

MTEF Management Tool Ver.3.0 MAINTENANCE MANUAL

August 2019

**Organizational Capacity Development Project for the Management of
Devolved Health Systems in Kenya (OCCADEP)**

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Document History

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1 General Information

1.1 Background

The Ministry of Health (MOH) has been implementing Organizational Capacity Development Project for the Management of Devolved Health Systems (OCCADEP) since November 2014 in cooperation with Japan International Cooperation Agency (JICA). The aim of OCCADEP is to strengthen the managerial functions¹ of County Department of Health (CDOH). Based on the interviews and observations made in two pilot counties (Kericho and Kirinyaga), OCCADEP developed two Excel based tools to improve the management system of CDOH. These two tools are called MTEF Management Tool and MTEF Management Data Aggregation Tool. In 2018 and in early 2019, Ver.1.0 and 2.0 of the tools were utilized by two pilot counties. Based on the feedbacks obtained from them, OCCADEP finalized the tools as Ver.3.0 in June 2019 which will be used from FY2020/21 onwards to manage AWP.

1.2 Purpose and Scope of this Manual

The purpose of this manual is to provide guidance to developers on how to maintain MTEF Management Tool (Guidance on how to maintain MTEF Management Data Aggregation Tool is provided in another manual). For MTEF Management Tool to be utilized effectively, developers need to acquire basic knowledge of how the tool is developed, and how it should be maintained. This manual is comprised of preparation step of maintenance, general guidance on maintenance and troubleshooting of the tool.

- Section 2 – Preparation of Maintenance
- Section 3 – Guidance on Data Maintenance
- Section 4 – Guidance for Program Maintenance
- Section 5 - Troubleshooting

This manual covers necessary steps for maintenance of the tool. It does not include basic operation of Microsoft Excel, formula and VBA. Developers to be appointed (most likely who are outsourced) for the maintenance of this tool are required to have such basic knowledge and skills.

¹ Managerial functions are defined as functions necessary to ensure achievement of nationally and locally set goals while responding to the needs, demands and expectations of the people they serve.

2 Preparation of Maintenance

This section covers what needs to be prepared when maintaining the MTEF Management Tool. Some specific functions in Microsoft Excel are restricted to be used in MTEF Management Tool. This is to avoid the tool to be broken by wrong operation. For example, users cannot use “Drag and Drop” function. Using “Cut”, and “Paste” function is restricted. Workbooks and worksheets are all protected. Developers are recommended to follow the procedures below in advance of maintenance to take restrictions (Otherwise, developers will be required to do maintenance under restrictions).

1. Enable Restricted Functions

2. Unprotect Workbooks / Worksheets

3. Use Office Custom UI editor for Microsoft

1. Developers need to comment out some codes to remove the restriction of the functions in VBA.

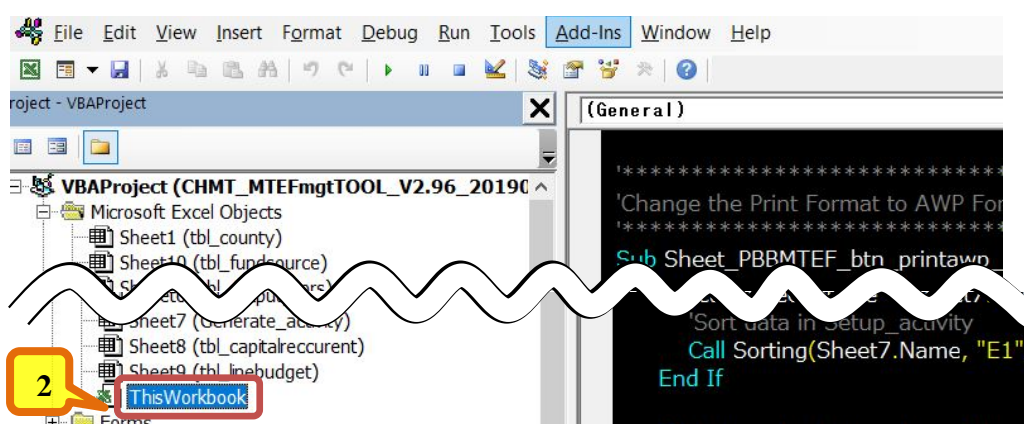
2. Developers need to unprotect workbooks / Worksheets to enable direct operation on them.

3. Developers may need to show functions which are hidden from the ribbons in Microsoft Excel with Office Custom UI editor.

2.1 How to enable restricted Functions

Before the maintenance, some functions restricting users’ operation need to be taken. as they disturb the maintenance activities. It is recommended to comment out² the following codes in the following process for effective maintenance³.

1. Click “Developer Tabs⁴” and Click “Visual Basic” from the Excel ribbon.
2. In the Project Explorer, double-click “ThisWorkbook” under “Microsoft Excel Objects”.



² The codes commented out are skipped when the program runs. As the codes need to be restored to the original conditions after the maintenance, commenting out is better than deleting the codes.

³ Comment-out may be unnecessary depend on what to be maintained.

⁴ Developers need to show “Developer Tabs” to use VBA application to modify coding. “Developer Tabs” are hidden in the default setting. You can display “Developer Tab” in Excel Options. Once the setting is done, Excel application show “Developer Tabs” anytime.

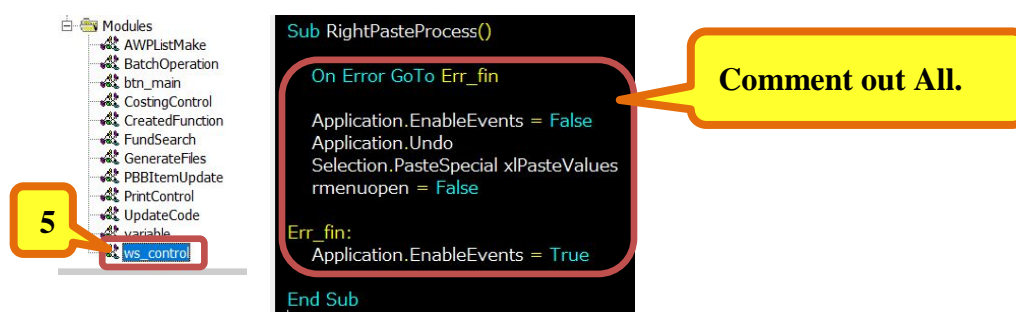
3. Comment out⁵ the following codes under “Workbook_Open” procedure.

```
Application.CellDragAndDrop = False
Application.OnKey "^v", "MyPaste"
Application.OnKey "^x", "MyCut"
Application.CommandBars("Row").Enabled = False
Application.CommandBars("Column").Enabled = False
```

[Note]

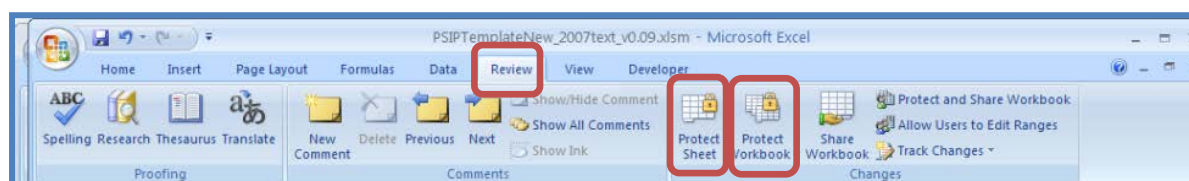
- 1) Note that they are intermittently ordered even though all of them are under “Workbook_Open” procedure.
- 2) Comment-out enables “Drag and Drop”, short-cut key of “Cut” and “Paste” and modifications of rows and columns.

4. In the Project Explorer, double-click “ws_control” procedure under “Modules”.
5. Comments out all codes under “RightPasteProcess” procedure.



2.2 How to Unprotect Workbooks / Worksheets

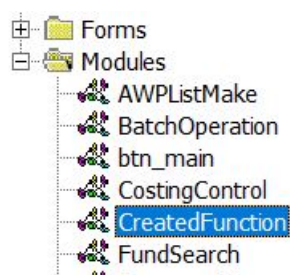
All Worksheets and Workbook are protected when MTEF Management Tool is opened. You can Unprotect them from “Review” tab in Excel menu as shown below.



[Note]

All Worksheets and Workbook are protected with the same password set in “wspasswd” function under “CreatedFunction” Module in VBA. If developers want to change the password, you can change the word in XXXXXXXXXX under this Function as shown in the following figure.

⁵ To comments out in VBA, add '[' before the corresponding codes.



```

'*****
' 'Decide the pass for Book and Sheets and admin only
'*****
Function wspasswd()

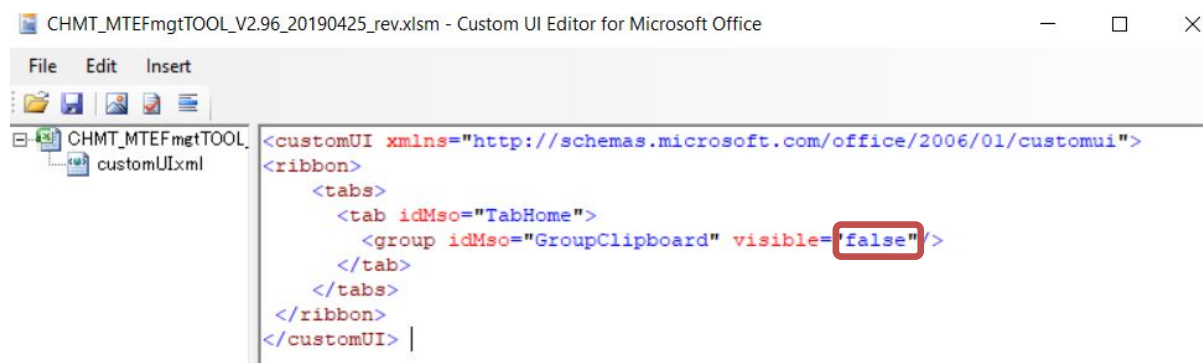
    wspasswd = " "

End Function
    
```

2.3 How to use Office Custom UI editor for Microsoft

The Office Custom UI Editor enables to change the layouts of ribbon in Microsoft Office.

1. Download Office Custom UI Editor from Microsoft site and install the application to your PC.
2. Open Office Custom UI Editor.
3. Open MTEF Management Tool with Office Custom UI Editor. You can see the following codes.



4. In MTEF Management Tool, the visibility of “GroupClipboard” is set-up as “False”. If “GroupClipboard” is necessary for the maintenance, change it to “True”.

3 Guidance on Data Maintenance

This section provides the basic guidance on how to maintain data in MTEF Management Tool. MTEF Management Tool is an Excel-based standalone tool. All the data entered in the tool is stored in worksheets in the tool. The data in each worksheet has common linkage. When data is added, modified and deleted by users, other related data may also need to be modified. Therefore, developers need to understand what kind of data exists in the tool and the linkage between data, which is explained in the following sub-sections.

