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SEMI-SERMON

Contents

1. Ict Applications In Seed Business Management

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ICT APPLICATIONS IN SEED BUSINESS MANAGEMENT

DATA ANALYSIS USING MS EXCEL TOOLS

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Objectives

By the end of the session, participants should be able to:

- a) Identify Ms Excel tools used for data analysis
- b) Analyze data using the tools

Ms Excel for Data Analysis

- Ms Excel provides powerful tools that for data analysis which include:
 - a) Sort:** Help to arrange data in either ascending or descending order. You can sort your data on one column or multiple columns
 - b) Filter:** This is a tool used to display records that meet a certain criteria
 - c) Conditional Formatting:** Conditional formatting enables one to highlight cells with a certain color, depending on the cell's value.

Ms Excel for Data Analysis

- d) **Charts:** Enables one to present data in graphical form
- e) **Pivot Tables:** A pivot table allows one to extract the significance from a large, detailed data set. It enables one to view data in summarized form which enable one to draws a meaning from the data
- f) **Tables:** Tables allow one to analyze data quickly and easily.

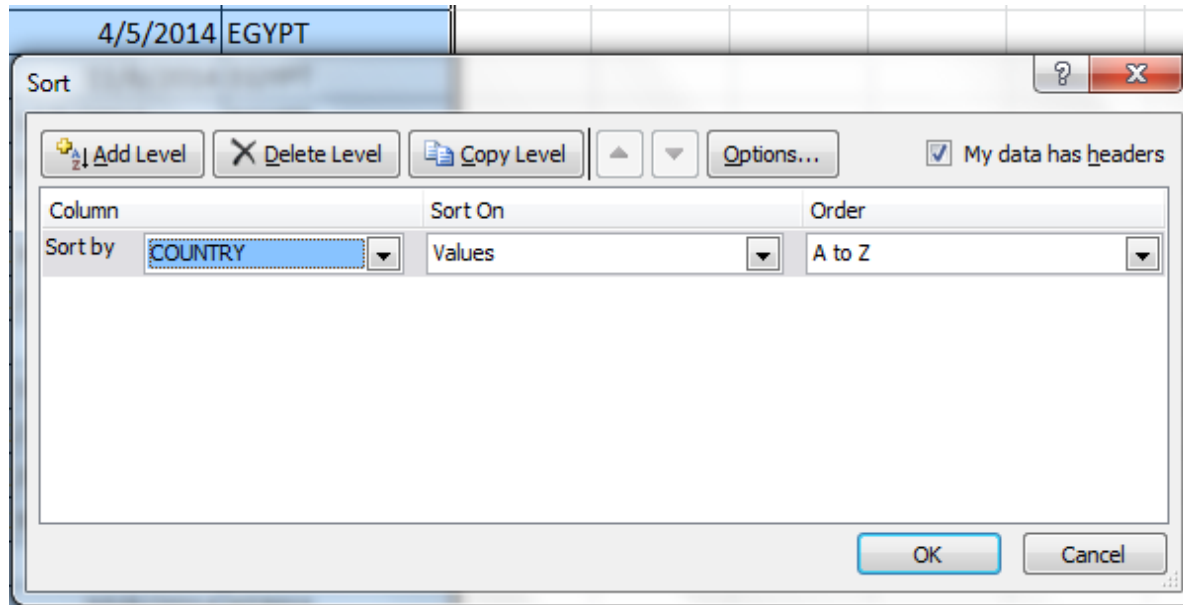
Ms Excel for Data Analysis

- g) What-If Analysis:** What-If Analysis in allows one to try out different values (scenarios) for formulas and predict the possible outcomes based on different scenarios
- h) Solver:** This tool uses techniques from the operations research to find optimal solutions for all kind of decision problems
- i) Analysis ToolPak:** The Analysis ToolPak is an Excel add-in program that provides data analysis tools for financial, statistical and engineering data analysis.

