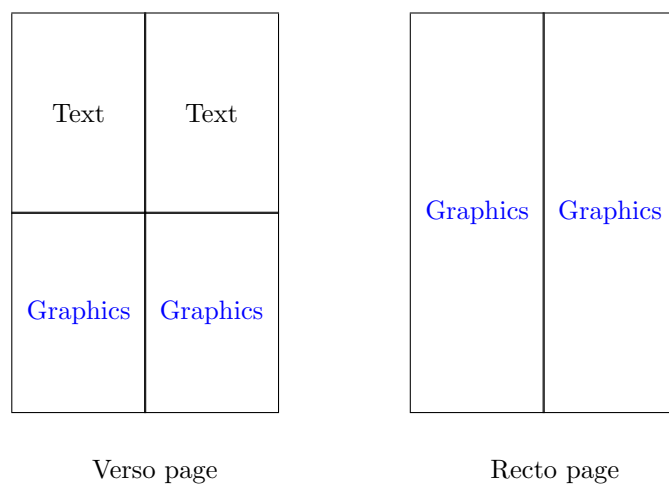


Figure 8: Indicator, Variant D₁

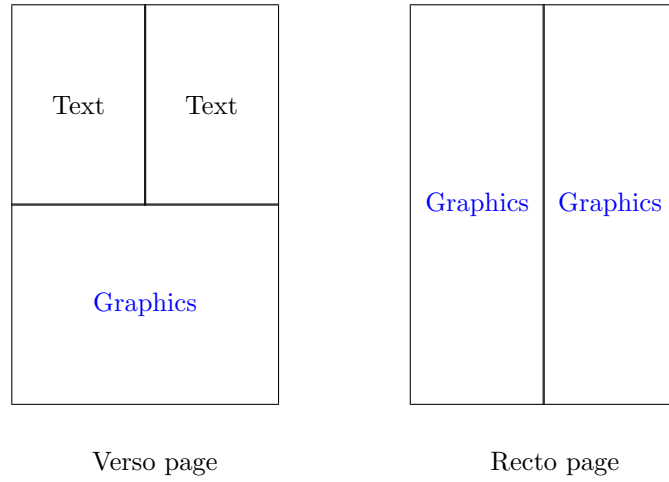


Figure 9: Indicator, Variant D₂

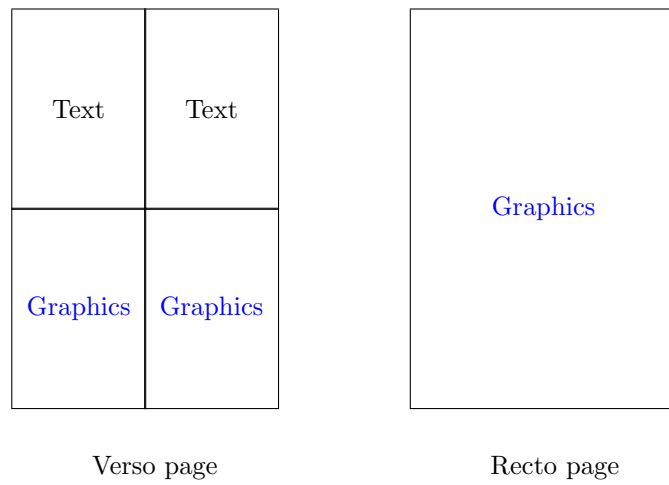


Figure 10: Indicator, Variant D₃

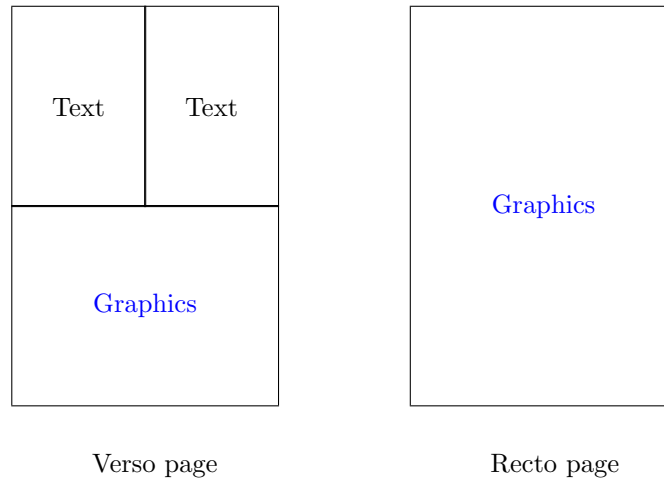


Figure 11: Indicator, Variant D₄

An indicator always starts at a verso (even-numbered) page. Most of the indicators run for a spread (even-odd pair of pages). There are several variants of indicator pages as shown on Figures 1–7. In variant A (Figure 1) there are two columns: text and graphics, running on each page of the indicator. This design continues as needed until both text and illustrations are exhausted. In variant B (Figures 2 and 3) text is present only on the first page of the indicator. The next page of the indicator have only illustrative material: either in two column mode (Figure 2) or in one column mode (Figure 3). In variant C (Figures 4–7) there is no text part at all: graphics takes all pages, either in one column or in two column mode. In variant D the verso page is divided horizontally into text part and graphics part. The graphics part on the page can have one large graphics or two smaller, as well as the the graphics part on the recto page can be one or two column wide (see Figures 8–11).

`indicatorA` The implementation of all these variants is done with the corresponding L^AT_EX environments: `indicatorA`, `indicatorB` and `indicatorC`. The switch from two column and one column layout in the *graphics* part in variants B and C is done with the usual L^AT_EX commands `\onecolumn` and `\twocolumn`. Note that these commands in the *text* part may lead to strange results. Similarly, you should not use them in any part of variant A indicator.

`indicatorText` The text and graphics parts are typeset using the environments `indicatorText` and `indicatorGraphics`. The first environment should always precede the second one; of course, there is not text part in variant C.

For example, the layout in variant A is achieved in the following way:

```
\begin{indicatorA}
  \begin{indicatorText}
```

```

    Several pages of text material
\end{indicatorText}
\begin{indicatorGraphics}
    Several pages of graphics material
\end{indicatorGraphics}
\end{indicatorA}

```

while the layout in variant B₂ is achieved in the following way:

```

\begin{indicatorB}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    First page of illustrations
    \onecolumn
    Second page of illustrations
  \end{indicatorGraphics}
\end{indicatorB}

```

and the layout in variant C₄ in the following way:

```

\begin{indicatorC}
  \begin{indicatorGraphics}
    \onecolumn
    Several pages of illustrations
  \end{indicatorGraphics}
\end{indicatorC}

```

Up to now we discussed only the indicators that occupy a spread—two consecutive pages. What happens if we have material for more than one spread? The answer is simple in variants A and C: the patterns there can continue for an unlimited number of pages. The variant B is special: we have a mixed text-graphics page, then a graphics-only page. Should the third page be graphics only or a mixed one? In our interface it can be both. Namely, if the graphics material continues for several pages, they will be graphics-only pages. However, the pair `indicatorText`-`indicatorGraphics` can be repeated, and in this case we start another spread like the ones on figures 2 and 3.

In the following example we have one mixed page and three graphics page:

```

\begin{indicatorB}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    Three pages of illustrations
  \end{indicatorGraphics}
\end{indicatorB}

```

while in the following example we have a mixed page, a page of graphics material, a mixed page and another graphics page:

```
\begin{indicatorB}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    Three columns of illustrations
  \end{indicatorGraphics}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    Three columns of illustrations
  \end{indicatorGraphics}
\end{indicatorB}
```

`indicator` Actually `indicatorB` is so important, that aliases `indicator` and `indicatorPage`
`indicatorPage` can be used for it:

```
\begin{indicator}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    Three columns of illustrations
  \end{indicatorGraphics}
  \begin{indicatorText}
    A page of text material
  \end{indicatorText}
  \begin{indicatorGraphics}
    Three columns of illustrations
  \end{indicatorGraphics}
\end{indicator}
```

It should be said that such interface decision involves a fair amount of visual formatting. The user must decide how to distribute the material between the pages. A more L^AT_EXish solution would be to let T_EX decide where to make the page breaks. It *is* possible to do, but it is more difficult and it seems that the book design envisions visual formatting anyway. Therefore we, in *beamer*-like manner, leave the distribution of material between the frames to the author.

2.12 Special Graphics Layouts

While the combination of `\onecolumn` and `\twocolumn` can produce any layout of plots, there are several predefined layouts that help to produce the most common ones. They are described in this section.

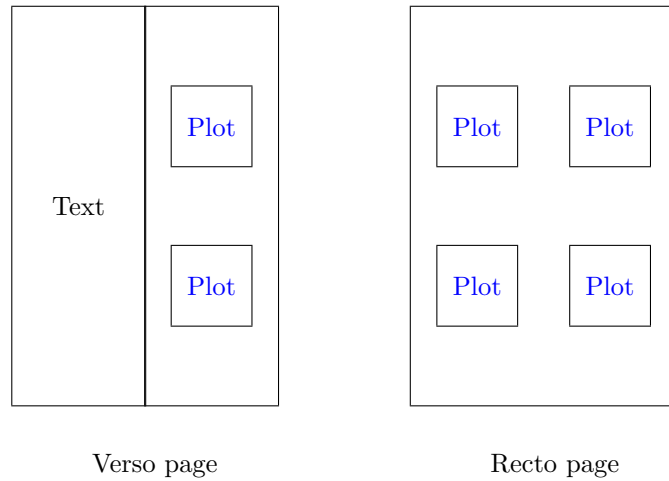


Figure 12: 2 + 4 Layout

TwoPlusFourPlots The 2+4 layout (Figure 12) combines two plots on the left page of the indicator spread and four plots on the right page:

```

\begin{indicator}
  \begin{indicatorText}
    Text Part
  \end{indicatorText}
  \begin{indicatorGraphics}
    \begin{TwoPlusFourPlots}
      \begin{chart}
        First chart
      \end{chart}
      \begin{chart}
        Second chart
      \end{chart}
      ...
      \begin{chart}
        Last chart
      \end{chart}
    \end{TwoPlusFourPlots}
  \end{indicatorGraphics}
\end{indicator}

```

TwoPlusTwoPlots Similarly **TwoPlusTwoPlots** has two one-column plots on the left and two two-column plots on the right (Figure 13).

OnePlusTwoPlots A tall plot can be accommodated in **OnePlusTwoPlots** layout (Figure 14). Last, it is possible to put three plots on a recto page as shown of Figures 15

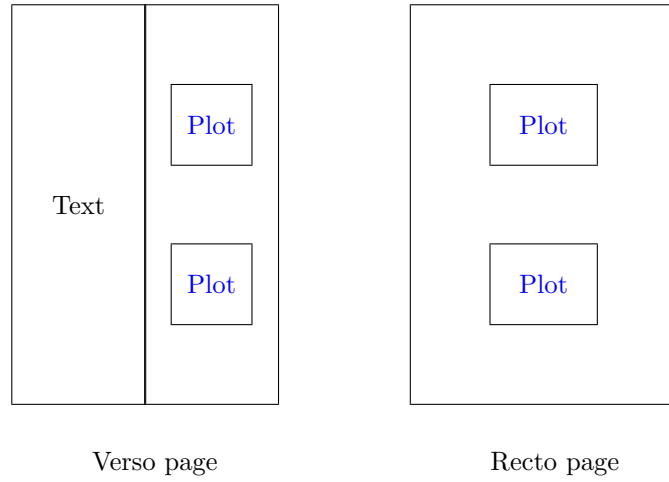


Figure 13: 2 + 2 Layout

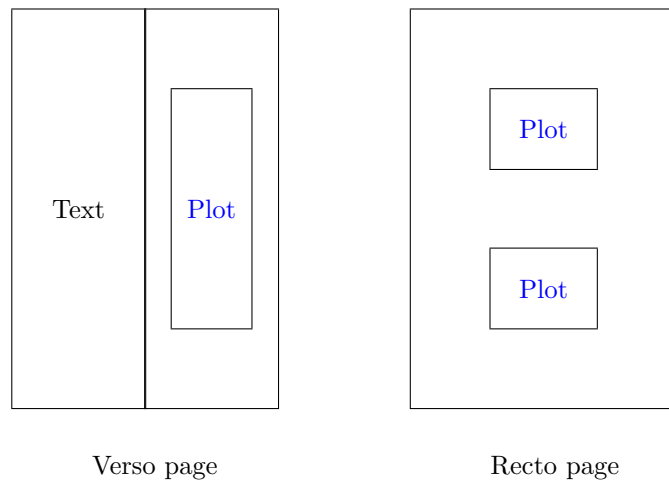


Figure 14: 1 + 2 Layout

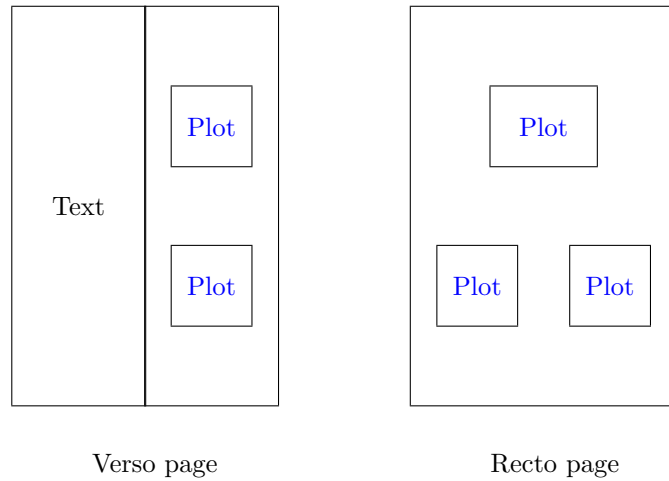


Figure 15: 2 + 3 Layout, Variant A

and 16. For this one can use `TwoPlusTwoPlots` combined with `multicols` environment as in the following example:

```
\begin{TwoPlusTwoPlots}
  \begin{chart}
    First chart on the verso page
  \end{chart}

  \begin{chart}
    Second chart on the verso page
  \end{chart}

  \begin{chart}
    First chart on the recto page
  \end{chart}

  \begin{multicols}{2}
    \begin{chart}
      Second chart on the recto page
    \end{chart}

    \begin{chart}
      Third chart on the recto page
    \end{chart}
  \end{multicols}
\end{TwoPlusTwoPlots}
```