3.1 Introduction of Data

3.1.1 Data Naming Rule

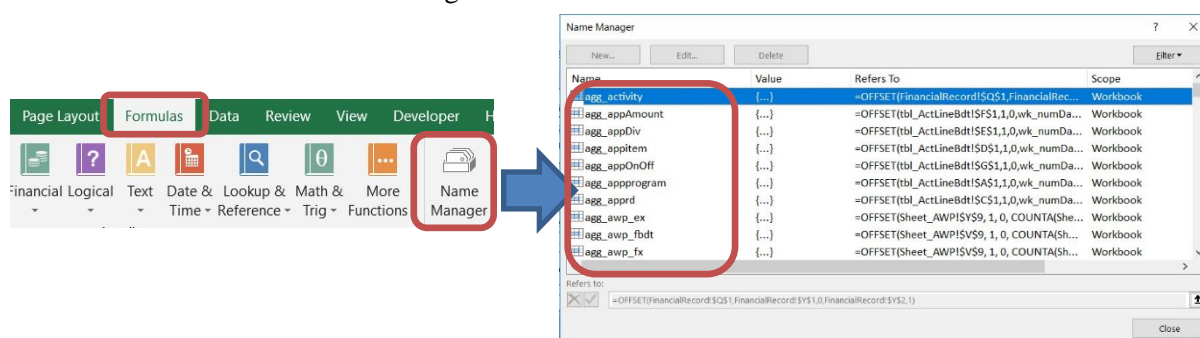
Each cell in Microsoft Excel has a specific cell address (eg. A1, B2 etc.) to be referred from other cells or VBA. However, it has three issues as follows.

1. Cell address fluctuates easily when modifying the worksheets. The cell address indicated in the VBA program cannot be automatically adjusted even if the address is changed. This causes increase in maintenance workload.
2. It is difficult to change the cell range for the list of data if cell address is directly indicated in the formula or VBA. The list of data with direct indication of cell addresses may need to be frequently maintained whenever data is added or deleted.
3. Developers may have difficulty to understand what kind of data a specific cell address in VBA or formula contains, unless developers directly check the data in its cell address.

Providing unique names to single or multiple cell addresses can solve all the issues. Therefore, some cell(s) in MTEF Management Tool, particularly referred from VBA or other worksheets are given specific names.

List of names given to the cell(s) can be checked with Name Manager in the following procedure.

Click Formulas -> Click Name manager



The following Table shows the naming rules for those cells.

Prefix	Meaning	Target	Issue solved
agg_	List of data which can be utilized for aggregation by Excel formula	Single or multiple cells	2 and 3

Prefix	Meaning	Target	Issue solved
conso_	Index to obtain the data location of MTEF Management Tool when data consolidation is conducted by “MTEF Management Data Aggregation Tool”.	Single cell	1
lst_	List of master data referred from Excel formula or VBA	Single or multiple cells	2 and 3
wk_	Working cell (Calculated by users operation)	Single cell	1 and 3
x_	A cell to be entered by users	Single cell	1 and 3

3.1.2 Kinds of Data

This section explains the role of data which has each prefix.

1. Role of “agg_” data

“agg_” data is a list of data which can be utilized for aggregation by Excel formula. Usually formula is set-up for “agg_” data to refer the appropriate range of data⁶. For example, “agg_ex” indicates all cell range which have expenditure information entered in “Financial Record” sheet. The range of data is automatically changed by formula, depending on how much expenditure data is entered in the sheet. “agg_ex” is used to calculate various kinds of expenditure, such as monthly expenditure summary by program, sub-program, output, activity, and/or line-item.

2. Role of “lst_” data

“lst_” data is a list of master data referred from Excel formula or VBA. Usually formula is set-up for “lst_” data to refer to the appropriate range of data. For example, “lst_hf” indicates all cell range which have Health Facility Name in “Setup_HF” sheet. The range of data is automatically changed by formula, depends on how much health facility data is existed in the sheet. “lst_hf” is used to create a dropdown-list in “main” sheet for users to select health facility name for the tool. (Users can select the health facility name from the dropdown-list which contains all health facility name in “Setup_HF” sheet.)

3. Role of “x_” data

“x_” is used for the cell value directly entered by users. For example, “x_fiscal_year” in “main” sheet (proposed fiscal year) is referred to by most of the worksheets.

4. Role of “wk_” data

“wk_” is used for the cell value automatically changed depending on another value entered by users. Usually it is used as a key to run a specific program. The three “wk_” data (which works as a flag data to run an important program) are introduced below.

⁶ A way of setting up the formula is explained in the section 3.3.1.

(1) wk_item_refresh_flg

“wk_item_refresh_flg” is the name of one cell in “wk_sheet”. Its value option is either 0 or 1, and “PBBPlanItem” sheet is automatically updated when its value is 1. The value of “wk_item_refresh_flg” in “wk_sheet” sheet is updated to “1” when some data in “tbl_linebudget” or “tbl_program” sheet is updated. When users deactivate these sheets, or save the file without deactivation of the sheets, “PBBPlanItem” sheet is updated based on the line-item and program information in both sheets. Once “PBBPlanItem” sheet is updated, the value of “wk_item_refresh_flg” is updated to “0”.

(2) wk_awp_refresh_flg

“wk_awp_refresh_flg” is the name of one cell in “wk_sheet”. Its value option is either 0 or 1. When this value is 1, alert message to inform the necessity of “Sheet_AWP” sheet update is displayed when user opens “Sheet_AWP”. If some data in “Generate_Activity” sheet or “level & activities for AWP” in “main” sheet is changed, “wk_awp_refresh_flg” in “wk_sheet” sheet is updated to “1”. Once “Sheet_AWP” is updated, the value of “wk_awp_refresh_flg” is updated to “0”.

(3) wk_onoff_flg

Radio button to select “On/Off Budget” in “dashboard” or “PBBPlanItem” sheet it is linked to the cell named “wk_source” existed in “wk_sheet”. “wk_source” contains one of the values from 1 to 3 depending on the item selected by users. The cell named “wk_onoff_flg” in “wk_sheet” translate the value of “wk_source” to meaningful value. The linkage of user selection and the value of “wk_source” and “wk_onoff_flg” is summarized in the following table.

Users selection	Value of wk_source	Value of “wk_onoff_flg”
All Sources	1	-
On	2	On
Off	3	Off

Based on the value of “wk_onoff_flg”, the planned budget in “PBBPlanItem” sheet is calculated automatically by formula.

5. Role of “conso_” data

“conso_” data is used to obtain the location of specific data in MTEF Management Tool when data consolidation is conducted with MTEF Management Data Aggregation Tool. The column or row number of the data in MTEF Management Tool may be changed when maintaining. For example, currently “County Name” is existed in “B” column in “tbl_county” sheet, but it will be changed if new column is inserted or deleted. Putting index can deal with its fluctuation and works to obtain the correct data location.

3.2 Data Linkage**3.2.1 Worksheets Linkage**

Worksheets in the MTEF Management Tool and their linkage are shown in Appendix 1.

[Note]

- 1) Most worksheets are linked to other worksheets as shown in the Table in Appendix 1.
- 2) There are mainly four types of worksheets; 1) Entry, 2) Master, 3) View and 4) Menu (See the Type of Worksheets in the Table in Appendix 1). “Entry” sheet is editable by users, and “Master” sheet is editable by admin users only. “View” sheet is not editable as they are generated automatically based on the data in “Entry” and “Master” sheets. “Menu” sheet has buttons for users to navigate other sheets, which are 1) main sheet (accessed by users) and 2) admin sheet (accessed by admin users only).
- 3) In the default, only “main” sheet (menu sheet) is displayed. Users can be navigated from this sheet to other (“Entry” and “View”) sheets.

3.2.2 Data Linkage Diagram

Data and the linkage of data stored in each worksheet is summarized in Data linkage Diagram attached as Appendix 2. Developers need to refer it to consider what kind of influence may happen when maintaining the tool.

In MTEF Management Tool, the same data may exist in multiple columns in multiple sheets. For example, Sub-county name exists not only in “tbl_subcounty” sheet (master sheet) but also in “Setup_HF” sheet (related sheet). This is because users need to set up sub-county name in “tbl_subcounty” sheet (master sheet) and select one sub-county name in “Setup_HF” (related sheet) to make the data linkage with health facility, and all the data entered are stored as it is in each sheet.

This kind of data duplication (existence of sub-county name in both “tbl_subcounty” sheet and “Setup_HF” sheet) makes it difficult to maintain the data integrity, because the data in master sheet may be modified later. To sustain data integrity, it is necessary to update the data in the related sheet whenever the same data in master sheet is updated. This is a heavy load and requires a large maintenance effort.

In MTEF Management Tool, in many cases when the data in the master sheet is updated, the same data is not updated in the related sheets. Instead, the user is notified that the update is necessary. For example, when Sub-county name of “A” set in “tbl_subcounty” sheet is changed to “B”, even if “A” is already linked to a specific health facility in “Setup_HF” sheet at that time, its data is not updated in “Setup_HF” sheet. Instead, users are notified of the errors by seeing the color of cells become red. Most of the master sheets and the Financial Record sheet use this kind of error notification, and users are required to modify the data once they find the errors

“Sheet_AWP” and “PBBPlanItem” sheets are exceptions. They need to keep the data up-to-date at all times, as the data in the sheets are used for the aggregation by MTEF Management Data Aggregation Tool. Therefore, for these two sheets, an update program runs when the master data is modified (refer to 3.1.2 for the details). Additionally, activity code in “Generate_activity” and output code in “tbl_output” sheets are also automatically updated if the related output code or subprogram code is changed. This is because these codes are the cores for the calculation in AWP.

Note that all View sheets (Summary Report, “VoteBudget” and “dashboard”) are calculated by formula, and the data is up-to-date.

Type of sheets and its data linkage is summarized in the following Table.

Type of Sheets	Type of data linkage	How to make a linkage
“FinancialRecord” Most of Master sheets (eg. tbl_XXXXXX, Setup_XXXXXXXX)	Dropdown-list * No update program runs. Instead, cells which have errors become red color.	See section 3.3.3 1.
“Sheet_AWP” “PBBPlanItem”	Update Program (VBA) runs when the value of related flag data is “1”.	See section 3.3.3 2.
“Generate_activity” and “tbl_output”	Update Program (VBA) runs when the output or subprogram code or name is changed.	See section 3.3.3 2.
View sheets (eg. Summary Reports, “VoteBudget” and “dashboard”)	Formula	See section 3.3.3 3.

3.3 Data Maintenance

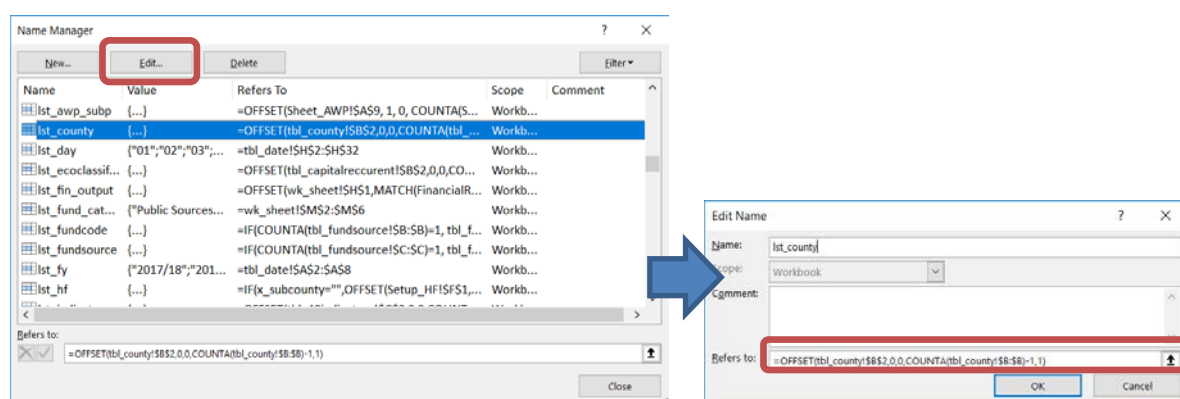
3.3.1 How to modify a data-set

As already indicated in the table above, “agg_” or “lst_” data are developed by formula in order to refer the appropriate data set. For example, “lst_county” in “tbl_county” sheet has the following formula in it.