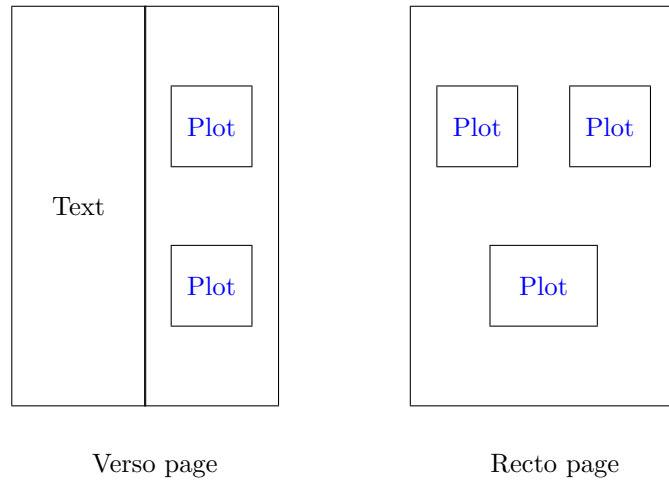


Figure 16: 2 + 3 Layout, Variant B

2.13 Publication Descriptions

publication FAO yearbook describes some FAO publications. These publications should be put inside the environment **publication**. The environment has one mandatory argument, which is the title of the publication, and one optional argument, which sets the file name of the publication cover. Note that the option argument, if present, must precede the mandatory one. If this argument is absent, no cover is included. Inside the environment the macros `\pDescription{<description>}`, `\pEdition{<year>}{<edition>}`, `\pWeb{<URL>}` and `\pCycle{<date>}` are used to typeset the corresponding items related to the publication. For example,

```

\pDescription
\pEdition
\pCycle
pWeb
\begin{publication}[./Plots/StateOfFoodAndAgriculture.png]{The State
  of Food and Agriculture}
  \pDescription{The State of Food and Agriculture, FAO's major
    annual flagship publication, aims at bringing to a wider
    audience balanced science-based assessments of important issues
    in the field of food and agriculture. Each edition of the
    report contains a comprehensive, yet easily accessible, overview
    of a selected topic of major relevance for rural and
    agricultural development and for global food security. This is
    supplemented by a synthetic overview of the current global
    agricultural situation.}
  \pEdition{2010}{Livestock in the balance}
  \pEdition{2011}{Women in Agriculture Closing the gender gap for
    development}
  \pCycle{May each year}
  \pWeb{http://www.fao.org/docrep/013/i2050e/i2050e00.htm}
\end{publication}

```

Note that, as in the example, some fields may be repeated.

key Two spacing parameters can be used for typesetting of publications:
`publicationparskip` `publicationskip` is the amount of additional space between the publications,
key while `publicationparskip` is the space between the paragraphs inside the publi-
`publicationskip` cation environment. The default values correspond to the command

```
\faoset{publicationskip=6pt plus 2pt minus 2pt,
        publicationparskip=6pt plus 6pt minus 4pt}
```

2.14 Metadata

`MetadataCollection` Each chart, map or table in the book has a *source*. Sources are collected in the
`metadata` environment `MetadataCollection`, which consists of separate `metadata` environ-
ments. Each `metadata` environment has two obligatory arguments—the name of
the source and the key. The key is used to identify the metadata in the charts,
maps, tables and other objects. The environment may include other commands.

`\source` `\source{<source>}` sets the source of the data.

`\owner` `\owner{<owner>}` sets the owner of the data.

Note that there is no “description” command because any text which is not an
argument of the commands above is considered to belong to the description of the
data.

Example of the usage of these commands:

```
\begin{MetadataCollection}
\begin{metadata}{Agricultural population}{P1.DEM.FAO.POP.AGR}

    Agricultural population is defined as all persons depending for
    their livelihood on agriculture, hunting, fishing and forestry.
    It comprises all persons economically active in agriculture as
    well as their non-working dependents. It is not necessary that
    this referred population exclusively come from rural population.

    \source{FILL ME}
    \owner{FILL ME}
\end{metadata}
\end{MetadataCollection}
```

`\refMetadata` The metadata is referenced by the command `\refMetadata{<key>}`, for example

```
\refMetadata{P1.DEM.FAO.POP.AGR}
```

This command will be typeset as

Source: Agricultural population, page NNNN.

This command must *not* occur in the caption of the chart, map or table.

Note that the package automatically provides backreferencing: all charts, maps and tables where the metadata is referenced, are mentioned in the corresponding metadata section.

key The sources of each chart, map or table can be shown in the lists of charts, `metadataInLists` tables, maps or not. The key `metadataInLists` (by default `false`) determines whether they are shown there. To make them visible, put before the lists

```
\faosetup{metadataInLists=true}
```

2.15 Concepts and Methods

`ConceptsAndMethods` The environment `ConceptsAndMethods` starts a new section “Concepts and Methods”. Concepts and methods are collected in the series of `concept` environments. Each environment has one obligatory field: the name of the concept, for example:

```
\begin{ConceptsAndMethods}
  \begin{concept}{Gross domestic product}
    Gross domestic product (GDP) is the market value of all officially
    recognized final goods and services produced within a country in a
    given period of time.
  \end{concept}
  \begin{concept}{Gross state product}
    Gross state product (GSP), or gross regional product (GRP), is a
    measurement of the economic output of a state or province (i.e.,
    of a subnational entity). It is the sum of all value added by
    industries within the state and serves as a counterpart to the
    gross domestic product (GDP).
  \end{concept}
\end{ConceptsAndMethods}
```

2.16 Further Reading

`freading` The special environment `freading` is used for the “further reading” sections of the book. It starts the text from the new page and changes some defaults.

2.17 Subscripts in Text

`\textsubscript` The standard \LaTeX defines `\textsuperscript`. The class adds a similar `\textsubscript` command.

3 Implementation

3.1 Identification

We start with the declaration who we are. Most `.dtx` files put driver code in a separate driver file `.drv`. We roll this code into the main file, and use the pseudo-guard `<gobble>` for it.

```
1 <class>\NeedsTeXFormat{LaTeX2e}
2 <*gobble>
3 \ProvidesFile{faoyearbook.dtx}
4 </gobble>
5 <class>\ProvidesClass{faoyearbook}
6 [2013/03/23 v1.11 Typesetting FAO Yearbook]
```

And the driver code:

```
7 <*gobble>
8 \documentclass{ltxdoc}
9 \usepackage{array,pict2e,graphpap,xcolor,amsmath}
10 \usepackage{url,amsfonts,hypdoc}
11 \usepackage{hyperref}
12 \PageIndex
13 \CodelineIndex
14 \RecordChanges
15 \EnableCrossrefs
16 \begin{document}
17   \DocInput{faoyearbook.dtx}
18 \end{document}
19 </gobble>
20 <*class>
```

3.2 Options

`\if@factbook` Fact book requires some special treatment, so we check whether we are actually in a factbook:

```
21 \newif\if@factbook
22 \@ifclassloaded{faofactbook}{\@factbooktrue}{\@factbookfalse}

23 \if@factbook\else
24 \PassOptionsToPackage{a4paper,twoside}{geometry}
25 \fi
```

`\faoyearbook@size@warning` The font-changing options are not used in our setup, so we just produce a warning:

```
26 \long\def\faoyearbook@size@warning#1{%
27   \ClassWarning{faoyearbook}{Size-changing option #1 will not be
28     honored}}%
29 \DeclareOption{8pt}{\faoyearbook@size@warning{\CurrentOption}}%
30 \DeclareOption{9pt}{\faoyearbook@size@warning{\CurrentOption}}%
31 \DeclareOption{10pt}{\faoyearbook@size@warning{\CurrentOption}}%
32 \DeclareOption{11pt}{\faoyearbook@size@warning{\CurrentOption}}%
33 \DeclareOption{12pt}{\faoyearbook@size@warning{\CurrentOption}}%
```

`\ifprint` We have a flag which shows whether we are in Web or print mode

```
34 \newif\ifprint
35 \printfalse
36 \DeclareOption{web}{\printfalse}
37 \DeclareOption{print}{\printtrue}
38 \if@factbook
39 \PassOptionsToPackage{papersize={12cm,21cm},layoutsize={10cm,19cm},
40 layoutoffset=1cm,layoutvoffset=1cm,twoside}{geometry}%
41 \else
42 \PassOptionsToPackage{papersize={230mm,317mm},layout=a4paper,
43 layoutoffset=1cm,layoutvoffset=1cm,twoside}{geometry}%
44 \fi}
```

`\if@altMargins` Alternative print margins

```
45 \newif\if@altMargins
46 \@altMarginsfalse
47 \DeclareOption{altMargins}{\printtrue\@altMarginstrue}
48 \PassOptionsToPackage{papersize={220mm,307mm},layout=a4paper,
49 layoutoffset=5mm,layoutvoffset=5mm,twoside}{geometry}
50 \setlength{\footskip}{10pt}}
```

`\if@altMarginsNarrow` Yet another pair of alternative print margins

```
51 \newif\if@altMarginsNarrow
52 \@altMarginsNarrowfalse
53 \DeclareOption{altMarginsNarrow}{\printtrue\@altMarginsNarrowtrue}
54 \PassOptionsToPackage{papersize={220mm,307mm},layout=a4paper,
55 layoutoffset=5mm,layoutvoffset=5mm,twoside}{geometry}
56 \setlength{\footskip}{10pt}}
```

`\ifDraft` If we are in ‘Draft’ or ‘draft mode’, we print a word ‘draft’ across the page:

```
57 \newif\ifDraft
58 \Draftfalse
59 \DeclareOption{Draft}{\Drafttrue}
60 \DeclareOption{draft}{\Drafttrue}
```

`\if@issuemode` Whether we need issuu-style links

```
61 \newif\if@issuemode
62 \@issuemodefalse
63 \DeclareOption{issuu}{\@issuumodetrue}
```

All other options are just sent to the main class:

```
64 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{report}}
65 \ProcessOptions\relax
```

3.3 Loading Class and Packages

We start with the base class and some packages

```

66 \if@factbook
67 \LoadClass[10pt,twoside,twocolumn,a4paper]{report}
68 \else
69 \LoadClass[10pt,twoside,twocolumn]{report}
70 \fi
71 \RequirePackage{graphicx,xkeyval}
72 \RequirePackage[table,cm]{xcolor}
73 \RequirePackage{tikz,geometry,dcolumn}
74 \RequirePackage{fancyhdr,pdfcolparcolumns,pdfcolparallel}
75 \RequirePackage{float,caption,lscape,longtable,siunitx,booktabs}
76 \RequirePackage{multicol,atbegshi,picture,hhline,afterpage}
77 \RequirePackage[T1]{fontenc}
78 \RequirePackage[utf8x]{inputenc}
79 \RequirePackage{pdfpages}
80 \RequirePackage[authoryear]{natbib}
81 \RequirePackage[breaklinks]{hyperref}
82 \RequirePackage{bookmark}
83 \if@issuemode
84 \RequirePackage{issuulinks}
85 \fi

```

Options for the hyperref package are set as follows:

```

86 \ifprint
87 \hypersetup{breaklinks,colorlinks=false,pdfborder=0 0 0,
88   pdfauthor={FAO},
89   pdfsubject={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
90   pdftitle={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
91   pdfkeywords={FAO, Food Security, Undernourishment, Sustainable agriculture},
92   pdfpagelayout=TwoColumnLeft,
93   pdfnewwindow=true
94 }
95 \else
96 \hypersetup{breaklinks,colorlinks=false,pdfborder=0 0 0,
97   pdfauthor={FAO},
98   pdfsubject={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
99   pdftitle={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
100  pdfkeywords={FAO, Food Security, Undernourishment, Sustainable agriculture},
101  pdfpagelayout=TwoColumnRight,
102  pdfnewwindow=true
103 }
104 \fi

```

3.4 Color

We need to tell the printer that we are using CMYK color model. The following is taken from the pdfx package (the package itself is not too easy to make work).

```

105 \def\@pctchar{\expandafter\@gobble\string\%}
106 \def\@bchar{\expandafter\@gobble\string\}
107 \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
108 \edef\OBJ@CVR{\the\pdflastobj}

```

```

109 \pdfcatalog{/OutputIntents [ <<
110   /Type/OutputIntent
111   /S/GTS_PDFX
112   /OutputCondition (FOGRA39)
113   /OutputConditionIdentifier (FOGRA39 \@bchar(ISO Coated v2
114     300\@pctchar\space \@bchar(ECI\@bchar)\@bchar))
115   /DestOutputProfile \OBJ@CVR\space 0 R
116   /RegistryName(http://www.color.org)
117 >> ]}

```

3.5 Key-Value Interface

`\faoset` We define the family `fao` for our keys:

```

118 \def\faoset#1{\setkeys{fao}{#1}}

```

3.6 Fonts

We use `arev` for mathematics:

```

119 \RequirePackage{arevmath}

```

For body text we use PT Sans:

```

120 \def\PTSans@scale{0.95}
121 \def\PTSansNarrow@scale{0.95}
122 \def\PTSansCaption@scale{0.95}
123 \renewcommand{\sfdefault}{\PTSans-TLF}
124 \renewcommand{\familydefault}{\sfdefault}
125 \renewcommand{\bfdefault}{b}

```

`\narrowfamily` We declare a new family, `\captionfamily`:

```

126 \DeclareRobustCommand\narrowfamily{\fontfamily{PTSansNarrow-TLF}\selectfont}

```

`\textnarrow` And the matching `\textnarrow` command:

```

127 \DeclareTextFontCommand{\textnarrow}{\narrowfamily}

```

`\captionfamily` Same with `\captionfamily`:

```

128 \DeclareRobustCommand\captionfamily{\fontfamily{PTSansCaption-TLF}\selectfont}

```

`\textcaption` And the matching `\textcaption` command:

```

129 \DeclareTextFontCommand{\textcaption}{\captionfamily}

```

`\normalsize` The basic size is 9.6pt:

```

130 \renewcommand\normalsize{%
131   \@setfontsize\normalsize{9.6pt}{\@xipt}%
132   \abovedisplayskip 10\p@ \@plus2\p@ \@minus5\p@
133   \abovedisplayshortskip \z@ \@plus3\p@
134   \belowdisplayshortskip 6\p@ \@plus3\p@ \@minus3\p@
135   \belowdisplayskip \abovedisplayskip
136   \let\@listi\@listI}
137 \normalsize

```

`\small` This is the small size:

```

138 \renewcommand\small{%
139   \@setfontsize\small\@ixpt{10}%
140   \abovedisplayskip 8.5\p@ \@plus3\p@ \@minus4\p@
141   \abovedisplayskipshortskip \z@ \@plus2\p@
142   \belowdisplayskipshortskip 4\p@ \@plus2\p@ \@minus2\p@
143   \def\@listi{\leftmargin\leftmargini
144             \topsep 4\p@ \@plus2\p@ \@minus2\p@
145             \parsep 2\p@ \@plus\p@ \@minus\p@
146             \itemsep \parsep}%
147   \belowdisplayskip \abovedisplayskip}

```

We use `rm` style of URL:

```

148 \urlstyle{sf}

```

3.7 Margins and Paragraphing

We use `a4paper`. Note that we want to move this definition to the beginning of the document to catch the options:

```

149 \if@factbook
150 \AtBeginDocument{%
151   \geometry{layoutsizes={10cm,19cm},
152     left=1cm,right=1cm,bottom=1cm,top=1cm,twoside}%
153   \setlength\columnsep{10pt}%
154   \savegeometry{standard}\@twosidetrue}
155 \else\if@altMargins
156 \AtBeginDocument{\geometry{layout=a4paper,
157   left=2cm,right=1.5cm,bottom=2cm,top=2cm,twoside}%
158   \setlength\columnsep{50pt}%
159   \savegeometry{standard}\@twosidetrue}
160 \else\if@altMarginsNarrow
161 \AtBeginDocument{\geometry{layout=a4paper,
162   left=1.5cm,right=1cm,bottom=2cm,top=2cm,twoside}%
163   \setlength\columnsep{50pt}%
164   \savegeometry{standard}\@twosidetrue}
165 \else
166 \AtBeginDocument{\geometry{layout=a4paper,
167   left=2cm,right=2cm,bottom=2cm,top=2cm,twoside}%
168   \setlength\columnsep{50pt}%
169   \savegeometry{standard}\@twosidetrue}
170 \fi\fi\fi

```

`\parindent` We use not indented paragraphs with paragraph borders given by skips

```

\parskip 171 \setlength\parindent\z@
172 \setlength\parskip{6\p@ plus 6\p@ minus 4\p@}

```

3.8 Cropmarks

There are several packages that provide crop marks. Unfortunately they do not work for us because they put crop marks at the background. Since we have colored pages, we want crop marks to be on the foreground.

In this section we re-implement cropmarks of the `geometry` package, putting the marks on the foreground.

We postpone the code to the beginning of the document to get the proper value of the switch

```

173 \AtBeginDocument{\ifprint
174   \AtBeginShipout{%
175     \AtBeginShipoutUpperLeftForeground{%
176       \color{black}%
177       \@tempdima=\Gm@layouthoffset
178       \@tempdimb=\Gm@layoutvoffset
179       \put(\@tempdima,-\@tempdimb+6\p@){\line(0,1){50}}%
180       \put(\@tempdima-6\p@,-\@tempdimb){\line(-1,0){50}}%
181       \advance\@tempdima by \Gm@layoutwidth
182       \put(\@tempdima,-\@tempdimb+6\p@){\line(0,1){50}}%
183       \put(\@tempdima+6\p@,-\@tempdimb){\line(1,0){50}}%
184       \advance\@tempdimb by \Gm@layoutheight
185       \put(\@tempdima,-\@tempdimb-6\p@){\line(0,-1){50}}%
186       \put(\@tempdima+6\p@,-\@tempdimb){\line(1,0){50}}%
187       \advance\@tempdima by -\Gm@layoutwidth
188       \put(\@tempdima-6\p@,-\@tempdimb){\line(-1,0){50}}%
189       \put(\@tempdima,-\@tempdimb-6\p@){\line(0,-1){50}}%
190     }}\fi}

```

In draft mode we put the word ‘DRAFT’ across the page:

```

191 \AtBeginDocument{\ifDraft
192   \AtBeginShipout{%
193     \AtBeginShipoutUpperLeftForeground{%
194       \color{black}%
195       \@tempdima=\Gm@layouthoffset
196       \@tempdimb=\Gm@layoutvoffset
197       \advance\@tempdima by 0.2\Gm@layoutwidth
198       \advance\@tempdimb by 0.7\Gm@layoutheight
199       \put(\@tempdima,-\@tempdimb){%
200         \rotatebox{45}{%
201           \fontsize{5cm}{5cm}\selectfont
202           \tikz\node[opacity=0.25,inner sep=\z@]{DRAFT};}}}\fi}

```

3.9 Page Styles

`\fao@partblobtop`
`\fao@partblobbottom`

Some pages have “part blobs”: colored blobs on the specific positions of the page. These macros set the top and the bottom of the blob corresponding to the part set in the second parameter:

```

203 \def\fao@partblobtop#1#2{\expandafter\gdef\csname fao@blobstart#1\endcsname{#2}}
204 \def\fao@partblobbottom#1#2{\expandafter\gdef\csname fao@blobend#1\endcsname{#2}}

```

`\fao@blobposition` These lengths keep the current position and length of the colored blob:

`\fao@blobheight` 205 `\newlength{\fao@blobposition}`
206 `\newlength{\fao@blobheight}`

`\fao@oddstrip` This is the strip on odd pages

207 `\def\fao@oddstrip{%`
208 `\if@altMargins`
209 `\begin{picture}(0,0)%`
210 `\put(530,-219){\raisebox{-0.717\Gm@layoutheight}{%`
211 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
212 `\end{picture}%`
213 `\else\if@altMarginsNarrow`
214 `\begin{picture}(0,0)%`
215 `\put(544,-219){\raisebox{-0.717\Gm@layoutheight}{%`
216 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
217 `\end{picture}%`
218 `\else`
219 `\begin{picture}(0,0)%`
220 `\put(530,-219){\raisebox{-0.717\Gm@layoutheight}{%`
221 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
222 `\end{picture}%`
223 `\fi\fi}`

`\fao@evenstrip` This is the strip on even pages

224 `\def\fao@evenstrip{%`
225 `\if@altMargins`
226 `\begin{picture}(0,0)%`
227 `\put(-49,-219){\raisebox{-0.717\Gm@layoutheight}{%`
228 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
229 `\end{picture}%`
230 `\else\if@altMarginsNarrow`
231 `\begin{picture}(0,0)%`
232 `\put(-35,-219){\raisebox{-0.717\Gm@layoutheight}{%`
233 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
234 `\end{picture}%`
235 `\else`
236 `\begin{picture}(0,0)%`
237 `\put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%`
238 `\color{@bgcolor}\rule{0.6cm}{1.017\Gm@layoutheight}}}%`
239 `\end{picture}%`
240 `\fi\fi}`

`standardpagestyle` The pagestyle for “normal” pages

241 `\fancypagestyle{standardpagestyle}{%`
242 `\fancyhf{}`
243 `\fancyhfoffset{z0}%`
244 `\fancyhead[L0]{\fao@oddstrip}`
245 `\fancyhead[LE]{\fao@evenstrip}%`
246 `\fancyhead[R0]{%`


```

247 \color{black}\leftmark}%
248 \fancyfoot[R0,LE]{\color{black}\thepage}%
249 \renewcommand{\headrulewidth}{\z@}%
250 \renewcommand{\footrulewidth}{\z@}

```

partpagestyle Special page style for parts:

```

251 \fancypagestyle{partpagestyle}{%
252 \fancyhf{}%
253 \fancyhfoffset{\z@}%
254 \fancyhead[L0]{%
255 \begin{picture}(0,0)%
256 \put(-216,-174){\raisebox{-0.717\Gm@layoutheight}{%
257 \color{@bgcolor!10}\rule{0.295\Gm@layoutwidth}{1.017\Gm@layoutheight}}%
258 \color{@bgcolor!7}\rule{0.728\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
259 \end{picture}}%
260 \fancyhead[LE]{%
261 \begin{picture}(0,0)%
262 \put(-63,-174){\raisebox{-0.717\Gm@layoutheight}{%
263 \color{@bgcolor!7}\rule{0.728\Gm@layoutwidth}{1.017\Gm@layoutheight}}%
264 \color{@bgcolor!10}\rule{0.295\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
265 \end{picture}}
266 \renewcommand{\headrulewidth}{\z@}%
267 \renewcommand{\footrulewidth}{\z@}

```

indicatorfirstpagestyle The style for the first indicator page (or all pages for indicatorA):

```

268 \fancypagestyle{indicatorfirstpagestyle}{%
269 \fancyhf{}%
270 \if@altMargins
271 \fancyhead[LE]{%
272 \begin{picture}(0,0)
273 \put(-105,-219){\raisebox{-0.717\Gm@layoutheight}{%
274 \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}}%
275 \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
276 \end{picture}\fao@evenstrip}%
277 \fancyhead[L0]{%
278 \begin{picture}(0,0)
279 \put(-63,75){\raisebox{-0.717\Gm@layoutheight}{%
280 \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}}%
281 \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
282 \end{picture}\fao@oddstrip}%
283 \else\if@altMarginsNarrow
284 \fancyhead[LE]{%
285 \begin{picture}(0,0)
286 \put(-91,-219){\raisebox{-0.717\Gm@layoutheight}{%
287 \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}}%
288 \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
289 \end{picture}\fao@evenstrip}%
290 \fancyhead[L0]{%
291 \begin{picture}(0,0)
292 \put(-63,75){\raisebox{-0.717\Gm@layoutheight}{%

```

```

293         \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}%
294         \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
295     \end{picture}\fao@oddstrip}%
296 \else
297 \fancyhead[LE]{%
298     \begin{picture}(0,0)
299     \put(-120,-219){\raisebox{-0.717\Gm@layoutheight}{%
300         \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}%
301         \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
302     \end{picture}\fao@evenstrip}%
303 \fancyhead[LO]{%
304     \begin{picture}(0,0)
305     \put(-63,75){\raisebox{-0.717\Gm@layoutheight}{%
306         \color{white}\rule{0.6\Gm@layoutwidth}{1.017\Gm@layoutheight}%
307         \color{@bgcolor!7}\rule{0.515\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
308     \end{picture}\fao@oddstrip}%
309 \fi\fi
310 \fancyhead[RO]{\color{black}\leftmark}%
311 \renewcommand{\headrulewidth}{\z@}%
312 \renewcommand{\footrulewidth}{\z@}%
313 \fancyfoot[RO]{\color{black}\thepage}%
314 \fancyfoot[LE]{\color{black}\thepage}}

```

indicatorpagestyle The style for the indicator pages:

```

315 \fancypagestyle{indicatorpagestyle}{%
316     \fancyhf{}%
317     \fancyhfoffset{\z@}
318     \if@altMargins
319         \fancyhead[LE]{%
320             \begin{picture}(0,0)%
321             \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
322                 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
323             \end{picture}\fao@evenstrip}%
324         \fancyhead[LO]{%
325             \begin{picture}(0,0)%
326             \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
327                 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
328             \end{picture}\fao@oddstrip}%
329         \else\if@altMarginsNarrow
330             \fancyhead[LE]{%
331                 \begin{picture}(0,0)%
332                 \put(-49,-219){\raisebox{-0.717\Gm@layoutheight}{%
333                     \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
334                 \end{picture}\fao@evenstrip}%
335             \fancyhead[LO]{%
336                 \begin{picture}(0,0)%
337                 \put(-49,-219){\raisebox{-0.717\Gm@layoutheight}{%
338                     \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
339                 \end{picture}\fao@oddstrip}%
340             \else

```

```

341 \fancyhead[LE]{%
342 \begin{picture}(0,0)%
343 \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
344 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
345 \end{picture}\fao@evenstrip}%
346 \fancyhead[LO]{%
347 \begin{picture}(0,0)%
348 \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
349 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
350 \end{picture}\fao@oddstrip}%
351 \fi\fi
352 \fancyhead[RO]{\color{black}\leftmark}%
353 \renewcommand{\headrulewidth}{\z@}%
354 \renewcommand{\footrulewidth}{\z@}%
355 \fancyfoot[RO,LE]{\color{black}\thepage}}