=OFFSET(tbl_county!\$B\$2,0,0,COUNTA(tbl_county!\$B:\$B)-1,1)

“COUNTA” formula counts the number of county data, which exists in “B” column in “tbl_county” sheet. “OFFSET” formula indicates the data set starting from “B2” in “tbl_county” sheet which has the range for the number of county. With the formula above, the range of county data is automatically changed even if users change the number of counties in “tbl_county” sheet by adding or deleting the data. “lst_county” data is used to enable users to select “county” from dropdown list in “main” sheet as shown in Appendix 2. Usually, the formula does not have to be changed, but if you need to change it, you can change it with Name manager with the following procedure.

- 1) Click Formulas -> Click Name manager
- 2) In the Name Manager Dialogue, select the data name to be modified and click “Edit”.
- 3) Change the name of the data or formula and click OK.



[Note]

There is a possibility that “Edit” button is unable to be clicked. In this case, unlock the worksheet which contains the name to be modified.

3.3.2 How to make a new data-set

There may be cases where it is necessary to add a new master sheet and create a new data set. Developers are required to consider how its master data and data set can be linked to other existing worksheets and how the data set is to be utilized. After such consideration, developers need to make a new-data set with the following procedure.

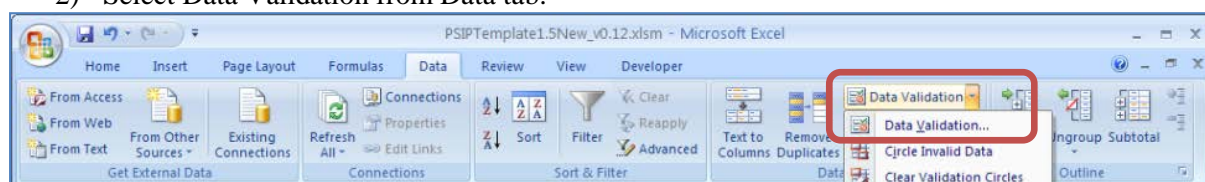
- 1) Click Formulas -> Click Name manager
- 2) In the Name Manager Dialogue, click “New”.
- 3) Type the name of the data and formula and click OK.

3.3.3 How to make a data linkage

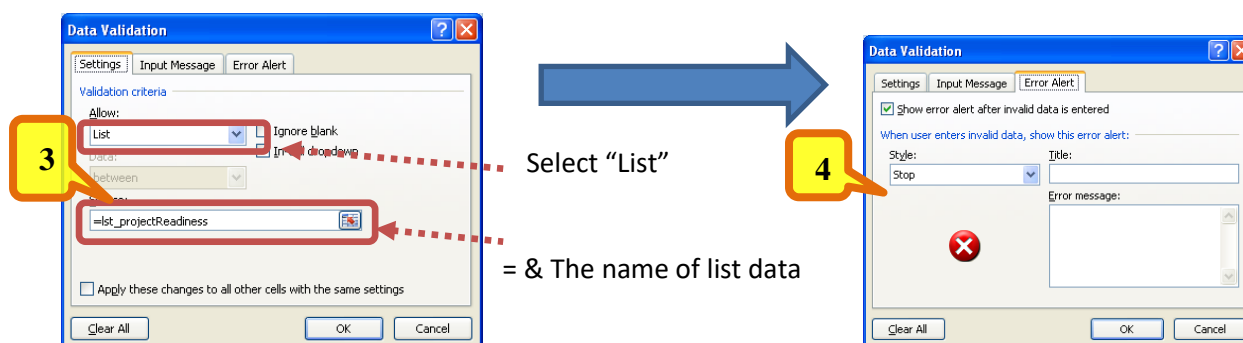
1. Drop-down List (list of data)

Developers may need to make a drop-down list to restrict the data entry by users. This is usually used to refer the data from master sheets (See 3.2.2. for the detail). The procedure for making a dropdown list is shown below.

- 1) Create a list of data in worksheets and name them starting with “lst_” using “Name Manager” under “Formula” tab (See 3.3.2 for the detail).
- 2) Select Data Validation from Data tab.



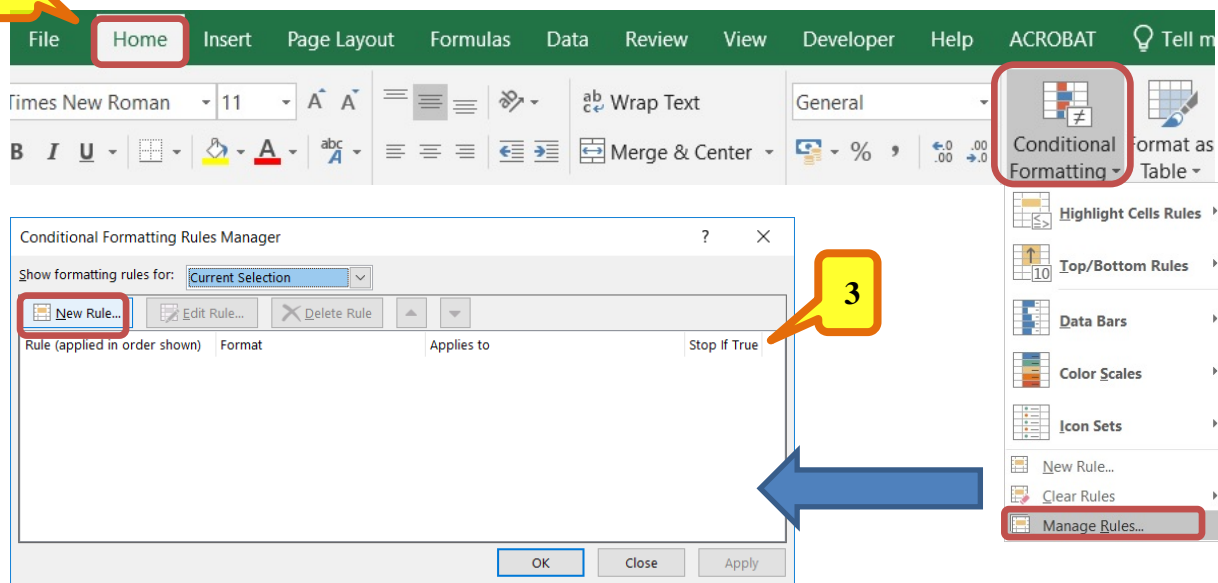
- 3) Select “List” in the “Allow” and specify “=” & “the name of list data” in the “Source”.
- 4) Select “Error Alert” tab and set the error message to be displayed when user input the data not existed in the list.



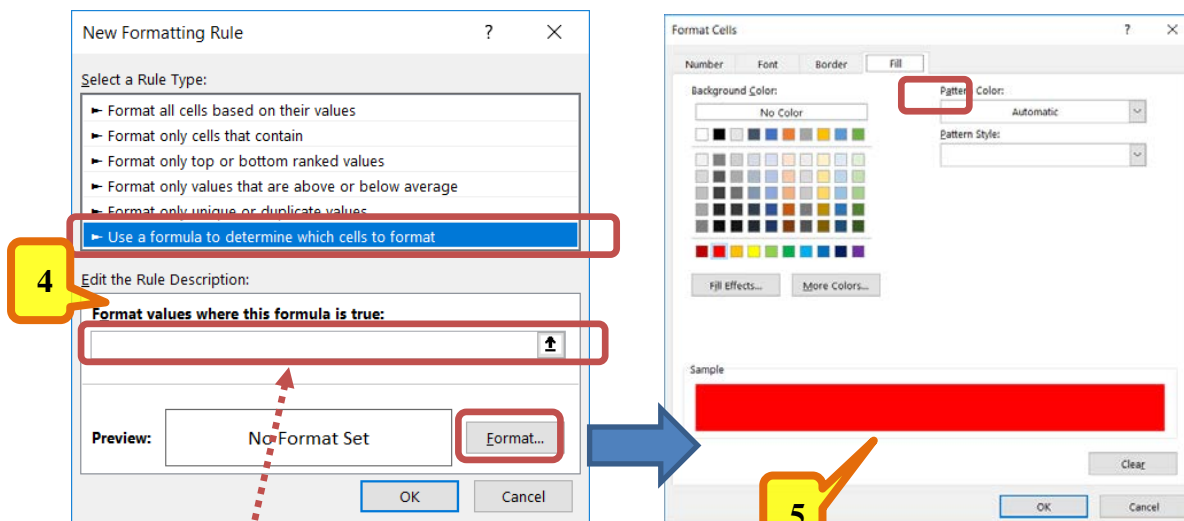
Data set-up by drop-down list does not change automatically even if the related master data is modified later. If there is a need for the data to always be linked to the master data, developers

need to create update program (VBA) to update its value. In MTEF Management Tool, no update program runs for most of the data even if the data in master sheet is modified, as explained in 3.2.2. Instead, the cells which have errors turn red. Conditional Formatting can be used to make the color of error cells to become red by the following process.

- 1) Select the cell range which is linked to other data and has possibility to have errors (Usually cells set-up dropdown list).
- 2) Select “Conditional Formatting” from “Home” tab and click “Mange Rules.”.
- 3) In the Conditional Formatting Rules Manager, click “New Rule”.



- 4) In the New Formatting Rule dialogue, select “Use a formula to determine which cells to:” and write the formula in “Format values where this formula is true:”.
- 5) Click Format and set-up the formatting to be applied when the formula set-up becomes true. (To make the cell color red, select “Fill” tab, and select red color. Finally, click OK.)



Write the formula.

2. Update Program (VBA)

Developers may need to make / modify the update program. Update program is used for the cells which always need to be up-to-date (See 3.2.2. for the detail).

Update program for “Sheet_AWP” and “PBBPlanItem” is managed by flag data as follows.

1) Sheet_AWP Update Program

```
Sub AWPUpdateMainProcess()
```

```
    If ThisWorkbook.Worksheets(Sheet28.Name).Range("wk_awp_refresh_flg").Value = 0 Then
        Exit Sub
    End If
```

“AWPUpdateMainProcess” is a public procedure which runs when “Sheet_AWP” sheet is activated and update the activity list in “Sheet_AWP”. At the beginning, the program checks the value of “wk_awp_refresh_flg” in “wk_sheet” (Sheet28) and if the value is 0 (zero), exit the procedure. It means if the value is 1, the process continues (“Sheet_AWP” is updated accordingly).

2) Flag value Update Program (wk_awp_refresh_flg)

```
Private Sub Worksheet_Change(ByVal Target As Range)
```

```
    'If Facility level for AWP activity list is changed, update the AWP flg
    If Not (Intersect(Target, Range("x_awp_level")) Is Nothing) Then
        ThisWorkbook.Worksheets(Sheet28.Name).Range("wk_awp_refresh_flg").Value = 1
    End If
```

The value of “wk_awp_refresh_flg” is updated to 1 when “x_awp_level” in “main” sheet is changed. This program runs when some data in “main” sheet is changed (Worksheet_Change event). The program to update “wk_awp_refresh_flg” runs in “Worksheet_Change” event in “Generate_activity” sheet as well.