```

indicatorDpagestyle This is the style for the first page of indicatorD. The page is divided vertically instead of horizontally.

```

356 \fancypagestyle{indicatorDpagestyle}{%
357 \fancyhf{}%
358 \fancyhfoffset{\z@}
359 \if@altMargins
360 \fancyhead[LE]{%
361 \begin{picture}(0,0)%
362 \put(-49,-219){\raisebox{-0.717\Gm@layoutheight}{%
363 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
364 \end{picture}\fao@evenstrip}%
365 \fancyhead[LO]{%
366 \begin{picture}(0,0)%
367 \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
368 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
369 \end{picture}\fao@oddstrip}%
370 \else\if@altMarginsNarrow
371 \fancyhead[LE]{%
372 \begin{picture}(0,0)%
373 \put(-35,-219){\raisebox{-0.717\Gm@layoutheight}{%
374 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
375 \end{picture}\fao@evenstrip}%
376 \fancyhead[LO]{%
377 \begin{picture}(0,0)%
378 \put(-49,-219){\raisebox{-0.717\Gm@layoutheight}{%
379 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
380 \end{picture}\fao@oddstrip}%
381 \else
382 \fancyhead[LE]{%
383 \begin{picture}(0,0)%
384 \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
385 \color{@bgcolor!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
386 \end{picture}\fao@evenstrip}%
387 \fancyhead[LO]{%

```

```

388     \begin{picture}(0,0)%
389         \put(-63,-219){\raisebox{-0.717\Gm@layoutheight}{%
390             \color{!7}\rule{1.02\Gm@layoutwidth}{0.5\Gm@layoutheight}}}%
391     \end{picture}\fao@oddstrip}%
392 \fi\fi
393 \fancyhead[R0]{\color{black}\leftmark}%
394 \renewcommand{\headrulewidth}{\z@}%
395 \renewcommand{\footrulewidth}{\z@}%
396 \fancyfoot[R0]{\color{black}\thepage}%
397 \fancyfoot[LE]{\color{black}\thepage}}

```

tablepage Pages for tables

```

398 \fancypagestyle{tablepage}{%
399     \fancyhf{}%
400     \fancyhfoffset{\z@}
401     \if@altMargins
402     \fancyhead[LE]{%
403         \begin{picture}(0,0)%
404             \put(-48,-255){\raisebox{-0.717\Gm@layoutheight}{%
405                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
406         \end{picture}}%
407     \fancyhead[LO]{%
408         \begin{picture}(0,0)%
409             \put(-62,-255){\raisebox{-0.717\Gm@layoutheight}{%
410                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
411         \end{picture}}%
412     \else\if@altMarginsNarrow
413     \fancyhead[LE]{%
414         \begin{picture}(0,0)%
415             \put(-34,-255){\raisebox{-0.717\Gm@layoutheight}{%
416                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
417         \end{picture}}%
418     \fancyhead[LO]{%
419         \begin{picture}(0,0)%
420             \put(-48,-255){\raisebox{-0.717\Gm@layoutheight}{%
421                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
422         \end{picture}}%
423     \else
424     \fancyhead[LE]{%
425         \begin{picture}(0,0)%
426             \put(-20,-260){\raisebox{-0.717\Gm@layoutheight}{%
427                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
428         \end{picture}}%
429     \fancyhead[LO]{%
430         \begin{picture}(0,0)%
431             \put(-20,-260){\raisebox{-0.717\Gm@layoutheight}{%
432                 \color{!10}\rule{1.02\Gm@layoutwidth}{1.017\Gm@layoutheight}}}%
433         \end{picture}}%
434     \setlength{\footskip}{15pt}%
435 \fi\fi

```

```

436 \renewcommand{\headrulewidth}{\z@}%
437 \renewcommand{\footrulewidth}{\z@}%
438 \fancyfoot [R0,LE]{\thepage}}

```

`conceptspagestyle` The pagestyle for “concept” pages

```

439 \fancypagestyle{conceptpagestyle}{%
440   \fancyhf{}%
441   \fancyhfoffset{\z@}%
442   \fancyhead [LE]{\color{black}}%
443   \fancyhead [R0]{%
444     \color{black}\leftmark}%
445   \fancyfoot [R0,LE]{\color{black}\thepage}%
446   \renewcommand{\headrulewidth}{\z@}%
447   \renewcommand{\footrulewidth}{\z@}}

```

3.10 Sectioning

`\if@mainmatter` This is used to check whether we are at main matter

```

448 \newif\if@mainmatter

```

`\frontmatter` We want Roman numbers for front matter:

```

449 \def\frontmatter{\cleardoublepage
450   \pagenumbering{roman}\onecolumn\@mainmatterfalse}

```

`\mainmatter` We want Arabic numbers for main matter:

```

451 \def\mainmatter{\cleardoublepage\pagenumbering{arabic}\twocolumn
452   \@mainmattertrue}

```

`\tocdepth` Only sections and up are allowed in TOC:

```

453 \setcounter{tocdepth}{1}

```

`\secnumdepth` Only the parts are numbered in our setup:

```

454 \setcounter{secnumdepth}{-1}

```

`\thepart` And the parts are numbered using Arabic numbers:

```

455 \renewcommand \thepart {\@arabic\c@part}

```

`\c@fao@partnum` To draw the blobs in part color in the proper position, we need to associate them with parts. However, some parts are numbered, some are not. The macro `\fao@partnum` keeps the current part number counted continuously from the beginning to end.

```

456 \newcounter{fao@partnum}
457 \setcounter{fao@partnum}{0}

```

`\fao@currentpartnum` The current value of `\fao@partnum` used in TOC:

```

458 \def\fao@currentpartnum{0}

```

`\part` This is basically the same as in [19], with the change that we want to use our own page style. it.

```

459 \renewcommand\part{%
460   \cleardoublepage
461   \addtocontents{toc}{\string\colorlet{@bgcolor}[cmyk]{\fao@color@string}}%
462   \stepcounter{fao@partnum}%

```

Now we set `\fao@blobposition` and `\fao@blobheight` to the correct values—if defined

```

463   \expandafter\ifx\csname fao@blobstart\thefao@partnum\endcsname\relax
464     \setlength{\fao@blobposition}{-100em}%
465   \else
466     \setlength{\fao@blobposition}{\csname
467       fao@blobstart\thefao@partnum\endcsname}%
468   \fi
469   \typeout{DEBUG: position \the\fao@blobposition}%
470   \setlength{\fao@blobheight}{-\fao@blobposition}%
471   \expandafter\ifx\csname fao@blobend\thefao@partnum\endcsname\relax
472     \setlength{\fao@blobheight}{0em}%
473   \else
474     \addtolength{\fao@blobheight}{\csname
475       fao@blobend\thefao@partnum\endcsname}%
476   \fi
477   \typeout{DEBUG: height \the\fao@blobheight}%
478   \addtocontents{toc}{%
479     \string\gdef\string\fao@currentpartnum{\thefao@partnum}}%
480   \ifprint
481     \if@altMargins
482       \newgeometry{layout=a4paper,left=0.5\textwidth,right=2cm,
483         layoutoffset=5mm,layoutvoffset=5mm}%
484     \else\if@altMarginsNarrow
485       \newgeometry{layout=a4paper,left=0.5\textwidth,right=2cm,
486         layoutoffset=5mm,layoutvoffset=5mm}%
487     \else
488       \newgeometry{layout=a4paper,left=0.5\textwidth,right=2cm,
489         layoutoffset=1cm,layoutvoffset=1cm}%
490     \fi\fi
491   \else
492     \newgeometry{layout=a4paper,left=0.5\textwidth,right=2cm}%
493   \fi
494   \selectcolor
495   \rowcolors{2}{@bgcolor!10}{}%
496   \pagestyle{partpagestyle}%
497   \if@twocolumn
498     \onecolumn
499   \fi
500   \secdef\@part\@spart}

```

`\@part` This is the actual part making macro.

```

501 \def\@part[#1]#2{%

```

```

502 \refstepcounter{part}%
503 \addcontentsline{toc}{part}{\thepart\hspace{1em}#1}%
504 \markboth{\MakeUppercase{#1}}{\MakeUppercase{\partname}~\thepart}%
505 {\interlinepenalty \@M
506 \normalfont\null\hspace{-70mm}%
507 \fontsize{24\p@}{32\p@}\selectfont \bfseries
508 \raisebox{25\p@}{\color{@bgcolor!70}\MakeUppercase{\partname}}}%
509 \hspace{35\p@}%
510 \raisebox{-180\p@}{\fontsize{250\p@}{200\p@}\selectfont \bfseries
511 \color{@bgcolor}\begin{tikzpicture}%
512 \node[opacity=0.25,inner sep=\z@]{\thepart};%
513 \end{tikzpicture}}}%
514 \parbox[t]{0.8\textwidth}{\raggedright
515 \color{@bgcolor}#2}\par}\vspace{100\p@}\bgroup
516 \large}

```

`\@spart` This produces *unnumbered* parts:

```

517 \def\@spart#1{%
518 \phantomsection
519 \addcontentsline{toc}{spart}{#1}%
520 \markboth{#1}{#1}%
521 {\interlinepenalty \@M
522 \normalfont\null\hspace{-70mm}%
523 \fontsize{24\p@}{32\p@}\selectfont \bfseries
524 \raisebox{25\p@}{\color{@bgcolor!70}\phantom{\MakeUppercase{\partname}}}%
525 \hspace{35\p@}%
526 \raisebox{-180\p@}{\fontsize{250\p@}{200\p@}\selectfont \bfseries
527 \color{@bgcolor!20}\begin{tikzpicture}%
528 \node[opacity=0.25,inner sep=\z@]{\phantom{\thepart}};%
529 \end{tikzpicture}}}%
530 \parbox[t]{0.8\textwidth}{\raggedright
531 \color{@bgcolor}#1}\par}\vspace{100\p@}\bgroup
532 \large}

```

`\EndPartIntro` This command switches the special formatting of part pages back:

```

533 \def\EndPartIntro{%
534 \egroup\twocolumn
535 \pagecolor{white}\color{black}%
536 \loadgeometry{standard}%
537 \pagestyle{standardpagestyle}}

```

`\chaptermark` We use chapter mark in headers

```

538 \renewcommand{\chaptermark}[1]{\markright{#1}}

```

`\sectionmark` We do not use section info in headers:

```

539 \renewcommand{\sectionmark}[1]{}

```

`\section` We changed the standard `\section` defaults:

```

540 \renewcommand\section{\@startsection {section}{1}{\z@}%

```

```

541           {\z@ plus 6\p@}%
542           {\parskip}%
543           {\normalfont\large\bfseries}}

```

`\subsection` We changed the standard `\ubsection` defaults:

```

544 \renewcommand\subsection{\@startsection {subsection}{2}{\z@}%
545           {\z@ plus 6\p@}%
546           {\parskip}%
547           {\normalfont\large\itshape}}

```

3.11 Setting Colors

`\fao@color@string` This is the command that remembers the present color for TOC

```

548 \def\fao@color@string{0,0,0}

```

`@bgcolor@next` We store the next background color in `@bgcolor@next`. We store the next heading background in `@tableheadcolor@next`.

`\setbgcolor` The command `\setbgcolor` selects the next background color:

```

549 \def\setbgcolor#1{\colorlet{@bgcolor@next}[cmyk]{#1}%
550   \addtocontents{toc}{\string\colorlet{@bgcolor}[cmyk]{#1}}%
551   \gdef\fao@color@string{#1}}
552 \setbgcolor{red}

```

The key-value interface for the same command:

```

553 \define@key{fao}{bgcolor}{\setbgcolor{#1}}

```

And for separate setting of `@tableheadcolor`

```

554 \define@key{fao}{tableheadcolor}{\colorlet{@tableheadcolor}[cmyk]{#1}}

```

`@bgcolor` The current color is in the macro `@bgcolor`.

`@tableheadcolor@next` This command makes the actual color change:

```

\selectcolor
555 \def\selectcolor{\colorlet{@bgcolor}{@bgcolor@next}%
556   \colorlet{@tableheadcolor}{@bgcolor!30}}
557 \selectcolor

```

`@tablebg` The color for table pages

```

558 \define@key{fao}{tablebg}{\colorlet{@tablebg}[cmyk]{#1}}

```

3.12 Indicator Pages

`\indicatorText` Normally (outside of indicator) this should produce an error message:

```

559 \newenvironment{indicatorText}{\PackageError{faoyearbook}{%
560   Environment ‘indicatorText’ in a wrong place!}{%
561   This environment must be inside indicator pages.}}{}

```


`\indicatorGraphics` Normally (outside of indicator) this should produce an error message:

```

562 \newenvironment{indicatorGraphics}{\PackageError{faoyearbook}{%
563   Environment 'indicatorGraphics' in a wrong place!}{%
564   This environment must be inside indicator pages.}}{}

```

`\indicatorA` Version A. We use parallel processing. Most of the code of the here follows [8] with the patches from [9].

```

565 \def\indicatorA{%

```

First, we switch to the next recto page::

```

566 \clearpage\ifodd\c@page\hbox{}\newpage\fi

```

Next, we need to change to one column and remember whether to switch back to one column mode. We also now are ready for the new page style

```

567 \if@twocolumn
568   \onecolumn
569   \@tempswatrue
570 \else
571   \@tempswafalse
572 \fi
573 \pagestyle{indicatorfirstpagestyle}%

```

Now we switch on Parallel environment. We want to redefine the command `\ParallelParOnePage` (more on this below), so we do this inside a group to keep the change private:

```

574 \bgroup
575 \def\ParallelParOnePage{\FA0@ParallelParOnePage}%
576 \begin{Parallel}{0.45\textwidth}{0.45\textwidth}%

```

We define `\indicatorText` and `\indicatorGraphics` inside the `\indicator` so they are local to the group.

```

577 \def\indicatorText{\ParallelLText\bgroup\columnwidth=\ParallelLWidth
578   \strut}%
579 \def\endindicatorText{\egroup}
580 \def\indicatorGraphics{\ParallelRText\bgroup\strut
581   \columnwidth=\ParallelRWidth}%
582 \def\endindicatorGraphics{\egroup}}%

```

`\endindicatorA` Wrapping up

```

583 \def\endindicatorA{\end{Parallel}}\egroup

```

Switching to two column if needed:

```

584 \if@tempswa\twocolumn\else\onecolumn\fi
585 \clearpage\color{black}%
586 \global\let\default@color\current@color\normalcolor
587 \loadgeometry{standard}%
588 \pagestyle{standardpagestyle}

```

`\FA0@ParallelParOnePage` The package `parallel` tries to achieve aligned lines in two columns. The way it does it is the following: it takes one line from each column and puts them into boxes, then again and again. Which is fine, but we explicitly do *not* want this

effect, otherwise the lines in the text part look really funny. So we redefine the routine `\ParallelParOnePage` to use larger boxes. We also need the patches from `pdfcolparallel` to keep the color stack.

So we change the lines `\vsplit BOX to\dp\strutbox to\vsplit BOX to\@tempdima` where `\@tempdima` is the page height minus one baseline. We also use `\vtop` instead of `\vbox` to achieve the proper alignment.

```

589 \def\FA0@ParallelParOnePage{%
590   \ifnum\ParallelBoolVar=\@ne
591     \par
592     \begingroup
593       \leftmargin=\z@
594       \rightmargin=\z@
595       \vbadness=10000 %
596       \vfuzz=3ex %
597       \splittopskip=\z@skip
598       \@tempdima=\@colroom
599       \advance\@tempdima by -\baselineskip
600     \loop
601       \ifnum\ParallelBoolVar=\@ne
602         \noindent
603         \hbox to\textwidth{%
604           \hskip\ParallelLeftMargin
605           \hbox to\ParallelTextWidth{%
606             \ifvoid\ParallelLBox
607               \hskip\ParallelLWidth
608             \else
609               \pcp@SetCurrent{Left}%
610               \ParallelWhichBox=\z@
611               \vtop{%
612                 \setbox\ParallelBoxVar
613                   =\vsplit\ParallelLBox to\@tempdima
614                 \unvbox\ParallelBoxVar
615               }%
616             \fi
617             \ifnum\ParallelBoolMid=\@ne
618               \hskip\ParallelMainMidSkip
619             \begingroup
620               \pcp@RuleBetweenColor
621               \vrule
622             \endgroup
623             \else
624               \hss
625             \fi
626             \hss
627             \ifvoid\ParallelRBox
628               \hskip\ParallelRWidth
629             \else
630               \pcp@SetCurrent{Right}%
631               \ParallelWhichBox=\@ne

```

```

632         \vtop{%
633             \setbox\ParallelBoxVar
634             =\vsplit\ParallelRBox to\@tempdima
635             \vfill
636             \unvbox\ParallelBoxVar
637         }%
638     \fi
639 }%
640 }%
641 \ifvoid\ParallelLBox
642     \ifvoid\ParallelRBox
643         \global\ParallelBoolVar=\z@
644     \fi
645 \fi%
646 \fi%
647 \ifnum\ParallelBoolVar=\@ne
648     \penalty\interlinepenalty
649 \repeat
650 \par
651 \endgroup
652 \pcp@SetCurrent{}%
653 \fi}

```

`\indicatorB` Here we have the first page with text and graphics, but consecutive pages have graphics only. This follows `\indicatorA`:

```

654 \def\indicatorB{%
655     \clearpage\ifodd\c@page\hbox{}\clearpage\fi

```

Next, we need to change to two column and remember whether to switch back. We also now are ready for the new page style

```

656     \if@twocolumn
657         \@tempwtrue
658     \else
659         \twocolumn
660         \@tempwfalse
661     \fi
662     \pagestyle{indicatorpagestyle}%

```

Then we define `indicatorText` and `indicatorGraphics`. Note that `indicatorText` starts a spread and introduces special page style:

```

663     \bgroup
664     \def\indicatorText{\bgroup\twocolumn
665         \clearpage\ifodd\c@page\hbox{}\clearpage\fi
666         \thispagestyle{indicatorfirstpagestyle}}%
667     \def\endindicatorText{\newpage\egroup}
668     \def\indicatorGraphics{\bgroup}%
669     \def\endindicatorGraphics{\egroup}}%

```

`\endindicatorB` Wrapping up `indicatorB`:

```

670 \def\endindicatorB{\egroup\color{black}%

```

```

671 \global\let\default@color\current@color\normalcolor
672 \if@tempswa\twocolumn\else\onecolumn\fi
673 \clearpage\loadgeometry{standard}%
674 \pagestyle{standardpagestyle}}

\indicatorC This follows \indicatorB:
675 \def\indicatorC{%
676   \clearpage\ifodd\c@page\hbox{}\clearpage\fi

```

Next, we need to change to two column and remember whether to switch back.
We also now are ready for the new page style

```

677 \if@twocolumn
678   \@tempswatrue
679 \else
680   \twocolumn
681   \@tempswafalse
682 \fi
683 \pagestyle{indicatorpagestyle}%

```

Then we define indicatorText and indicatorGraphics:

```

684 \bgroup
685 \def\indicatorText{\PackageError{faoyearbook}{%
686   Bad place for indicatorText}{%
687   On indicatorC pages only graphics is allowed}}%
688 \def\endindicatorText{\newpage\egroup}
689 \def\indicatorGraphics{\bgroup}%
690 \def\endindicatorGraphics{\egroup}}%

```

\endindicatorC Wrapping up indicatorC:

```

691 \def\endindicatorC{\egroup\color{black}%
692 \global\let\default@color\current@color\normalcolor
693 \if@tempswa\twocolumn\else\onecolumn\fi
694 \clearpage\loadgeometry{standard}%
695 \pagestyle{standardpagestyle}}

```

\indicatorD This the indicator for horizontally divided graphics:

```

696 \def\indicatorD{%
697   \clearpage\ifodd\c@page\hbox{}\clearpage\fi

```

Next, we need to change to one column and remember whether to switch back.
We also now are ready for the new page style

```

698 \if@twocolumn
699   \@tempswatrue
700 \onecolumn
701 \else
702   \@tempswafalse
703 \fi
704 \thispagestyle{indicatorDpagestyle}%
705 \pagestyle{indicatorpagestyle}%
706 % Then we define |indicatorText| and |indicatorGraphics|:

```

```

707 %    \begin{macrocode}
708 \bgroup
709 \def\indicatorText{\begin{minipage}[t][0.5\textheight]{\textwidth}%
710     \begin{multicols}{2}}%
711 \def\endindicatorText{\end{multicols}\end{minipage}}
712 \def\indicatorGraphics{\bgroup}%
713 \def\endindicatorGraphics{\egroup}}%

\endindicatorD Wrapping up indicatorD:
714 \def\endindicatorD{\egroup\color{black}%
715   \global\let\default@color\current@color\normalcolor
716   \if@tempswa\twocolumn\else\onecolumn\fi
717   \clearpage\loadgeometry{standard}%
718   \pagestyle{standardpagestyle}}

\indicator An alias for indicatorB is just indicator:
719 \let\indicator\indicatorB
720 \let\endindicator\endindicatorB

\indicatorPage Another alias for indicatorB is indicatorPage:
721 \let\indicatorPage\indicatorB
722 \let\endindicatorPage\endindicatorB

```

3.13 Floats

`\float@caption` Package float defines `\float@caption`, and hyperref tries to redefine it, which sometimes fails. Since we use caption anyway, we can safely disable this macro:

```

723 \let\float@caption\@undefined

```

Since we intend to use babel in the future, we do not hard code the names for the floats. Here we provide the English variants.

```

\listchartname List of charts:
724 \newcommand\listchartname{List of Charts}

\listmapname List of maps:
725 \newcommand\listmapname{List of Maps}

\chartname A chart:
726 \newcommand\chartname{Chart}

\minitabname A chart:
727 \newcommand\minitabname{Mini Table}

\mapname A map:
728 \newcommand\mapname{Map}

```

We introduce two new floats:

```
729 \newfloat{chart}{H}{loc}
730 \floatname{chart}{\chartname}
731 \newfloat{minitab}{H}{loc}
732 \floatname{minitab}{\minitabname}
733 \newfloat{map}{H}{lom}
734 \floatname{map}{\mapname}
```

`\listofcharts` The list of charts:

```
735 \def\listofcharts{\listof{chart}{\protect\hypertarget{list:chart}{\listchartname}}}
```

`\listofmaps` The list of maps:

```
736 \def\listofmaps{\listof{map}{\protect\hypertarget{list:map}{\listmapname}}}
```

`\listoftables` The list of tables:

```
737 \def\listoftables{\listof{table}{\protect\hypertarget{list:table}{\listtablename}}}
```

`\@floatwidth` The width of the floatbox:

```
738 \define@key{fao}{floatwidth}{\def\@floatwidth{#1}}
739 \faoset{floatwidth=\columnwidth}
```

`\@floatheight` The height of the floatbox:

```
740 \define@key{fao}{floatheight}{\def\@floatheight{#1}}
741 \faoset{floatheight=0.45\textheight}
```

`\ifKV@fao@fixedfloatheight` Whether to use fixed float height

```
742 \define@boolkey{fao}{fixedfloatheight}{\}
743 \faoset{fixedfloatheight=false}
```

`\@beginfloat@hook` This is done at the beginning of a float:

```
744 \def\@beginfloat@hook{}
```

`\@endfloat@hook` This is done at the beginning of a float:

```
745 \def\@endfloat@hook{}
```

`\@nonfloat` The main environment for setting up the the nonfloats. The argument is the type of the float

```
746 \def\@nonfloat#1{\@beginfloat@hook
747   \ifKV@fao@fixedfloatheight
748     \begin{minipage}[t][\@floatheight][\@floatwidth]\begin{list}{}{
749       \topsep=\z@\partopsep=\z@\leftmargin=\z@\rightmargin=\z@}%
750       \def\@captive{#1}\item
751       \global\let\default@color\current@color\normalcolor
752     \else
753       \begin{minipage}{\@floatwidth}\begin{list}{}{
754         \topsep=\z@\partopsep=\z@\leftmargin=\z@\rightmargin=\z@}%
755         \def\@captive{#1}\item
756         \global\let\default@color\current@color\normalcolor
757       \fi}
```

`\end@nonfloat` And ending the environment:

```
758 \def\end@nonfloat{\end{list}\end{minipage}}%
759 \ifKV@fao@fixedfloatheight\else\vspace{\belowdisplayskip}\fi
760 \@endfloat@hook}
```

This environment makes it easy to redefine other environments:

`table` Table:

```
761 \renewenvironment{table}{\begin{@nonfloat}{table}}{\end{@nonfloat}}
```

`chart` Chart:

```
762 \renewenvironment{chart}{\begin{@nonfloat}{chart}}{\end{@nonfloat}}
```

`minitab` Chart:

```
763 \renewenvironment{minitab}{\begin{@nonfloat}{minitab}}{\end{@nonfloat}}
```

`map` Map:

```
764 \renewenvironment{map}{\begin{@nonfloat}{map}}{\end{@nonfloat}}
```

Now we set up captions. All our captions come *before* the graphics material. Note that due to the strange way caption works this means that `\aboveskip` is actually the skip *below* the caption. Go figure.

```
765 \DeclareCaptionLabelFormat{uppercase}{\hyperlink{list:\@capttype}{\MakeUppercase{#1}~#2}}
766 \captionsetup{position=top,labelformat=uppercase,format=plain,
767   textfont=bf,justification=centering,
768   singlelinecheck=false}
769 \captionsetup{aboveskip=\z@}
770 \AtEndCaption{\par}
```

`\ifKV@fao@fixedcaptionheight` Sometimes we typeset the caption in a box:

```
771 \define@boolkey{fao}{fixedcaptionheight}{%
772   \ifKV@fao@fixedcaptionheight
773     \def\caption@parbox{\parbox[t][\@fao@captionheight]}%
774   \else
775     \def\caption@parbox{\parbox[t]}%
776   \fi}
777 \faoset{fixedfloatheight=false}
```

`\@fao@captionheight` The height of the caption in fixed caption height mode:

```
778 \define@key{fao}{captionheight}{\def\@fao@captionheight{#1}}
779 \faoset{captionheight=2\baselineskip}
```

`\footnotebar` A rule used mostly in footnotes:

```
780 \def\footnotebar{\par\vskip\skip\@mpfootins\footnoterule\footnotesize}
```

We define new column types for table headers:

```
781 \newcolumnntype{d}[1]{D{.}{.}{#1}}
782 \newcolumnntype{H}{>{\columncolor{@tableheadcolor}}[1.01\tabcolsep][1.01\tabcolsep]c}
```

P columntype is much more complex. Basically we want a centered entry with a parbox of the given width inside.:

```
783 \newcolumntype{P}[1]{>{\columncolor{@tableheadcolor}[1.01\tabcolsep][1.01\tabcolsep]%
784   \@fao@Pentry{#1}}c<{\end@fao@Pentry}}
```

\@fao@Pentry Since \parbox needs “real” braces to delimit the argument, we use this trick. Note \hspace{Opt} to allow T_EX to hyphenate the first word.

```
785 \def\@fao@Pentry#1#2\end@fao@Pentry{%
786 \parbox[t]{#1}{\centering\strut\hspace{\z@}#2\strut}}
```

Same with C entry:

```
787 \newcolumntype{C}[1]{>{\columncolor{@tableheadcolor}[1.01\tabcolsep][1.01\tabcolsep]%
788   \@fao@Centry{#1}}c<{\end@fao@Centry}}
```

\@fao@Centry This macro is similar to \@fao@Pentry, but with different way to set the width of the \parbox:

```
789 \def\@fao@Centry#1#2\end@fao@Centry{%
790 \settowidth{\@tempdima}{$-99.999$}%
791 \@tempdima=#1\@tempdima\relax
792 \parbox[t]{\@tempdima}{\centering\strut\hspace{\z@}#2\strut}}
```