3) PBBPlanItem Update Program

```
Private Sub Worksheet_Deactivate()
```

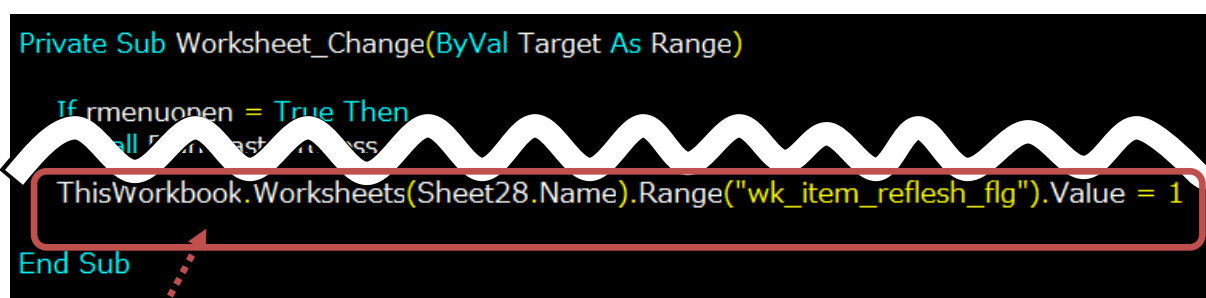
```
    rmenuopen = False
```

```
    If ThisWorkbook.Worksheets(Sheet28.Name).Range("wk_item_refresh_flg").Value = 1 Then
        Call PBBUpdate
    End If
```

```
End Sub
```

“PBBUpdate” is public procedure which updates the PBB list in “PBBPlanItem” sheet. When the “tbl_program” or “tbl_linebudget” sheet is deactivated (Worksheet_Deactivate event), the program checks the value of “wk_item_refresh_flg” in “wk_sheet” (Sheet28) and if its value is 1, the program calls “PBBUpdate” procedure. In case that users try to finish the file without deactivation of these worksheets, the necessity of running PBBUpdate program is judged when the file is saved as well (Workbook SaveEvent).

4) Flag value Update Program (wk_item_refresh_flg)



```
Private Sub Worksheet_Change(ByVal Target As Range)
    If rmenuopen = True Then
        ThisWorkbook.Worksheets(Sheet28.Name).Range("wk_item_refresh_flg").Value = 1
    End Sub
```

The value of “wk_item_refresh_flg” is updated to 1 when some data in “tbl_linebudget” or “tbl_program” sheet is changed. This program runs when some data in each sheet is changed (Worksheet_Change event).

5) Code Update Program

When users create a new sub-program, output and activity, their codes are automatically created based on their linkage. However, users may modify their linkage after the codes were set-up. Output and activity code are automatically updated when the sub-program code and output code linking to them are changed. This is because of their coding rules linking to each other. The rules are summarized in the following Table.

Category	Coding rule and digit allowed
Program	Code is fixed. (1 digit from 1 to 5)
Sub-Program	3 digits. Code is automatically created. The first digit is program code and the second and third digit will be created in numerical order to make the code to be unique. For example, if one sub-program is created and is the first one linking to Program 1 that sub-program code will be 101.
Output	5 digits. Code is automatically created. The first three digits are sub-program code and the remaining 2 digits are created in numerical order to make the code to be unique. For example, if one output is created and is the second one linking to sub-program 101, that output code will be 10102.
Activity	7 digits. Code is automatically created. The first five digits are output code and the remaining 2 digits are created in numerical order to make the code to be unique. For example, if one activity is created and is the third one linking to output 10102, that activity code will be 1010203.

Their update program and timing to run these programs is summarized in the following Table.

Name of Procedure	Description	Timing to run
UpdateOutputcode	Update output code if sub-program code linking to the output code is changed.	Worksheet_Change event in “tbl_sub-program” sheet
UpdateActivitycode	Update activity code if sub-program code linking the activity code is changed.	Worksheet_Change event in “tbl_sub-program” sheet
UpdateActivitycode2	Update activity code if output code linking to the activity code is changed.	Worksheet_Change event in “tbl_output” sheet

Name of Procedure	Description	Timing to run
UpdateSubpName	1. Update sub-program name in “Generate_activity” and “tbl_output” when the sub-program name is changed. 2. Update output name in “Generate_activity” when the output name is changed.	1. Worksheet_Change event in “tbl_sub-program” sheet 2. Worksheet_Change event in “tbl_output” sheet

3. Using Formula

Developers may need to make / modify the formula for aggregation purpose. Formula is used for the un-editable cells which refer the data from other sheets (See 3.2.2. for the detail). The way of making a formula is shown as follows.

- 1) Name a list of data to be referred (“agg_xxxxx”) using “Name Manager”.
- 2) Write the formula in the Formula Bar by referring “agg_xxxxx” data, which was set up in 1).

[Note]

- 1) “SUMIF”, “SUMIFS” or “IF” are the formula frequently used for the aggregation.
- 2) To make the formula, developers need to understand the concepts of and how to use “absolute reference” and “relative reference” which can be distinguished with “\$”.
- 3) It is possible to make a formula without naming a list of data with “agg_”, but the name enables developers to easily understand what kind of data is indicated in the formula (See 3.1.1 for the detail).

4 Guidance for Program Maintenance

This section provides the basic guidance on how to maintain the program in MTEF Management Tool. The focus is on the linkage among programs. Developers need to understand what kind of program exists in the tool and the linkage among them, which is explained in the following sub-sections. Note that the detail of each program is not explained in this section. When maintaining the existing program, developers need to read the related codes, and understand the algorithm in it.

4.1 Introduction of Program

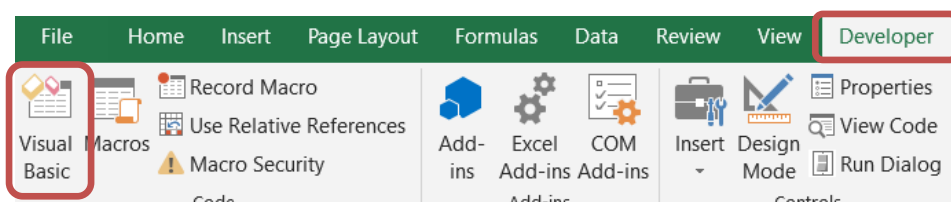
4.1.1 List of Modules

MTEF Management Tool has several programs consisted of private and public procedures. Private procedures work only in the limited areas, which are called by each worksheet event, such as Worksheet_Change, Worksheet_Activate and Worksheet_Deactivate. Private procedures are stored under each worksheet in VBA. On the other hand, public procedures are stored under Module, and can be called by any private or public procedures. MTEF Management Tool has 12 Modules, which are listed below.

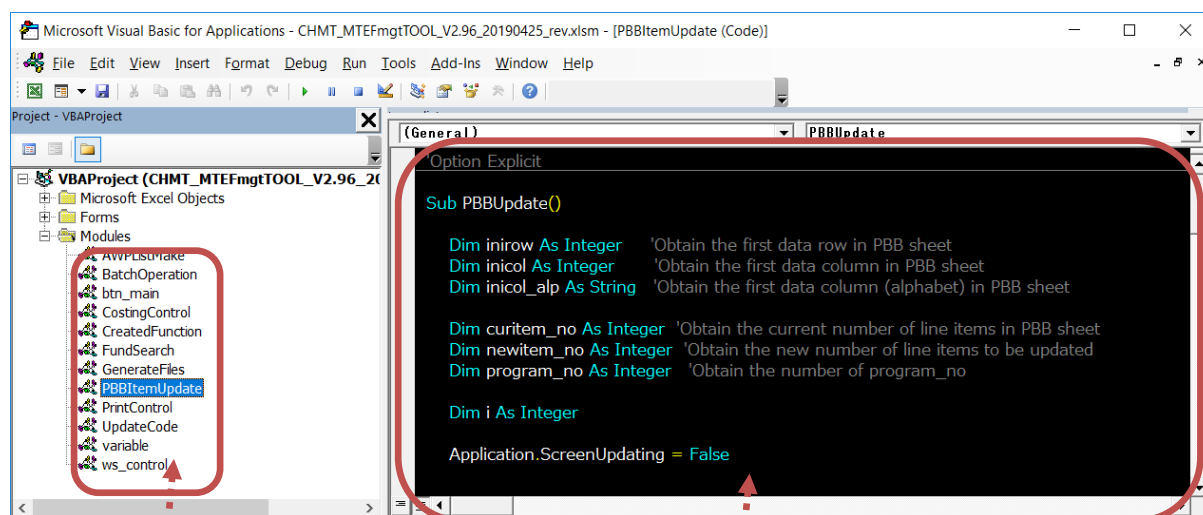
#	Name of Modules	Roles
1.	AWPListMake	Contains the procedures which create, update and delete AWP list.
2.	BatchOperation	Contains the procedures creating and operating batch program which generate MTEF Management Tools for distribution.
3.	btn_main	Contains all the button click event procedures to be called when user clicks buttons in “main” or “adminonly” sheets.
4.	CostingControl	Contains the procedures which create, modify and delete the data in “tbl_ActLneCost” or “tbl_ActLineBudget” sheets.
5.	CreatedFunction	Contains all the functions created for MTEF Management Tool.
6.	FundSearch	Contains only one checkbox click event procedure which can make the source of fund blank when checkbox for “All source of fund” in Reporting sheets are clicked.
7.	GenerateFiles	Contains all the procedures which is necessary to generate new MTEF Management Tool. Note that only Batch operation programs are saved under “BatchOperation” module.
8.	PBBItemUpdate	Contains “PBBUpdate” procedure which can update “PBBPlanItem” sheet. This procedure is called by other procedures when “PBBPlanItem” sheet needs to be updated.
9.	PrintControl	Contains the procedures to adjust the printing setting when two kinds of printing buttons in “Sheet_AWP” sheet are clicked.
10.	UpdateCode	Contains the procedures which updates output, subprogram and activities codes.
11.	variable	Declares all the public variables which is used in all the modules
12.	ws_control	Contains the procedures to control worksheet view, lock or operation.

Developers can confirm the list of Modules with the following procedure.

- 1) Click “Visual Basic” under “Developer” tab.



- 2) In the Project Explorer, click the Modules and you can see the list of modules. If you double-click the Modules, you can see all the public procedures under its Module.



List of Modules

Public procedures under the module double-clicked

4.1.2 List of Public Procedures

All the public procedures and their roles are summarized in Appendix 3.

4.2 Program Linkage

Program in VBA and the linkage of each program is summarized in Program linkage Diagram attached as Appendix 4. Developers need to refer it to consider what kind of influence happen when maintaining the program in the tool.

4.3 Program Maintenance Notes

There are several significant points developers need to take note when maintaining the tool.

- (1) There are two ways to make buttons or checkboxes; 1) Form controls and 2) Active X. Do not use Active X as it does not work on a Mac computer.
- (2) System requirements to use MTEF Management Tool is attached as Appendix 5. Note that Users' Excel version is frequently upgraded. Some Excel functions, formula or codes may be diminished in the new version of Excel. This means that some users may come not to be able to use MTEF Management Tool depending on the Excel version or Operating System (OS) they use. For the

troubleshooting for users, check what kind of Excel version or OS they use, and consider if the program can be adjusted in a way, which all types of Excel or OS users can use the tool.