\tablepages The special style for table pages:

```
793 \def\tablepages{\clearpage\bgroup\normalcolor
794   \ifprint
795     \ifaltMargins
796       \newgeometry{layout=a4paper,
797         layoutoffset=5mm,layoutvoffset=5mm,
798         left=2cm,right=1.5cm,bottom=1.7cm,top=.7cm,twoside}%
799     \else\ifaltMarginsNarrow
800       \newgeometry{layout=a4paper,
801         layoutoffset=5mm,layoutvoffset=5mm,
802         left=1.5cm,right=1cm,bottom=1.7cm,top=.7cm,twoside}%
803     \else
804       \newgeometry{layout=a4paper,
805         layoutoffset=1cm,layoutvoffset=1cm,
806         left=0.2in,right=0.2in,top=0.2in,bottom=0.25in}%
807     \fi\fi
808   \else
809     \newgeometry{layout=a4paper,
810       left=0.2in,right=0.2in,top=0.2in,bottom=0.25in}%
811   \fi
812   \pagestyle{tablepage}\onecolumn}
```

\endtablepages And reverting back:

```
813 \def\endtablepages{\egroup\loadgeometry{standard}%
814   \pagestyle{standardpagestyle}\clearpage}
```


To prevent the ugly white spaces between the rules and the text we put the separations in `booktabs` to zero. To prevent the crammed tables we increase `\arraystretch`:

```
815 \aboverulesep\z@
816 \belowrulesep\z@
817 \setlength\minrowclearance{\z@}
818 \def\arraystretch{1.5}
```

`\arrayrulewidth` This is the thickness of `\hline`

```
819 \setlength{\arrayrulewidth}{0.9pt}
```

`\vline` We use `\vline` for interrupting `\hline` only.

```
820 \def\vline{\vrule \@width 7\p@ \relax}
```

3.14 Special Plot Layouts

`\TwoPlusFourPlots` This is simple: we make fixed plot heights:

```
821 \def\TwoPlusFourPlots{\bgroup
822   \faoset{fixedfloatheight=true,floatheight=0.45\textheight}%
823   \faoset{fixedcaptionheight=true,captionheight=2\baselineskip}}%
824 \def\endTwoPlusFourPlots{\pagebreak\egroup}
```

`\@fao@plotnum` The counter to keep the current plot number

```
825 \newcount\@fao@plotnum
```

`\TwoPlusTwoPlots` This is more tricky than 2+4: we need to keep the current plot number and switch to one column when needed.

```
826 \def\TwoPlusTwoPlots{\bgroup
827   \faoset{fixedfloatheight=true,floatheight=0.45\textheight}%
828   \faoset{fixedcaptionheight=true,captionheight=2\baselineskip}}%
829   \global\@fao@plotnum=0\relax
830   \def\@beginfloat@hook{\global\advance\@fao@plotnum by 1\relax
831     \ifnum\@fao@plotnum=3\relax\onecolumn\fi}}
```

`\endTwoPlusTwoPlots` ...and switch back:

```
832 \def\endTwoPlusTwoPlots{\egroup\twocolumn}
```

`\OnePlusTwoPlots` Here we want one tall float and two wide floats:

```
833 \def\OnePlusTwoPlots{\bgroup
834   \faoset{fixedfloatheight=true,floatheight=0.95\textheight}%
835   \faoset{fixedcaptionheight=true,captionheight=2\baselineskip}}%
836   \global\@fao@plotnum=0\relax
837   \def\@beginfloat@hook{\global\advance\@fao@plotnum by 1\relax
838     \ifnum\@fao@plotnum=2\relax\onecolumn\fi
839     \ifnum\@fao@plotnum>1\faoset{floatheight=0.45\textheight}\fi}}
```

`\endOnePlusTwoPlots` ...and switch back:

```
840 \def\endOnePlusTwoPlots{\egroup\twocolumn}
```

3.15 Patching `graphicx` Package

Package `graphicx` provides a useful keyword `viewport` which allows to show just a part of an image. However, you need to put there the actual coordinates of the viewport window. For large maps we would like to have relative coordinates as fractions of natural width size. Here we define the new option `rviewport` for Relative Viewport. It works like this. Suppose the image has the bounding box x_{ll} , y_{ll} , x_{ur} , y_{ur} . We give four numbers ξ_{ll} , η_{ll} , ξ_{ur} , η_{ur} , and the viewport coordinates become

$$\begin{aligned}x'_{ll} &= x_{ll} + \xi_{ll}\Delta_x \\y'_{ll} &= y_{ll} + \eta_{ll}\Delta_y \\x'_{ur} &= x_{ll} + \xi_{ur}\Delta_x \\y'_{ur} &= y_{ll} + \eta_{ur}\Delta_y\end{aligned}$$

where

$$\begin{aligned}\Delta_x &= x_{ur} - x_{ll} \\ \Delta_y &= y_{ur} - y_{ll}\end{aligned}$$

This means that the left half of the image is `rviewport = 0 0 0.5 1`, and the right half is `rviewport = 0.5 0 1 1`.

We follow [3].

```

841 \define@key{Gin}{rviewport}
842     {\let\Gin@viewport@code\Gin@rviewport\Gread@parse@rvp#1 \\\}

\Gread@parse@rvp We parse four numbers into the corresponding macros. Note that their names are
                    significant: pdftex.def would not clip the image if \Gin@vllx is not defined.

843 \def\Gread@parse@rvp#1 #2 #3 #4 #5\{\%
844   \def\Gin@vllx{#1}\%
845   \def\Gin@vllx{#2}\%
846   \def\Gin@vurx{#3}\%
847   \def\Gin@vury{#4}\%
848 }\%

\Gin@rviewport And the viewport code. Note that pdftex.def relies on the values of \Gin@v...
                  macros, so we redefine them as well.

849 \def\Gin@rviewport{\%
850   \let\Gin@ollx\Gin@llx
851   \let\Gin@olly\Gin@lly
852   \let\Gin@ourx\Gin@urx
853   \let\Gin@oury\Gin@ury
854   \Gin@nat@width\Gin@urx\p@
855   \advance\Gin@nat@width-\Gin@llx\p@
856   \Gin@nat@height\Gin@ury\p@
857   \advance\Gin@nat@height-\Gin@lly\p@
858   \dimen@\Gin@vurx\Gin@nat@width
```

```

859             \edef\Gin@vurx{\strip@pt\dimen@}%
860 \advance\dimen@\Gin@llx\p@
861             \edef\Gin@urx{\strip@pt\dimen@}%
862 \dimen@\Gin@vury\Gin@nat@height
863             \edef\Gin@vury{\strip@pt\dimen@}%
864 \advance\dimen@\Gin@lly\p@
865             \edef\Gin@ury{\strip@pt\dimen@}%
866 \dimen@\Gin@vllx\Gin@nat@width
867             \edef\Gin@vllx{\strip@pt\dimen@}%
868 \advance\dimen@\Gin@llx\p@
869             \edef\Gin@llx{\strip@pt\dimen@}%
870 \dimen@\Gin@vlly\Gin@nat@height
871             \edef\Gin@vlly{\strip@pt\dimen@}%
872 \advance\dimen@\Gin@lly\p@
873             \edef\Gin@lly{\strip@pt\dimen@}%
874 }

```

We want all plots to keep the aspect ratio of the originals:

```

875 \setkeys{Gin}{keepaspectratio=true}

```

`\Gin@getbase` This command selects the file for `\includegraphics`. We patch it to select print or web version if they exist:

```

876 \def\Gin@getbase#1{%
877   \ifprint\def\filename@add{_print}\else\def\filename@add{_web}\fi
878   \edef\Gin@tempa{%
879     \def\noexpand\@tempa####1#1\space{%
880       \def\noexpand\Gin@base{####1}}}%
881   \IfFileExists{\filename@area\filename@base\filename@add#1}%
882   {\Gin@tempa
883     \expandafter\@tempa\@filef@und
884     \edef\Gin@ext{#1}}{%
885     \IfFileExists{\filename@area\filename@base#1}%
886     {\Gin@tempa
887       \expandafter\@tempa\@filef@und
888       \edef\Gin@ext{#1}}{}}%

```

3.16 Multipage Maps

`\largeGraphicsNotes` This puts its argument in the storage for the processing:

```

889 \long\def\largeGraphicsNotes#1{%
890   \long\gdef\@largeGraphicsNotes{#1}}
891 \largeGraphicsNotes{}

```

`\@largegraphics@footnotes` Our `\@nonfloat` is a minipage. Since `\includeLargeGraphics` splits it, we need some place to store footnote captions.

```

892 \newinsert\@largegraphics@footnotes

```

`\Gin@leftfraction` This key might occur as the argument to `\includeLargeGraphics` or `\includeExtraLargeGraphics`. Since we want to be able to use there “normal” arguments, we put it into the `Gin` family.

```

893 \define@key{Gin}{leftfraction}{\def\Gin@leftfraction{#1}}
894 \setkeys{Gin}{leftfraction=0.415}

```

`\Gin@leftpartoffset` The offset for the left part of the `includegraphics`

```

895 \newdimen\Gin@leftpartoffset
896 \define@key{Gin}{leftpartoffset}{\Gin@leftpartoffset=#1\relax}
897 \setkeys{Gin}{leftpartoffset=-87pt}

```

`\Gin@rightpartoffset` The offset for the right part of the `includegraphics`

```

898 \newdimen\Gin@rightpartoffset
899 \define@key{Gin}{rightpartoffset}{\Gin@rightpartoffset=#1\relax}
900 \setkeys{Gin}{rightpartoffset=0pt}

```

`\if@extra@large@graphics` This is false inside large graphics, but true inside large graphics.

```

901 \newif\if@extra@large@graphics
902 \@extra@large@graphicsfalse

```

`\@includeLargeGraphics` This is the generic macro for `\includeLargeGraphics` or `\includeExtraLargeGraphics`:

```

903 \def\@includeLargeGraphics{\ifnextchar[% ] To make Emacs happy
904   {\@@includeLargeGraphics}{\@@includeLargeGraphics[]}}

```

`\@@includeLargeGraphics` This is the work horse of the (extra) large graphics...

```

905 \def\@@includeLargeGraphics[#1]#2{%

```

First we read the keys:

```

906   \setkeys{Gin}{#1}%

```

We need to check whether we are in a float environment and in the proper column mode:

```

907   \ifx\@capttype\@undefined\PackageError{faoyearbook}{%
908     Wrong place for \string\includeLargeGraphics{} or
909     \string\includeExtraLargeGraphics}{%
910     The commands \string\includeLargeGraphics{} and
911     \string\includeExtraLargeGraphics{} should be inside
912     map or chart environment}\fi
913   \if@extra@large@graphics
914     \if@twocolumn\PackageError{faoyearbook}{%
915       Wrong place for \string\includeExtraLargeGraphics}{%
916       The command \string\includeExtraLargeGraphics{} should be inside
917       a one column page}\fi
918   \else
919     \if@twocolumn\else\PackageError{faoyearbook}{%
920       Wrong place for \string\includeLargeGraphics}{%
921       The command \string\includeLargeGraphics{} should be inside
922       a two column page}\fi
923   \fi

```

We save the footnotes so far

```
924 \ifvoid\@mpfootins\else
925   \global\setbox\@largegraphics@footnotes\vbox{\unvbox\@mpfootins}%
926 \fi
```

Now we close the minipage and remember the vertical offset. We also want to restore two column mode after we close *if* we are not in “extra large graphics”:

```
927 \end{list}\end{minipage}%
928 \if@extra@large@graphics
929   \def\end@nonfloat{\end{list}\end{minipage}}%
930 \else
931   \def\end@nonfloat{\end{list}\end{minipage}\afterpage{\twocolumn}}%
932 \fi
933 \par
934 \@tempdima=-\topskip
935 \advance\@tempdima\pagetotal
```

We are ready to print the left part of the image and the notes. Note that we re-read the keys inside the minipage

```
936 \ifvoid\@largegraphics@footnotes\else
937   \global\setbox\@mpfootins\vbox{%
938     \unvbox\@largegraphics@footnotes}%
939 \fi
940 \begin{minipage}{\@floatwidth}\begin{list}{}{}%
941   \setkeys{Gin}{#1}%
942   \topsep=\z@
943   \partopsep=\z@\leftmargin=\z@\rightmargin=\z@}%
944   \let\default@color\current@color\normalcolor\item
945   \hspace*{\Gin@leftpartoffset}%
946   \includegraphics[rviewport=0 0 {\Gin@leftfraction} 1,clip]{#2}\par
947   \@largeGraphicsNotes
```

Reset the notes:

```
948   \largeGraphicsNotes{}%
949 \end{list}\end{minipage}%
```

Now go to the next page and put the right part:

```
950 \if@extra@large@graphics\newpage\else\onecolumn\fi
951 \vspace*{\@tempdima}%
952 \begin{minipage}{\@floatwidth}\begin{list}{}{}%
953   \setkeys{Gin}{#1}%
954   \topsep=\z@
955   \partopsep=\z@\leftmargin=\z@\rightmargin=\z@}%
956   \let\default@color\current@color\normalcolor\item
957   \hspace*{\Gin@rightpartoffset}%
958   \includegraphics[rviewport={\Gin@leftfraction} 0 1 1,clip]{#2}}
```

`\includeLargeGraphics` Include three column graphics:

```
959 \def\includeLargeGraphics{%
960   \@extra@large@graphicsfalse
961   \setkeys{Gin}{leftfraction=0.415, leftpartoffset=-87\p@}%
```

962	<code>\@includeLargeGraphics}</code>	
<code>\includeExtraLargeGraphics</code>	Include four column graphics	
963	<code>\def\includeExtraLargeGraphics{%</code>	
964	<code>\@extra@large@graphicstrue</code>	
965	<code>\setkeys{Gin}{leftfraction=0.5}%</code>	
966	<code>\@includeLargeGraphics}</code>	
<code>\graphicKey</code>	This typesets everything in a box in the lower right corner	
967	<code>\newenvironment{graphicKey}[1][\vfill\par\hfill</code>	
968	<code>\def\@tempa{#1}\ifx\@empty\@tempa\else\begin{minipage}{#1}\fi}{%</code>	
969	<code>\ifx\@tempa\@empty\else\end{minipage}\fi}</code>	

3.17 Formatting of Table of Contents and Lists

<code>\tableofcontents</code>	Table of contents is formatted in a special way:	
970	<code>\renewcommand\tableofcontents{\cleardoublepage</code>	
971	<code>\makebox[0pt][l]{\fontsize{24pt}{32pt}\selectfont \bfseries</code>	
972	<code>\color{black!70}\MakeUppercase{\contentsname}\space}%</code>	
973	<code>\par\vspace{-2\baselineskip}\vspace{-\parskip}%</code>	
974	<code>\@starttoc{toc}}</code>	
<code>\@tocpartskip</code>	This is the skip between the parts in TOC:	
975	<code>\newlength{\@tocpartskip}</code>	
976	<code>\define@key{fao}{tocpartskip}{\setlength{\@tocpartskip}{#1}}</code>	
977	<code>\faoset{tocpartskip}=\z@}</code>	
<code>\@fao@tocrule@start</code>	The start of the current TOC colored rule	
978	<code>\newdimen\@fao@tocrule@start</code>	
<code>\@fao@tocrule@height</code>	The height of the current TOC rule	
979	<code>\newdimen\@fao@tocrule@height</code>	
<code>\@draw@tocrule@part</code>	Drawing the toc rule for a part	
980	<code>\def\@draw@tocrule@part{\@fao@tocrule@height=\pagetotal</code>	
981	<code>\protected@write\@auxout{}\{\string\@fao@partblobbottom{\@fao@currentpartnum}\the\@fao@tocrule@height}</code>	
982	<code>\advance\@fao@tocrule@height-\@fao@tocrule@start</code>	
983	<code>\bgroup\parskip\z@</code>	
984	<code>\parbox[b][\z@]{\z@}{\hspace*{-15\p@}\color{\bgcolor}\rule{2\p@}{\@fao@tocrule@height}}%</code>	
985	<code>\parbox[b][\z@]{\z@}{\hspace*{330\p@}}%</code>	
986	<code>\ifaltMarginsNarrow\hspace{10mm}\fi</code>	
987	<code>\color{\bgcolor}\rule{41\p@}{\@fao@tocrule@height}}%</code>	
988	<code>\par\vspace{-0.5\baselineskip}\egroup}</code>	
<code>\@draw@tocrule@section</code>	Drawing the toc rule for a section	
989	<code>\def\@draw@tocrule@section{\@fao@tocrule@height=\pagetotal</code>	
990	<code>\protected@write\@auxout{}\{\string\@fao@partblobbottom{\@fao@currentpartnum}\the\@fao@tocrule@height}</code>	
991	<code>\advance\@fao@tocrule@height-\@fao@tocrule@start</code>	

```

992 \advance\@fao@tocrule@height5\p@
993 \bgroup\parskip\z@\small
994 \raisebox{\baselineskip}[\z@][\z@]{\parbox[b][\z@]{\hspace*{-35\p@}\color{\bgcolor}\rule{41\p@}{\@fao@tocrule@height}}}%
995 \raisebox{\baselineskip}[\z@][\z@]{\parbox[b][\z@]{\hspace*{310\p@}%
996 \if@altMarginsNarrow\hspace{10mm}\fi
997 \color{\bgcolor}\rule{41\p@}{\@fao@tocrule@height}}}%
998 \par\vspace{-\baselineskip}\egroup}

```

`\l@part` This prints the part in TOC:

```

999 \renewcommand*\l@part[2]{%
1000 \ifnum \c@tocdepth >-2\relax
1001 \addpenalty{-\@highpenalty}%
1002 \setlength\@tempdima{3em}%
1003 \addvspace{\@tocpartskip}%
1004 \begingroup
We store the current vertical position of the page into \@fao@tocrule@start
1005 % \addvspace{-2pc}\par
1006 \@fao@tocrule@start=\pagetotal
1007 \protected@write\@auxout{}\string\@fao@partblobtop{\@fao@currentpartnum}{\the\@fao@tocrule@start}%
1008 \parindent \z@ \rightskip \@pnumwidth
1009 \parfillskip -\@pnumwidth
1010 \leftskip180\p@
1011 {\leavevmode
1012 \color{\bgcolor}\bfseries\partname\space#1:
1013 \hfil \hb@xt@\@pnumwidth{\hss #2}}%
1014 \par\@draw@tocrule@part
1015 \nobreak
1016 \global\@nobreaktrue
1017 \everypar{\global\@nobreakfalse\everypar{}}%
1018 \endgroup
1019 \fi}

```

`\l@spart` This adds unnumbered part to TOC

```

1020 \newcommand*\l@spart[2]{%
1021 \ifnum \c@tocdepth >-2\relax
1022 \addpenalty{-\@highpenalty}%
1023 \setlength\@tempdima{3em}%
1024 \begingroup
1025 \@fao@tocrule@start=\pagetotal
1026 \protected@write\@auxout{}\string\@fao@partblobtop{\@fao@currentpartnum}{\the\@fao@tocrule@start}%
1027 \parindent \z@ \rightskip \@pnumwidth
1028 \parfillskip -\@pnumwidth
1029 \leftskip180\p@
1030 {\leavevmode
1031 \color{\bgcolor}\bfseries#1:
1032 \hfil \hb@xt@\@pnumwidth{\hss #2}}%
1033 \par\@draw@tocrule@part
1034 \nobreak
1035 \global\@nobreaktrue

```

```

1036         \everypar{\global\@nbreakfalse\everypar{}}%
1037     \endgroup
1038 \fi}

```

`\l@section` This prints the section in TOC:

```

1039 \renewcommand*\l@section[2]{%
1040     \ifnum \c@tocdepth >-2\relax
1041         \addpenalty{-\@highpenalty}%
1042         \setlength\@tempdima{3em}%
1043         \begingroup
1044             \small
1045             \@fao@tocrule@start=\pagetotal
1046             \leftskip200\p@\relax\parskip\z@
1047             \parindent \z@ \rightskip \@pnumwidth
1048             \parfillskip -\@pnumwidth
1049             {\leavevmode\small\strut
1050              #1\hfil \hb@xt@\@pnumwidth{\hss #2}}\par\@draw@tocrule@section
1051             \nobreak
1052             \global\@nbreaktrue
1053             \everypar{\global\@nbreakfalse\everypar{}}%
1054         \endgroup
1055     \fi}

```

`\appendix` We do not draw colored rules in the TOC part of the appendix:

```

1056 \renewcommand\appendix{%
1057     \bookmarksetup{startatroot}%
1058     \addtocontents{toc}{\string\let\string\@draw@tocrule@part\string\relax
1059       \string\let\string\@draw@tocrule@section\string\relax}}

```

We use special formatting of metadata in the lists of... This requires explicit `\pars` at the end:

```

1060 \AtEndDocument{%
1061     \immediate\write\@auxout{\string\@writefile{loc}{\string\par}}%
1062     \immediate\write\@auxout{\string\@writefile{lot}{\string\par}}%
1063     \immediate\write\@auxout{\string\@writefile{lom}{\string\par}}}

```

3.18 Metadata

`\metadata` This starts the metadata section. The commands inside are local to the metadata.

```

1064 \def\metadata#1#2{\bgroup
1065     \def\meta@key{#2}%

```

`\source` This typesets the source:

```

1066     \def\source##1{\par\penalty10000\emph{Source: }##1\par\penalty10000}%

```

`\owner` This typesets the owner:

```

1067     \def\owner##1{\par\penalty10000\emph{Owner: }##1\par\penalty10000}%

```



```

1068 \begin{list}{\topsep4\p@\labelwidth\z@
1069 \labelsep\z@\itemindent\z@\parsep0.4ex plus 0.5ex minus
1070 0.2ex\relax\listparindent\z@\leftmargin\z@\rightmargin\z@
1071 \partopsep\z@}%
1072 \NR@getttitle{#1}\phantomsection\label{metadata:#2}%
1073 \item{\bfseries#1\par\penalty10000}}

\endmetadata This closes the environment:
1074 \def\endmetadata{%
1075 \expandafter\ifx\csname
1076 metaback@meta@key\endcsname\relax
1077 \else
1078 \par\penalty10000\emph{Referenced in: }
1079 \csname metaback@meta@key\endcsname
1080 \par\penalty10000
1081 \fi
1082 \end{list}\egroup}

\refMetadataname The name for the metadata reference:
1083 \def\refMetadataname{Metadata:}

\refMetadata The way we actually reference the metadata:
1084 \def\refMetadata#1{%
1085 \ifx\@capytype\@undefined\def\@capytype{table}\fi
1086 \if@filesw
1087 \immediate\write\@mainaux{%
1088 \string\fao@metaback{#1}{\@capytype}{\csname the\@capytype\endcsname}{\thepage}{\@currentpage}%
1089 \addtocontents{\csname ext@\@capytype\endcsname}{\string\listmetadata{#1}}%
1090 \fi
1091 % \refMetadataname~\nameref{metadata:#1}, page~\pageref{metadata:#1}
1092 }

\fao@metaback This reads the backreferences to metadata and prepares the the list. The argu-
ments are: key, float type, number of float, page and hyperref
1093 \def\fao@metaback#1#2#3#4#5{%
1094 \expandafter\ifx\csname metaback@#1\endcsname\relax
1095 \expandafter\gdef\csname metaback@#1\endcsname{%
1096 \hyper@linkstart{link}{#5}#2~#3\hyper@linkend}%
1097 \else
1098 \expandafter\g@addto@macro\csname metaback@#1\endcsname{,
1099 \hyper@linkstart{link}{#5}#2~#3\hyper@linkend}%
1100 \fi}

\ifKV@fao@metadataInLists Whether put metadata in lists of...
1101 \define@boolkey{fao}{metadataInLists}{ }
1102 \faoset{metadataInLists=false}

\listmetadata The way metadata is presented in the lists:
1103 \def\listmetadata#1{\ifKV@fao@metadataInLists

```

```

1104 \bgroup\small
1105 \ifvmode\relax
1106 \leavevmode
1107 \textit{\refMetadataname}~%
1108 \else
1109 \unskip;~%
1110 \fi
1111 \nameref{metadata:#1}, page~\pageref{metadata:#1}%
1112 \egroup\hangafter=0\hangindent=3.8em\rightskip=3.8em\relax
1113 \fi}

```

`\MetadataCollection` The section with metadata

3.19 Concepts and Methods

`\conceptname` The name for concepts section

```
1114 \def\conceptname{Concepts and Methods}
```

`\ConceptsAndMethods` This is the style for the concepts and methods

```

1115 \newenvironment{ConceptsAndMethods}{\clearpage\twocolumn\small
1116 \loadgeometry{standard}%
1117 \pagestyle{conceptpagestyle}%
1118 \section{\conceptname}}{\clearpage\pagestyle{standardpagestyle}\normalsize}

```

`\concept` This is the environment for concepts:

```
1119 \newenvironment{concept}[1]{\begin{description}\item[#1:]}{\end{description}}
```

3.20 Further Reading

`\fitemize` This is the special version of `itemize` for further reading pages. Basically it is a patched kernel version.

```

1120 \def\fitemize{%
1121 \ifnum \@itemdepth >\thr@@\toodeep\else
1122 \advance\@itemdepth\@ne
1123 \edef\@itemitem{labelitem\romannumeral\the\@itemdepth}%
1124 \expandafter
1125 \list
1126 \csname\@itemitem\endcsname
1127 {\def\makelabel##1{\color{@bgcolor}{##1}\space}%
1128 \itemsep\z@\labelwidth\z@
1129 \leftmargin\z@\labelsep\z@}%
1130 \fi}

```

`\endfitemize` This is standard:

```
1131 \let\endfitemize=\endlist
```

`\freading` This is the “Further Reading environment”

```
1132 \newenvironment{freading}{%
```

```

1133 \vfill\section*{Further reading}\par
1134 \vspace{-\baselineskip}{\color{@bgcolor}{\rule{\columnwidth}{1.5pt}}}\par
1135 \vspace{-\baselineskip}\bgroup
1136 \let\itemize=\fitemize
1137 \let\enditemize=\endfitemize}\egroup

```

3.21 Publication

`\@publicationskip` Skip between the publications. By default `\medskip`:

```

1138 \newlength{\@publicationskip}
1139 \define@key{fao}{publicationskip}{\setlength{\@publicationskip}{#1}}
1140 \faoset{publicationskip=6pt plus 2pt minus 2pt}

```

`\@publicationparskip` Paragraph skip between the publications.

```

1141 \newlength{\@publicationparskip}
1142 \define@key{fao}{publicationparskip}{\setlength{\@publicationparskip}{#1}}
1143 \faoset{publicationparskip=6pt plus 6pt minus 4pt}

```

`\publication` This typesets one publication:

```

1144 \newenvironment{publication}[2][]{%
1145 \par{\bfseries#2\par}\begin{minipage}[t]{0.49\columnwidth}%
1146 \setlength\parskip{\@publicationparskip}%
1147 \gdef\@pub@cover{#1}%
1148 \long\def\pDescription##1{\par##1\par}%
1149 \def\pEdition##1##2{\par##1: ##2\par}%
1150 \def\pCycle##1{\par Publication cycle: ##1\par}%
1151 \def\pWeb##1{\par \raggedright Webpage: \url{##1}\par}}%
1152 {\end{minipage}}%
1153 \ifx\@pub@cover\@empty\else
1154 \hspace{0.1\columnwidth}%
1155 \raisebox{\dimexpr\baselineskip-\totalheight}{%
1156 \includegraphics[width=0.4\columnwidth]{\@pub@cover}}\fi\par
1157 \vspace{\@publicationskip}