- (3) After the maintenance, the tool should be finalized to be distributed to users. Developers need to restore the settings which were deleted or commented out before maintaining the tool. Use the Checklist to finalize the tool as a preparation of distribution, which is attached as Appendix 6.

5 Troubleshooting

Solutions to problems that may face while operating MTEF Management Tool and MTEF Data Aggregation tool are summarized in Q & A format as attached in Appendix 7. Try these solutions to resolve problems.

Appendix 1: Worksheets and their Linkage

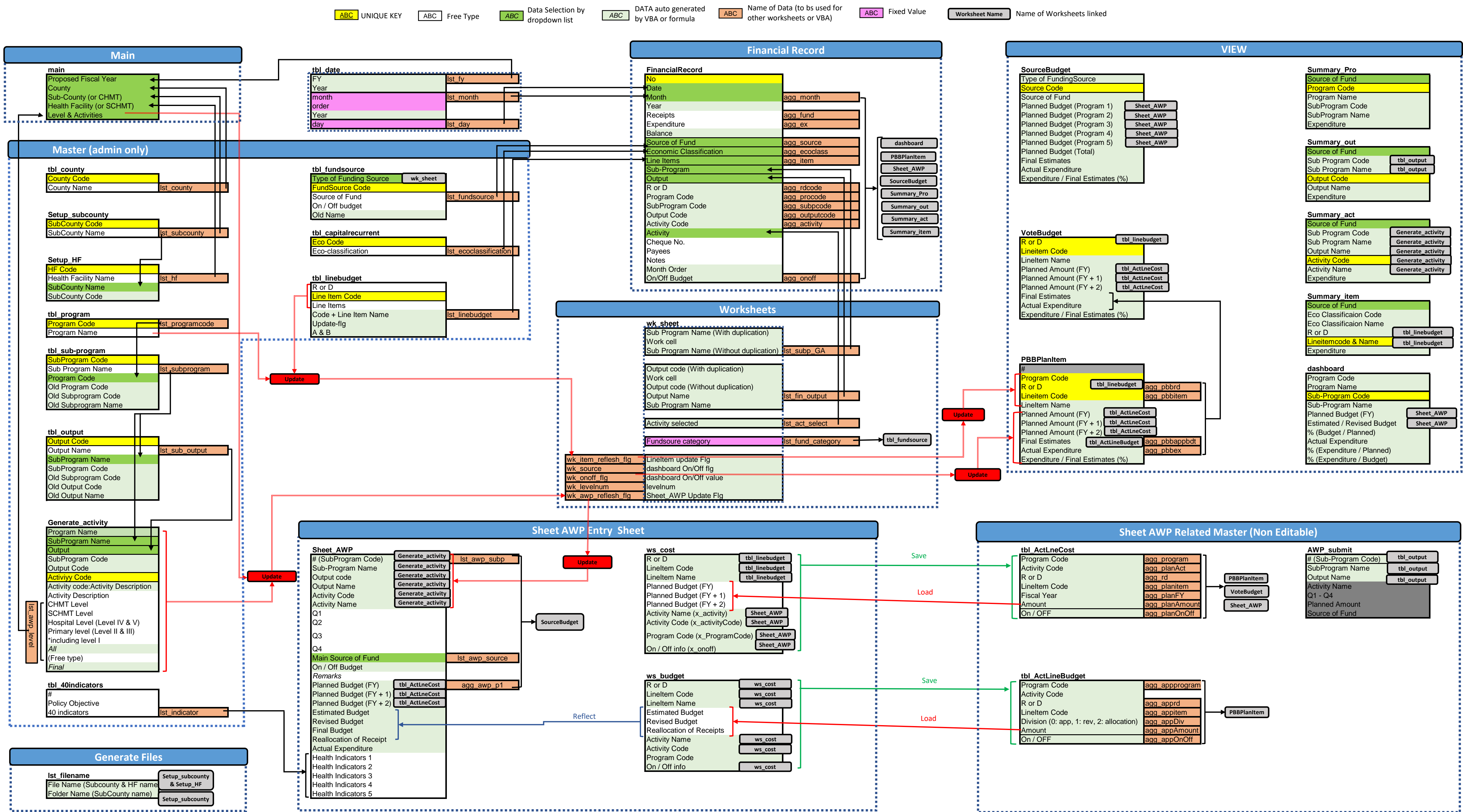
Sheet no	Sheet Name	Type	Linked Sheet	Remark
Sheet 13	AWP_submit	-	Data provided from: ✓ tbl_output	Blank AWP format for users to print out
Sheet 17	FinancialRecord	Entry Sheet	Data provided from: ✓ tbl_date ✓ tbl_fundsource ✓ tbl_capitalrecurrent ✓ tbl_linebudget Data affect to: ✓ Dashboard ✓ PBBPlanItem ✓ Sheet_AWP ✓ SourceBudget ✓ Summary_Pro ✓ Summary_act ✓ Summary_item ✓ Summary_out Data provided from and affect to: ✓ wk_sheet	Data entry sheet for Financial transaction
Sheet 7	Generate_activity	Master	Data provided from: ✓ tbl_sub-program ✓ tbl_output Data affect to: ✓ FinancialRecord ✓ main (x_awp_level) ✓ wk_sheet (wk_awp_refresh_flg) ✓ Sheet_AWP ✓ Summary_act	Master sheet to generate activities
Sheet 27	PBBPlanItem	View	Data provided from: ✓ FinancialRecord ✓ tbl_program ✓ tbl_linebudget ✓ wk_sheet (wk_onoff_flg) ✓ tbl_ActLineBudget (Budgeting data) ✓ tbl_ActLineCost (Planning data) Data affect to: ✓ VoteBudget Data provided from and affect to: ✓ wk_sheet (wk_item_refresh_flg)	Summary view for planned and approved budget and expenditure based on the program and line items
Sheet 3	Setup_HF	Master	Data provided from: ✓ Setup_subcounty Data affect to: ✓ main (x_hf) ✓ lst_filename	Master sheet to set-up health facilities
Sheet 2	Setup_subcounty	Master	Data affect to: ✓ Setup_HF ✓ main (x_subcounty) ✓ lst_filename	Master sheet to set-up sub-county
Sheet 12	Sheet_AWP	Entry Sheet	Data provided from: ✓ Generate_activity	AWP sheet

Sheet no	Sheet Name	Type	Linked Sheet	Remark
			<ul style="list-style-type: none"> ✓ FinancialRecord (expense info) ✓ tbl_fundsource ✓ tbl_40indicators ✓ wk_sheet (wk_levelnum) ✓ ws_budget <u>Data affect to:</u> ✓ tbl_ActLineBudget (OnOff info) ✓ tbl_ActLneCost (OnOff info) ✓ SourceBudget ✓ dashboard <u>Data provided from and affect to:</u> ✓ ws_cost ✓ wk_sheet (wk_awp_reflesh_flg) 	
Sheet 32	SourceBudget	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ tbl_program ✓ tbl_fundsource ✓ Sheet_AWP ✓ FinancialRecord 	Summary view for planned and approved budget and expenditure based on the source of fund
Sheet 18	Summary_Pro	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ tbl_program ✓ tbl_sub-program ✓ FinancialRecord ✓ tbl_fundsource 	Summary view for monthly expenditure based on program / Sub-program
Sheet 20	Summary_act	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ Generate_activity ✓ FinancialRecord ✓ tbl_fundsource 	Summary view for monthly expenditure based on activity
Sheet 21	Summary_item	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ tbl_capitalreccurent ✓ tbl_linebudget ✓ FinancialRecord ✓ tbl_fundsource 	Summary view for monthly expenditure based on line-item
Sheet 19	Summary_out	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ tbl_output ✓ FinancialRecord ✓ tbl_fundsource 	Summary view for monthly expenditure based on output
Sheet 25	VoteBudget	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ PBBPlanItem ✓ tbl_ActLneCost ✓ tbl_linebudget 	Summary view for planned and approved budget and expenditure based on line items
Sheet 14	adminonly	Menu	-	Menu for admin users to set-up master sheets
Sheet 22	dashboard	View	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ tbl_program ✓ tbl_sub-program ✓ Sheet_AWP ✓ FinancialRecord 	Summary view for planned and approved budget and expenditure based on program / Sub-program. Users can compare the information using the Chart automatically created.
Sheet 26	lst_filename	Master *cannot be edited	<u>Data provided from:</u> <ul style="list-style-type: none"> ✓ Setup_HF ✓ Setup_subcounty 	List of file name to be used when generating new MTEF Management Tool files for all sub-county and health facilities. The data in this sheet is automatically created based on sub-county name in

Sheet no	Sheet Name	Type	Linked Sheet	Remark
				“Setup_subcounty” sheet and health facility name in “Setup_HF” sheet by omitting some symbol which cannot be used for the file name.
Sheet 16	main	Menu	Data provided from: ✓ Setup_subcounty ✓ Setup_HF ✓ Generate_activity ✓ tbl_date ✓ tbl_county Data affect to: ✓ wk_sheet	Menu to navigate users to other sheets.
Sheet 11	tbl_40indicators	Master	Data affect to: ✓ Sheet_AWP	Master sheet to generate indicators
Sheet 31	tbl_ActLineBudget	Master *cannot be edited	Data provided from: ✓ Sheet_AWP Data affect to: ✓ PBBPlanItem Data provided from and affect to: ✓ ws_budget	Master sheet which is automatically generated to store the budgeting information by each activity and each line-item.
Sheet 24	tbl_ActLineCost	Master *cannot be edited	Data provided from: ✓ Sheet_AWP Data affect to: ✓ PBBPlanItem Data provided from and affect to: ✓ ws_cost	Master sheet which is automatically generated to store the costing information in each fiscal year by each activity and each line-item.
Sheet 8	tbl_capitalrecurrent	Master	Data affect to: ✓ FinancialRecord ✓ Summary_item	Master sheet which is automatically generated to store the costing information in each fiscal year by each activity and each line-item.
Sheet 1	tbl_county	Master	Data affect to: ✓ main	Master sheet to generate economic classifications
Sheet 15	tbl_date	Master *cannot be edited	Data affect to: ✓ FinancialRecord ✓ main	Master sheet which stores. the list of year, month and day. Only the list of the year is changed based on the date of today.
Sheet10	tbl_fundsource	Master	Data provided from: ✓ wk_sheet (Type of fund) Data affect to: ✓ FinancialRecord ✓ Sheet_AWP ✓ SourceBudget ✓ Summary_Pro ✓ Summary_act ✓ Summary_item ✓ Summary_out	Master sheet to generate source of fund
Sheet 9	tbl_linebudget	Master	Data affect to: ✓ FinancialRecord ✓ PBBPlanItem ✓ Summary_item ✓ VoteBudget ✓ wk_sheet (wk_item_reflesh_flg) ✓ ws_cost	Master sheet to generate line-item
Sheet 6	tbl_output	Master	Data provided from: ✓ tbl_sub-program	Master sheet to generate output

Sheet no	Sheet Name	Type	Linked Sheet	Remark
			Data affect to: ✓ Generate_activity ✓ AWP_submit ✓ Summary_out ✓ wk_sheet	
Sheet 4	tbl_program	Master	Data affect to: ✓ PBBPlanItem ✓ SourceBudget ✓ Summary_Pro ✓ Dashboard ✓ tbl_sub-program ✓ wk_sheet (wk_item_refresh_flg)	Master sheet to generate program
Sheet 5	tbl_sub-program	Master	Data provided from: ✓ tbl_program Data affect to: ✓ Generate_activity ✓ SourceBudget ✓ Summary_Pro ✓ dashboard ✓ tbl_output	Master sheet to generate sub-program
Sheet 28	wk_sheet	Master *cannot be edited	Data provided from: ✓ Generate_activity ✓ tbl_output ✓ tbl_linebudget (wk_item_refresh_flg) ✓ tbl_program (wk_item_refresh_flg) ✓ main (wk_levelnum) Data affect to: ✓ PBBPlanItem (wk_onoff_flg) ✓ Sheet_AWP (wk_levelnum) ✓ tbl_fundsource Data provided from and affect to: ✓ FinancialRecord (Output and Activity) ✓ Sheet_AWP (wk_aws_refresh_flg) ✓ PBBPlanItem (wk_item_refresh_flg)	Worksheets which store several important values, which are automatically changed based on the data entered by users.
Sheet 30	ws_budget	Entry Sheet	Data provided from: ✓ ws_cost Data provided from and affect to: ✓ tbl_ActLineBudget Data affect to: ✓ Sheet_AWP	Data entry sheet to enter the budget information. This sheet is displayed when users double-click the corresponding cells in "Sheet_AWP" sheet.
Sheet 23	ws_cost	Entry Sheet	Data provided from: ✓ tbl_linebudget Data affect to: ✓ ws_budget Data provided from and affect to: ✓ Sheet_AWP ✓ tbl_ActLneCost	Data entry sheet to enter the costing information. This sheet is displayed when users double-click the corresponding cells in "Sheet_AWP" sheet.

Appendix 2: MTEF Managemtn Tool Ver.3.0 Data Linkage Diagram



Appendix 3: List of Public Procedures

#	Name of Procedures	Roles	Modules which contains the procedure
1.	Sheet_AWP_btn_1istmake_Click	Call when “Update Activities” button in “AWP” sheet is clicked. This procedure call “AWPUpdateMainProcess” procedure.	AWPListMake
2.	AWPUpdateMainProcess	Judge whether the update of AWP sheet is necessary, and call “MakeOutput” procedure if necessary.	AWPListMake
3.	MakeOutput	Create all the activity and outputs list based on the data in “Generate_activity”.	AWPListMake
4.	SetupData	Set sub-program, Outputs and activity codes and names in “Sheet_AWP” after new row is inserted into the sheet. This program is called by “MakeOutput” program when necessary.	AWPListMake
5.	OperateBatch	Run the batch file (MakeTool.bat) created	BatchOperation
6.	MakeBatch	Create the batch file (MakeTool.bat) and write the necessary commands in the batch file.	BatchOperation
7.	adminonly_btn_subcounty_Click	Show “Setup_subcounty” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
8.	adminonly_btn_hf_Click	Show “Setup_HF” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
9.	btn_output_set_Click	Show “tbl_output” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
10.	btn_generatefile_Click	Show UserForm1 (dialogue) to allow users to setup the basic data to generate new MTEF Management Tool files when the corresponding button in “admin” sheet is clicked.	btn_main
11.	btn_county_Click	Show “tbl_county” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
12.	btn_setprogram_Click	Show “tbl_program” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
13.	btn_setsubprogram_Click	Show “tbl_sub-program” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
14.	btn_setfundsource_Click	Show “tbl_fundsource” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
15.	btn_seteco_Click	Show “tbl_capitalreccurent” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
16.	btn_setlinebud_Click	Show “tbl_linebudget” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
17.	btn_setindicator_Click	Show “tbl_40indicators” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
18.	main_btn_activity_Click	Show “Generate_activity” sheet when the corresponding button in “admin” sheet is clicked.	btn_main
19.	main_btn_pbbmtef_Click	Show “Sheet_AWP” sheet when the corresponding button in “main” sheet is clicked.	btn_main
20.	main_btn_finance_Click	Show “FinancialRecord” sheet when the corresponding button in “main” sheet is clicked.	btn_main
21.	main_btn_dashb_Click	Show “dashboard” sheet when the corresponding button in “main” sheet is clicked.	btn_main

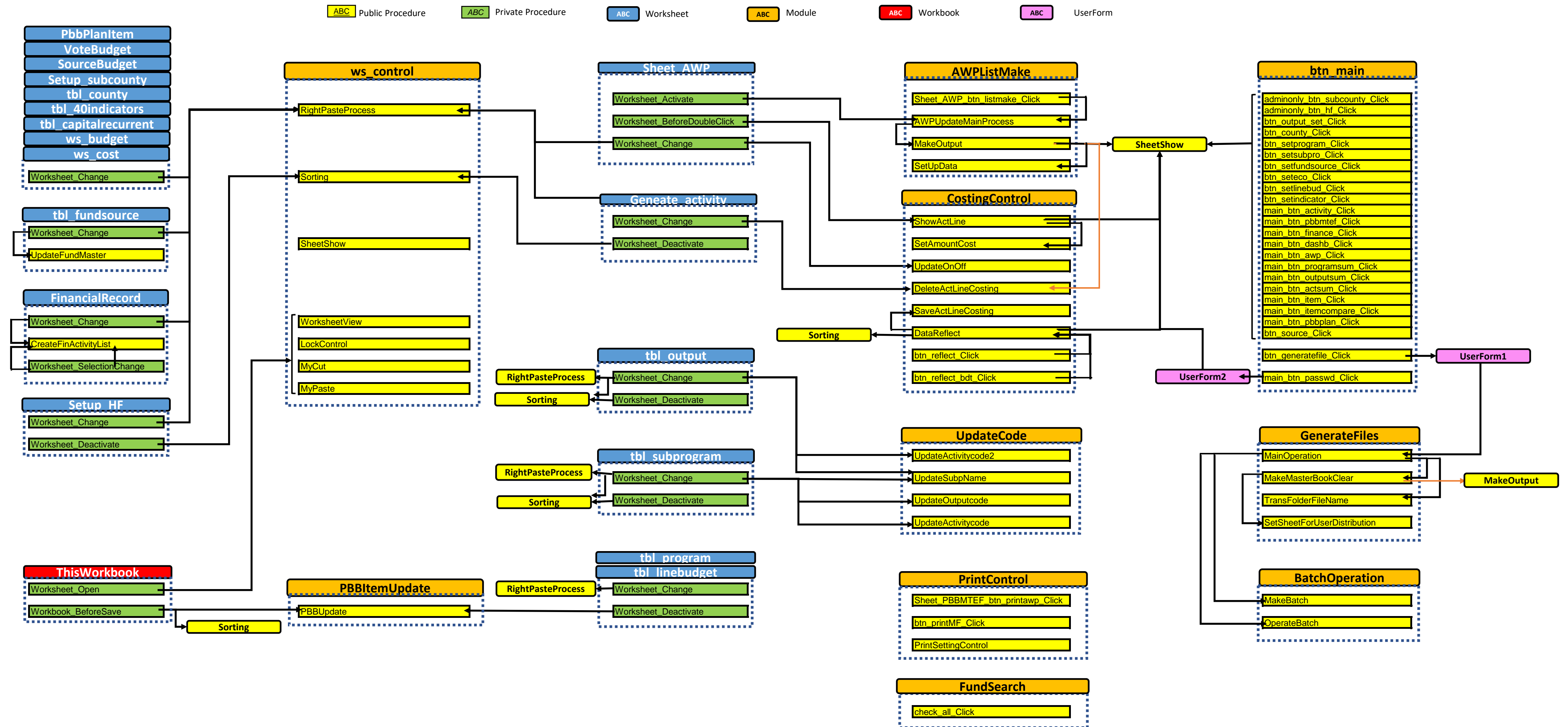
#	Name of Procedures	Roles	Modules which contains the procedure
22.	main_btn_passwd_Click	Show UserForm2 (dialogue) to allow users to enter the password to go to “adminonly” sheet when the corresponding button in “main” sheet is clicked.	btn_main
23.	main_btn_awp_Click	Show “AWP_submit” sheet when the corresponding button in “main” sheet is clicked.	btn_main
24.	main_btn_programsum_Click	Show “Summary_pro” sheet when the corresponding button in “main” sheet is clicked.	btn_main
25.	main_btn_outputs_Click	Show “Summary_out” sheet when the corresponding button in “main” sheet is clicked.	btn_main
26.	main_btn_actsum_Click	Show “Summary_act” sheet when the corresponding button in “main” sheet is clicked.	btn_main
27.	main_btn_item_Click	Show “Summary_item” sheet when the corresponding button in “main” sheet is clicked.	btn_main
28.	main_btn_itemcompare_Click	Show “VoteBudget” sheet when the corresponding button in “main” sheet is clicked.	btn_main
29.	main_btn_pbbplan_Click	Show “PBBPlanItem” sheet when the corresponding button in “main” sheet is clicked.	btn_main
30.	btn_source_Click	Show “SourceBudget” sheet when the corresponding button in “main” sheet is clicked.	btn_main
31.	ShowActLine	Set the corresponding amounts in each line-item and show “ws_cost” or “ws_budget” sheet depends on the cells double-clicked in “Sheet_AWP” sheet.	CostingControl
32.	btn_reflect_Click	Call “DataReflect” procedure which save the data modified in “ws_cost” sheet when reflect button in “ws_cost” sheet is clicked.	CostingControl
33.	btn_reflect_bdt_Click	Call “DataReflect” procedure which save the data modified in “ws_budget” sheet when reflect button in “ws_budget” sheet is clicked.	CostingControl
34.	DataReflect	Receive the data modified in “ws_cost” or “ws_budget” sheet and	CostingControl
35.	UpdateOnOff	Update On/Off status in “tbl_ActLineCost” and “tbl_ActLineBdt” sheet when the source is changed	CostingControl
36.	SaveActLineCosting	Record the amount and the corresponding activity, line items and other related information in “tbl_ActLineCost” sheet.	CostingControl
37.	SetAmountCost	Obtain the amount from “tbl_ActLineCost” sheet (tbl_ActLineBdt) and set it to “ws_cost” (ws_budget) sheet when it is opened from “Sheet_AWP” sheet.	CostingControl
38.	DeleteActLineCosting	Delete data having non-existed activity code from “tbl_ActLineCost” and “tbl_actLinebudget” when “Sheet_AWP” is updated.	CostingControl
39.	PbbMaxRow	Return Max row in “Sheet_AWP”	CreatedFunction
40.	CNumAlp	Return the translated value from number to alphabet and vice versa	CreatedFunction
41.	FolderName	Let the user select the Folder and return the folder path selected	CreatedFunction
42.	wspasswd	Return the password to protect WorkBook and WorkSheets and admin only	CreatedFunction
43.	CreateCode	Return new sub-program code and output code by given code	CreatedFunction