```

3.22 Subscripts

`\textsubscript` This follows standard L^AT_EX:

```

1158 \DeclareRobustCommand*\textsubscript[1]{%
1159 \@textsubscript{\selectfont#1}}
1160 \def\@textsubscript#1{%
1161 {\m@th\ensuremath{_{\mbox{\fontsize\sf@size\z@#1}}}}}

```

3.23 LyX code

`\lyxlist` It seems Lyx wants this:

```

1162 \newenvironment{lyxlist}[1]
1163 {\begin{list}{-}}
1164 {\settowidth{\labelwidth}{#1}

```

```
1165 \setlength{\leftmargin}{\labelwidth}
1166 \addtolength{\leftmargin}{\labelsep}
1167 \renewcommand{\makelabel}[1]{##1\hfil}}
1168 {\end{list}}
```

3.24 The final word

```
1169 \twocolumn
1170 </class>
```

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Change History

v0.10		indicatorpagestyle:	Used
\@fao@Centry: Added macro . . .	48	\Gm@layoutheight	and
Added strut	48	\Gm@layoutwidth	34
\@fao@Pentry: Added macro . . .	48	standardpagestyle:	Used
Added strut	48	\Gm@layoutheight	and
General: Added C columntype . .	48	\Gm@layoutwidth	32
Added d columntype	47	v0.13	
Added dcolumn package	27	\indicatorPage: Added macro . .	45
Rewrote P columntype	48	v0.14	
v0.11		General: Added hhline package . .	27
\@draw@tocrule@section: Changed		\appendix: Redefined macro . . .	56
dimensions	54	\endmetadata: Added macro . . .	57
General: Added negative belowcap-		\metadata: Added macro	56
tionskip	47	\owner: Added macro	56
Changed top margins	30	\source: Added macro	56
partpagestyle: Changed dimen-		v0.15	
sions	33	General: Switched to PTSans . . .	29
\l@section: Added parskip zero .	56	\arrayrulewidth: Changed the	
indicatorfirstpagestyle:		value	49
Changed dimensions and moved		\captionfamily: Introduced	
the folios	33	macro	29
Changed marks	33	\Gin@getbase: Redefined the	
indicatorpagestyle: Changed di-		macro	51
mensions and moved the folios	34	\if@factbook: Added macro . . .	26
Changed marks	34	\ifprint: Changed the name of the	
\parskip: Decreased	30	macro	27
standardpagestyle: Changed di-		\narrowfamily: Introduced macro	29
mensions and moved the folios	32	\small: Introduced macro	30
v0.12		\textcaption: Introduced macro	29
\@draw@tocrule@part: Added neg-		\textnarrow: Introduced macro .	29
ative \vspace	54	\tocdepth: Redefined	37
General: Added cmyk color model		\vline: Changed the width	49
to xcolor	27	v0.16	
Added web and print options .	27	\@@includeLargeGraphics: Added	
Changed separation between the		afterpage before switching to	
rules in tables	49	twocolumn	52
tablepage: Used \Gm@layoutheight		Added check for empty footnotes	52
and \Gm@layoutwidth	36	Added notes	52
partpagestyle: Changed dimen-		Introduced the macro	52
sions	33	\@includeLargeGraphics: Intro-	
Used \Gm@layoutheight and		duced the macro	52
\Gm@layoutwidth	33	General: Added afterpage	27
\mainmatter: Added \cleardoublepage		Added inputenc and fontenc . .	27
.	37	\endfitemize: Added macro . . .	58
indicatorfirstpagestyle: Used		\fitemize: Added macro	58
\Gm@layoutheight		\freading: Added macro	58
and			
\Gm@layoutwidth	33		

<code>\Gin@leftfraction:</code>	Introduced the macro	51	<code>@bgcolor:</code>	Made the color change delayed	40
<code>\graphicKey:</code>	Moved to <code>@includeLargeGraphics</code>	54	<code>@bgcolor@next:</code>	Added the macro	40
<code>\if@extra@large@graphics:</code>	Introduced the macro	52	<code>\end@nonfloat:</code>	Rewrote	47
<code>\includeExtraLargeGraphics:</code>	Moved to <code>@includeLargeGraphics</code>	54	<code>\endTwoPlusTwoPlots:</code>	Added macro	49
<code>\includeLargeGraphics:</code>	Moved to <code>@includeLargeGraphics</code>	53	<code>\faoset:</code>	Added macro	29
<code>\largeGraphicsNotes:</code>	Introduced the macro	51	<code>\ifKV@fao@fixedfloatheight:</code>	Added macro	46
v0.17			<code>\indicator:</code>	Added macro	45
<code>\@@includeLargeGraphics:</code>	Added offsets	52	<code>\part:</code>	Added selectcolor	38
	Moved setkeys to inside the minipages	52	<code>\setbgcolor:</code>	Made the color change delayed	40
<code>\Gin@leftfraction:</code>	Moved gdef to def	51	<code>@tablebg:</code>	Added macro	40
<code>\Gin@leftpartoffset:</code>	Introduced the macro	52	<code>\TwoPlusFourPlots:</code>	Added macro	49
<code>\Gin@rightpartoffset:</code>	Introduced the macro	52	<code>\TwoPlusTwoPlots:</code>	Added macro	49
v0.18			v0.20		
<code>\@part:</code>	Moved the number	38	General:	Added draft option	27
<code>\EndPartIntro:</code>	Changed style of empty pages	39		Changed color width in H, C, P column types	47
<code>\includeLargeGraphics:</code>	Moved offsets	53	<code>\arrayrulewidth:</code>	Increased	49
<code>\section:</code>	Changed vertical spacing	39	<code>\ifDraft:</code>	Added macro	27
v0.19			<code>\vline:</code>	Increased width	49
<code>\freading:</code>	Changed subsection to section	58	v0.21		
	Changed vertical spacing	58	<code>\publication:</code>	Introduced the environment	59
<code>\section:</code>	Changed vertical spacing and fonts	39	<code>\textsubscript:</code>	Introduced the environment	59
<code>\subsection:</code>	Changed vertical spacing and fonts	40	v0.22		
v0.2			<code>\@draw@tocrule@part:</code>	Increased height by 3pt	54
<code>\@beginfloat@hook:</code>	Added macro	46	General:	Added special formatting for factbook margins	30
<code>\@endfloat@hook:</code>	Added macro	46		Made URLs roman	30
<code>\@fao@plotnum:</code>	Added macro	49	<code>\publication:</code>	Added medskip	59
<code>\@floatheight:</code>	Added macro	46	v0.24		
<code>\@floatwidth:</code>	Added macro	46	<code>\@draw@tocrule@part:</code>	Decreased width	54
<code>\@nonfloat:</code>	Rewrote	46	<code>\@draw@tocrule@section:</code>	Decreased width	54
General:	Added xkeyval	27	General:	Added a4paper as the default	26
<code>tablepage:</code>	Added macro	36	<code>tablepage:</code>	Added coloring	36
			<code>partpagestyle:</code>	Changed bleeds	33
			<code>indicatorpagestyle:</code>	Changed bleeds	34
			<code>\tablepages:</code>	Deleted coloring	48
			<code>standardpagestyle:</code>	Changed bleeds	32

v0.25		\publication: Added adjustable skips	59
	\TwoPlusFourPlots: Added		
	\pagebreak	49	v0.35
v0.26	\@spart: Refined	39	General: Added color treatment
	General: Changed behavior or print option for factook	27	v0.36
	\l@spart: Added macro	55	\@draw@tocrule@part: Added writing position to the aux file
v0.27	\@draw@tocrule@section: Added zero dimensions	54	\@draw@tocrule@section: Added writing position to the aux file
	\l@section: Added strut	56	\c@fao@partnum: Introduced macro
v0.28	General: Added natbib and pdf-page	27	\fao@blobheight: Introduced macro
v0.29	\frontmatter: Added \clerdoublepage	37	\fao@blobposition: Introduced macro
	\tableofcontents: Added		\fao@currentpartnum: Introduced macro
	\clerdoublepage	54	\fao@partblobbottom: Introduced macro
v0.3	General: Added rviewport code	50	\fao@partblobtop: Introduced macro
	\Gin@rviewport: Added macro	50	\l@part: Added writing start to the aux
	\Gread@parse@rvp: Added macro	50	\l@section: Added writing to aux file
	\includeExtraLargeGraphics: Added macro	54	\l@spart: Added writing start to the aux
	\includeLargeGraphics: Added macro	53	\part: Added faopartnum
v0.30	\lyxlist: Added list code required by Lyx	59	Fixed bug with \cleardoublepage
v0.31	tablepage: Added page numbers	36	v0.37
	\metadata: Changed penalty	56	\metadata: Changed penalties
	\tablepages: Added page numbers	48	\owner: Changed penalties
v0.32	\fao@color@string: Added the macro	40	\source: Changed penalties
	\part: Added color switch	38	v0.38
	\setbgcolor: Changed the way the current color is stored	40	General: Added bookmark
v0.33	\@tocpartskip: Introduced the macro	54	\appendix: Bookmarks start at root
	\l@part: Added tocpartskip	55	v0.39
v0.34	\@publicationparskip: Introduced the macro	59	\metadata: Added support for nameref
	\@publicationskip: Introduced the macro	59	v0.4
			\@largegraphics@footnotes: Added macro
			\@nonfloat: Colors
			General: Added hyperref
			Changed margins
			Deleted pdfborder
			partpagestyle: Changed color on the right part

Changed margins	33	indicatorpagestyle: Added check for altMarginsNarrow	34
\endindicatorA: Color adjustment	41	\tablepages: Added check for alt margins narrow	48
\endindicatorB: Color adjustment	43	standardpagestyle: Added alt- MarginsNarrow	32
\endindicatorC: Color adjustment	44		
\float@caption: Added macro . .	45	v0.44	
\frontmatter: Added macro . . .	37	\l@part: Added check for AltMar- ginsNarrow	55
\if@mainmatter: Added macro . .	37	\l@section: Added check for Alt- MarginsNarrow	56
\includeExtraLargeGraphics:		\l@spart: Added check for AltMar- ginsNarrow	55
Changed the treatment of foot- notes	54	v0.5	
\includeLargeGraphics: Changed the treatment of footnotes . . .	53	\@fao@captionheight: Added macro	47
\mainmatter: Added macro	37	\@part: The transparency of the part number is now provided by TikZ	38
indicatorfirstpagestyle:		General: Changed bottom margins	30
Changed colors	33	Deleted dependency on transpar- ent package	27
Changed margins	33	tablepage: Changed size	36
indicatorpagestyle: Changed col- ors	34	Renamed macro and made color selectable	36
\part: Added rowcolors	38	partpagestyle: Changed size . . .	33
standardpagestyle: Changed col- ors	32	\endindicatorA: Added new page style	41
v0.41		\endindicatorB: Added new page style	43
\if@issuuumode: Added macro . .	27	\endindicatorC: Added new page style	44
\part: Added check for altMargins	38	\footnotebar: Added macro . . .	47
v0.42		\ifKV@fao@fixedcaptionheight: Added macro	47
General: Added special formatting for alt margins	30	indicatorfirstpagestyle: Changed size	33
Added special formatting for alt margins narrow	30	indicatorpagestyle: Changed size	34
tablepage: Added check for alt- Margins	36	standardpagestyle: Added strip	32
\if@altMargins: Added option . .	27	\TwoPlusFourPlots: Added fixed caption height	49
indicatorfirstpagestyle: Added check for altMargins	33	\TwoPlusTwoPlots: Added fixed caption height	49
indicatorpagestyle: Added check for altMargins	34	Added maximal figure height . .	49
\part: Added check for altMargin- sNarrow	38	v0.6	
\tablepages: Added check for alt margins	48	General: Added H and P column- types	47
standardpagestyle: Added alt- Margins	32	Added siunitx package	27
v0.43			
tablepage: Added check for alt- MarginsNarrow	36		
\if@altMarginsNarrow: Added op- tion	27		
indicatorfirstpagestyle: Added check for altMarginsNarrow . .	33		

\footnotebar: Added footnotesize decl	47	v1.00	\@part: Changed color scheme ..	38
\TwoPlusTwoPlots: Deleted maximal figure height	49		tablepage: Changed color scheme	36
v0.7			partpagestyle: Changed color scheme	33
\@draw@tocrule@part: Added macro	54		\endindicatorD: Added up	45
\@draw@tocrule@section: Added macro	54		\fao@evenstrip: Introduced the macro	32
\@fao@tocrule@height: Added macro	54		\fao@oddstrip: Introduced the macro	32
\@fao@tocrule@start: Added macro	54		\indicatorD: Added macro	44
\frontmatter: Added change of geometry	37		indicatorDpagestyle: Added macro	35
\l@part: Redefined macro	55		Changed color scheme	35
\l@section: Redefined macro	56		Moved to standard strips	35
\mainmatter: Added change of geometry	37		indicatorfirstpagestyle: Changed color scheme	33
\setbgcolor: Wrote the current color into the toc	40		indicatorpagestyle: Changed color scheme	34
\tableofcontents: Moved leftskip Redefined macro	54		Moved to standard strips	34
v0.8			standardpagestyle: Changed color scheme	32
General: Deleted default graphic-swidth	47		Moved to standard strips	32
@bgcolor: Added change in @table-headcolor	40	v1.01		
\endtablepages: Added macro ..	48		\@draw@tocrule@part: Integrated changes of margins	54
\l@part: Moved leftskip	55		\@draw@tocrule@section: Integrated changes of margins ...	54
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