#	Name of Procedures	Roles	Modules which contains the procedure
44.	CreateProgramCode	Return new program code by obtaining sub-program code	CreatedFunction
45.	check_all_Click	Make selection of fund source blank in all the Summary views when checkbox is checked in one of the Summary views,	FundSearch
46.	MainOperation	Run all kinds of procedures to generate files when the button of "generate file" is clicked.	GenerateFiles
47.	MakeMasterBook Clear	Make entry fields in Mater file blank and adjust the active cell and location of scroll bars when generating MTEF Management Tool for distribution,	GenerateFiles
48.	TransFolderFileName	Translate sub-county or health facility name to the name which can be a folder or file name	GenerateFiles
49.	SetSheetForUserDistribution	Adjust the active cell and location of scroll bars in each sheet. This procedure is called by MainOperation	GenerateFiles
50.	PBBUpdate	Update the list of program and line-item based on the data in "tbl_program" and "tbl_linebudget" sheet	PBBItemUpdate
51.	Sheet_PBBMTEF_btn_printawp_Click	Change the print format of "Sheet_AWP" to AWP Format. This procedure is called when the corresponding button in "Sheet_AWP" is clicked.	PrintControl
52.	btn_printMF_Click	Change the print format of "Sheet_AWP" to management Format. This procedure is called when the corresponding button in "Sheet_AWP" is clicked.	PrintControl
53.	PrintSettingControl	Change the print setting based on the variables obtained from "Sheet_PBBMTEF_btn_printawp_Click" and "btn_printMF_Click".	PrintControl
54.	UpdateOutputcode	Update output code in "tbl_output" sheet when sub-program code is updated in "tbl_sub-program".	UpdateCode
55.	UpdateActivitycode	Update output and activity code in "Generate_activity" sheet when sub-program code is updated in "tbl_sub-program".	UpdateCode
56.	UpdateActivitycode2	Update output and activity code in "Generate_activity" sheet when output code is updated in "tbl_output".	UpdateCode
57.	UpdateSubpName	<ul style="list-style-type: none"> ✓ Update subprogram name in "Generate_activity" and "tbl_output" when sub-program name in "tbl_sub-program" is changed. ✓ Update output name in "Generate_activity" sheet when output name in "tbl_output" is changed. 	UpdateCode
58.	SheetShow	Show necessary Worksheet	ws_control
59.	WorksheetView	View only "main" sheet and hide other sheets. This procedure is called just after the file is opened.	ws_control
60.	LockControl	Enable all data to be entered in the locked cells only by macro function	ws_control
61.	Sorting	Sort the data in worksheet based on the variables obtained. This procedure is usually called when user set-up and deactivate master sheet.	ws_control
62.	MyPaste	Restrict Paste function as only "Paste value" when short-cut key (Ctrl + v) is pressed.	ws_control

#	Name of Procedures	Roles	Modules which contains the procedure
63	MyCut	Restrict Cut function by showing error message when short-cut key (Ctrl + x) is pressed.	ws_control
64	RightPasteProcess	Restrict the paste function in short-cut menu to be showed by right-click. This procedure undo users' previous action and paste only the value to the cell selected.	ws_control
65	UpdateFundMaster	Update the name of funding source in "Sheet_AWP"	tbl_fundsource*
66	CreateFinActivity List	Create Activity-list for Financial Record when the cell to enter activity is selected.	FinancialRecord

*65 and 66 are the public procedures which are under worksheet. These are currently called only by worksheets event in each worksheet.

Appendix 4: MTEF Management Tool Ver.3.0 Program Linkage Diagram



Appendix 5: System Requirements

The following table shows versions and conditions required to use MTEF Management Tool.

System	Version	Remarks
Excel based MTEF Management Tool	ver. 3.0	
OS	Windows 7 or later version	
Microsoft Excel	2010 or later version, Mac Excel 2011, 2016	Excel 2003 and 2007 are not supported

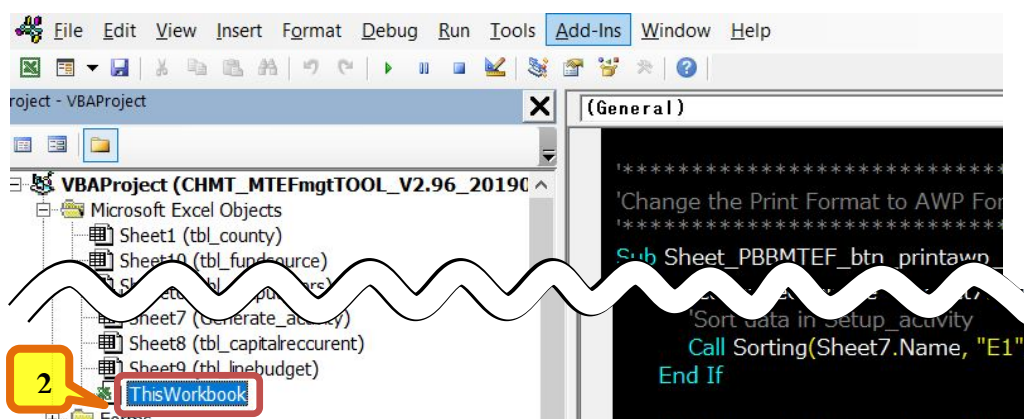
Appendix 6: Checklist: Tool Finalization (Distribution Preparation)

Set necessary restrictions before the distribution of the tool to users.

1. Restrict Functions

Restore the programs which you commented-out for the maintenance. The process is as follows.

1. Click “Developer Tabs” and Click “Visual Basic” from the Excel ribbon.
2. In the Project Explorer, double-click “ThisWorkbook” under “Microsoft Excel Objects”.



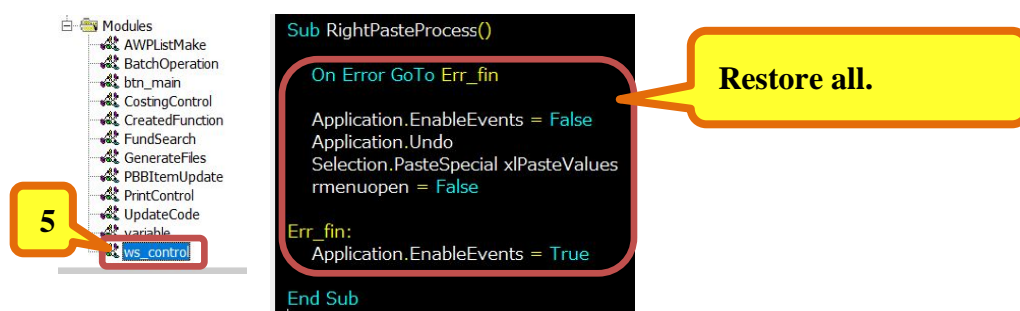
3. Restore the following under “Workbook_Open” procedure, which were commented-out.

```
Application.CellDragAndDrop = False
Application.OnKey "^v", "MyPaste"
Application.OnKey "^x", "MyCut"
Application.CommandBars("Row").Enabled = False
Application.CommandBars("Column").Enabled = False
```

[Note]

- 1) Note that they are intermittently ordered even though all of them are under “Workbook_Open” procedure.
- 2) Comment-out disables “Drag and Drop”, short-cut key of “Cut” and “Paste” and modifications of rows and columns.

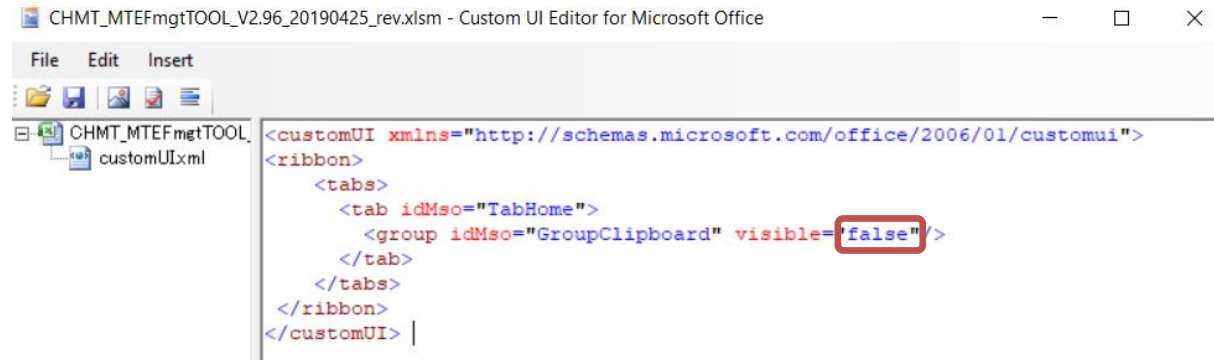
4. In the Project Explorer, double-click “ws_control” procedure under “Modules”.
5. Restore all the codes which were commented out under “RightPasteProcess” procedure.



2. Make the Group Clipboard visibility “False” using Office Custom UI editor for Microsoft

The Office Custom UI Editor enables to change the layouts of ribbon in Microsoft Office.

1. Open Office Custom UI Editor.
2. Open MTEF Management Tool with Office Custom UI Editor. You can see the following codes.



3. Change the visibility status of GroupClipboard to “False”.

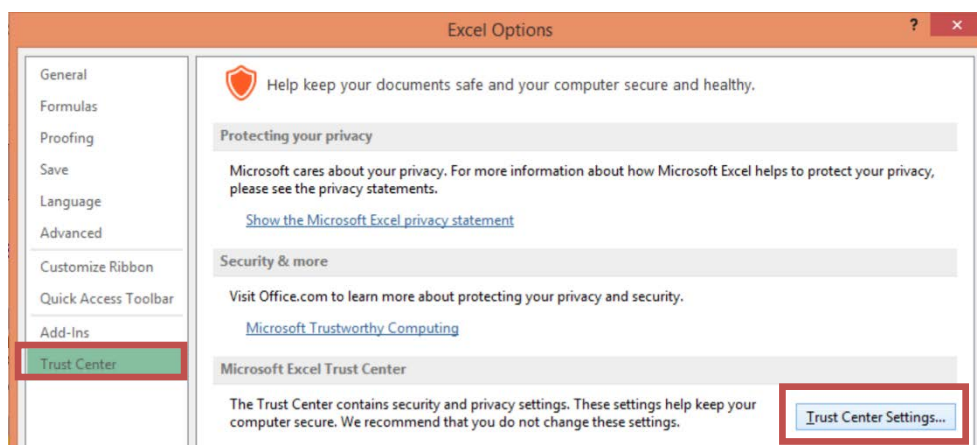
Appendix 7: Troubleshooting Q & A

1. MTEF Management Tool

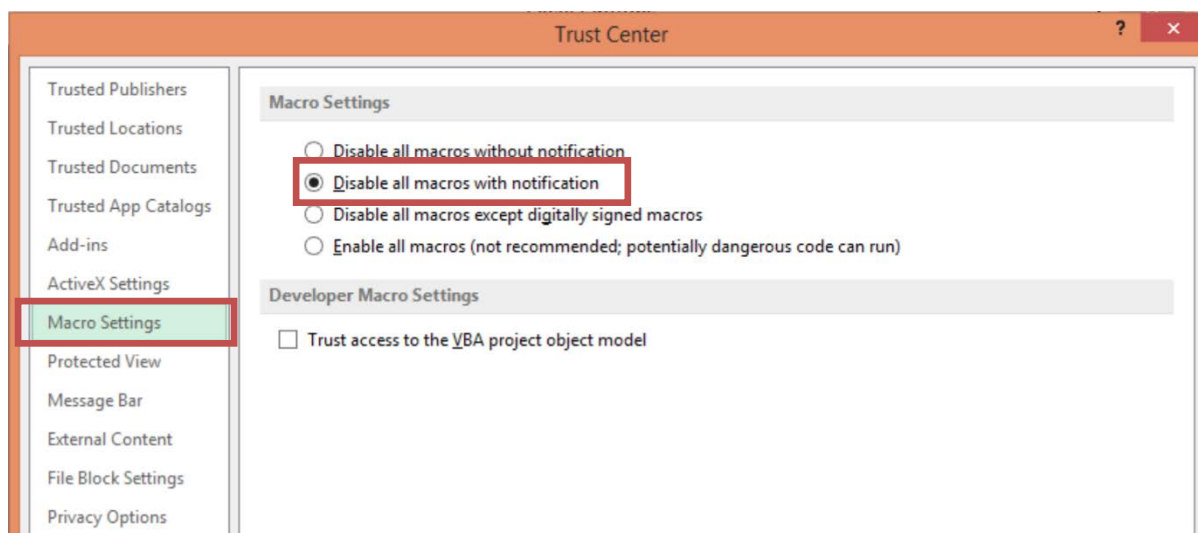
Q1: *Macro enabling is impossible and cannot start the tool.*

A: This error occurs depending on Macro setting in Excel Application. Check Macro Security Settings from Trusted Site in Excel Options. > Adjust the Security level to the proper settings (See the following procedure).

- 1) Click File Tab and go to Excel options.
- 2) In the Excel Options dialogue, click Trust Center and Trust Center Settings.

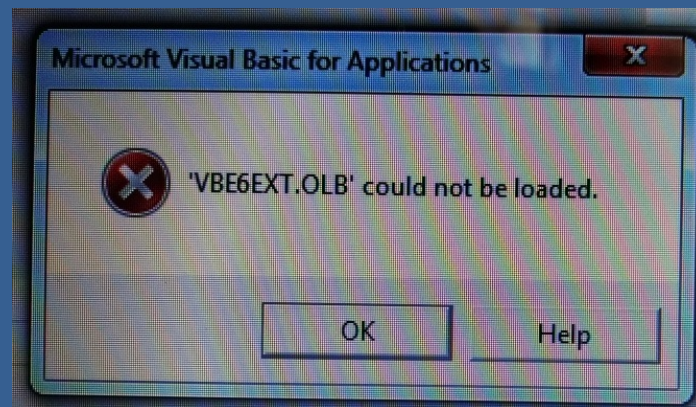


- 3) Click Macro Setting and Select “Disable all macros with notification” and click OK button.



- 4) Close the file and open the file again. Check if the bar to enable Macro setting is displayed under Excel ribbon.

Q2: *MTEF Management Tool got the following errors when the file is opened or Macro is enabled.*



A: 'VBE6EXT.OLB could not be loaded' error usually happens when some files got corrupted in Office/Visual Basic.

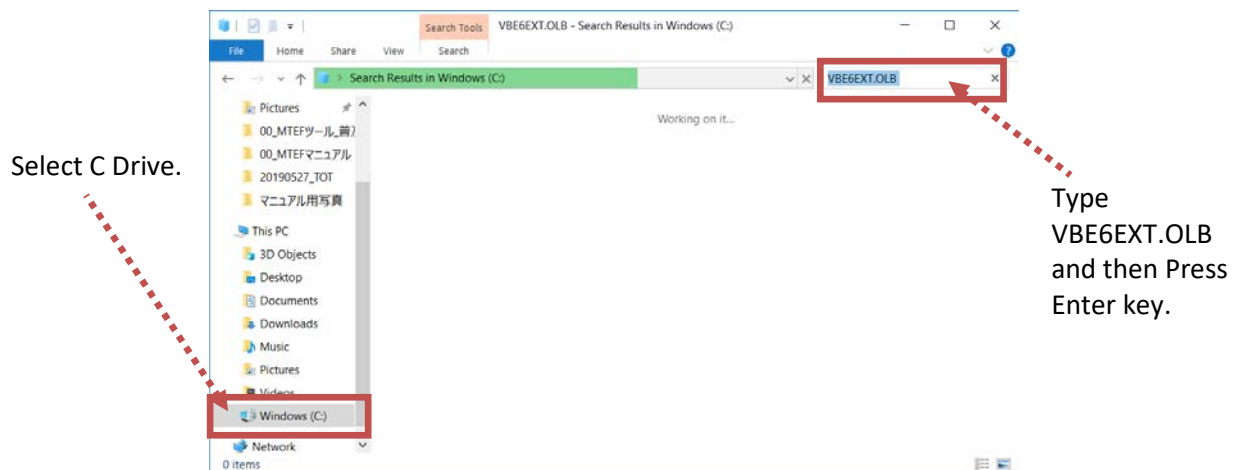
A simple repair of Office installation from Control Panel should be able to fix it. Have a try and see if that will correct the issue.

Another thing you can try is - locate the VBE6EXT.OLB file in Windows (the file usually exists under C:\Program Files or Program Files(x86)\Common Files\Microsoft Shared\VBA), rename it to VBE6EXT.OLB.old.

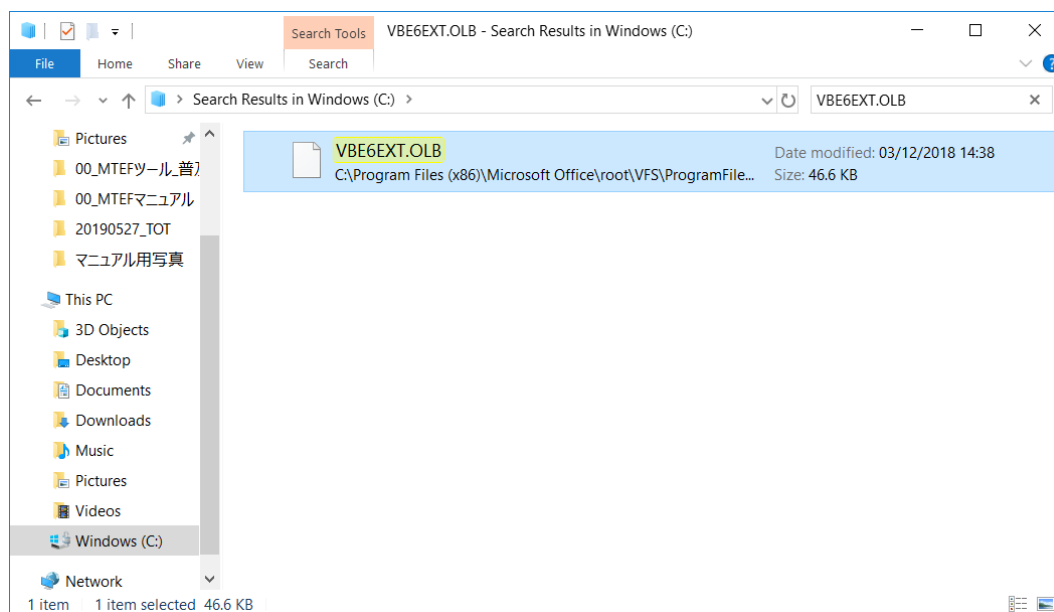
Then Open Microsoft Word, press "ALT+F11", you should get a popup window asking repair the program, click Yes. Restart Office after the repair is finished, then verify result again.

*If you cannot find the location of VBE6EXT.OLB file, search where it is with the following procedure.

- 1) Open Explorer
- 2) Search VBE6EXT.OLB under "C" drive.



- 3) You can find the location of the file as follows. Right-click the file name and select “Open file location” from the short-cut menu. You can rename the file.



2. MTEF Management Data Aggregation Tool

Q1: *After the aggregation, some health facility name which need to be aggregated were not listed in “HF_list”. Were they properly aggregated??*

A: **If the file name is listed in the row with blank health facility name in “HF_list” sheet, its data is aggregated.**

The list of health facility is created based on the health facility master in one of the MTEF Management Tool, which data is firstly loaded (This is usually the file which can be the first file when all the files are alphabetically ordered). If its master does not include the corresponding health facility name, it is not listed in “HF_list”. However, even though it is not listed, the data is aggregated unless its county name and fiscal year are same as those selected at the beginning of the aggregation.

Q2: *After aggregation, some health facilities are not highlighted in “HF_list” sheet, although these data was stored in the target folder for the aggregation. Why?*

A: **There are several possibilities.**

<In case the data is not included in the aggregation>

When data is aggregated, users need to select FY and County Name, and only the data which have selected FY and county name is included into the aggregation. If the data is not included into the aggregation itself, **verify FY and county name in the corresponding files are correct.**

<In case the data is aggregated, but its health facility name is not highlighted in “HF_list” sheet>

The name of health facility in “HF_list” in MTEF Management Data Management Tool and that in the corresponding file may not match. **Check the health facility name in the corresponding files.**

(If the version of MTEF Management Tool is less than 2.7, there was an issue that users could directly type health facility name when sub-county name was empty. This issue was solved with version 2.7 so that MTEF Management Tool with later version of 2.7 would not have this issue).

Q3: *Do we need to store only MTEF Management Tool in the folder to be aggregated? If we store other files in the folder, can’t we aggregate the data?*

A: **It depends on the version of the tool.**

<In case you are using later version than 2.7>

You do not need to care what files are existing in the folder. you can aggregate only MTEF Management Tool files from the folder by excluding all unrelated files for the aggregation.

<In case you are using version 2.6 or less>

MTEF Management Data aggregation Tool will be error if the folder includes MTEF Management Data Aggregation Tool file. Therefore, **check the folder to be aggregated and if the folder includes the aggregation tool, and take it out.**

Q4: *When aggregating the data, do we need to store only MTEF Management Tool in the folder to be aggregated? If we store other files in the folder, can't we aggregate the data?*

A: If you are using MTEF Management Data Aggregation Tool with later version than 2.7, it can aggregate only MTEF Management Tool files from the folder by excluding all unrelated files for the aggregation. If you are using MTEF Management Data Aggregation Tool with version 2.6 or less, MTEF Management Data Aggregation Tool will be error if the folder includes MTEF Management Data Aggregation Tool file. Therefore, check the folder to be aggregated and if the folder includes the aggregation tool, take it out.

Q5: *After aggregation, Error occurs. It says “planned budget total in “dashboard”, “AWP”, and “PBBPlanItem” sheet does not match”. Why and how can we fix it?*

A: **Because there are some files which do not have the same amount among “dashboard”, “AWP” and “PBBPlanItem”.** If you find such an error, use the version 2.8 or later version. With this version, error message is displayed for individual file which does not have the same amount among three sheets above. Depending on the error message, you can identify the issues and fix the files and aggregate all the files again. Main issues which may be the cause are as follows.

1. “PBBPlanItem” sheet is not created

If user use MTEF Management Data Aggregation Tool with the version 2.8 or less, there may be possibility that “PBBPlanItem” sheet is not aggregated. With this version, “PBBPlanItem” sheet will be created when users first open this sheet. Otherwise, the aggregation in this sheet would be 0 (zero). Therefore, **to fix the gaps in the amount among three sheets, click “PBBPlanItem” sheet in the file which got an error. If users use version 3.0, “PBBPlanItem” sheet is created even if users do not click the sheet.**

2. The activity listed in “Generate_activity” are different in the error files

If the error files have specific activity list which are different from other files, the planned budget in these specific activities would not be aggregated into “AWP” sheet, and the gap can stem from the amount among “AWP” and other sheets. **Reconsider the activity list for the error files.**

3. Planned budget for some activities in AWP may not display the right total amount accumulated by line-items.

If user use MTEF Management Tool with the version 2.8 or less, it is possible that this issue occurs. If users modify fiscal year in MTEF Management Tool and restore it to the original value again, this issue may occur. To fix it, find the activities which have these issues and double-click its activity in “Sheet_AWP” sheet. In new sheet displayed (“ws_cost” sheet), click “reflect” button. After that this issue is solved.

Note that version 3.0 will not have issues of 1 and 3 above.