Sort

- Steps:
 - i. With an open worksheet, click inside the data that you want to sort
 - ii. Click on data tab
 - iii. Click on sort from the data ribbon
 - iv. The sort dialog box below appear;

Sort



- v. Select the field to sort by
- vi. Select the order to sort by
- vii. Click Ok

Filter

- One can do simple filter or advanced filter
- Steps for simple filter:
 - i. Click inside the data you want to filter
 - ii. Click on the data table
 - iii. Click on filter under sort & filter group
 - iv. Click on the drop arrow next to the field you want to filter by
 - v. Select the field to filter by
 - vi. Click Ok

NB: Click on filter under sort & filter group again to clear the filter arrows

Filter

	D	E	F	G
	AMOUNT	DATE	COUNTRY	
	\$ 7			
	\$ 4,8			
	\$ 6,5			
	\$ 7,5			
	\$ 6,5			
	\$ 2,0			
	\$ 4,6			
	\$ 4,5			
	\$ 8			
	\$ 2,5			
	\$ 2,5			
	\$ 6,5			
	\$ 6,5			
	\$ 4,5			
	\$ 4,5			
	\$ 5,8			
	\$ 9,0			
	\$ 5,000.00	27/6/2014	KENYA	
	\$ 7,540.00	23/6/2014	KENYA	
	\$ 5,260.00	29/6/2014	KENYA	
	\$ 3,000.00	25/6/2014	LIBERIA	

Sort A to Z
 Sort Z to A
 Sort by Color
 Clear Filter From "COUNTRY"
 Filter by Color
 Text Filters

Search

- (Select All)
- EGYPT
- GHANA
- KENYA
- LIBERIA
- NIGERIA
- SOUTH AFRICA
- TANZANIA
- TUNISIA
- UGANDA

OK Cancel

Filter

Steps for Advanced filter:

- i. Set the criteria range in two cells on adjacent rows using a field name and the condition
- ii. Click inside the worksheet
- iii. Click on data tab
- iv. Click on advanced filter under sort & filter group to display the dialog box below;



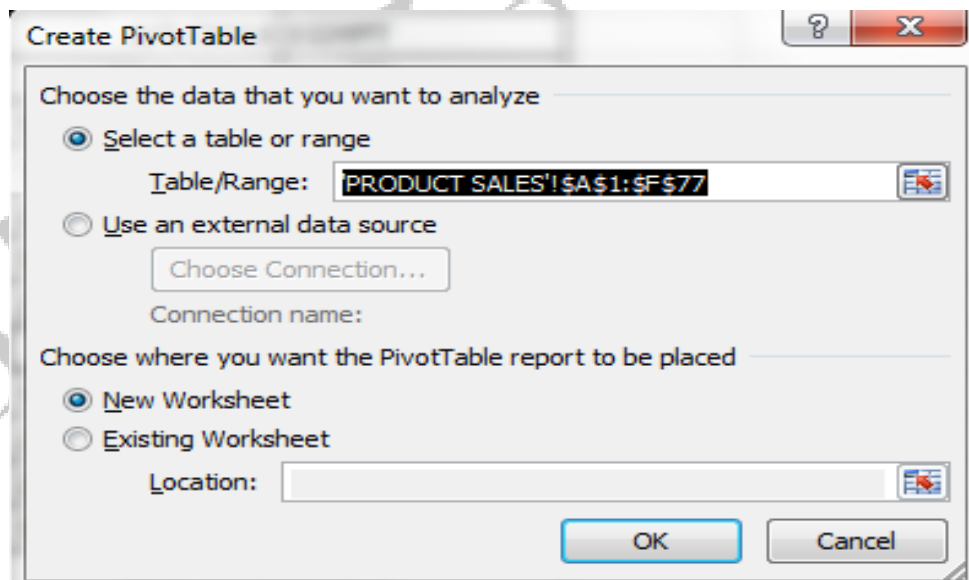
Filter

- v. Select the list range and the criteria range
- vi. You can copy the filtered data in another location within the same sheet or a different sheet by choosing the copy to another location option on the dialog box
- vii. Click Ok

PivotTables

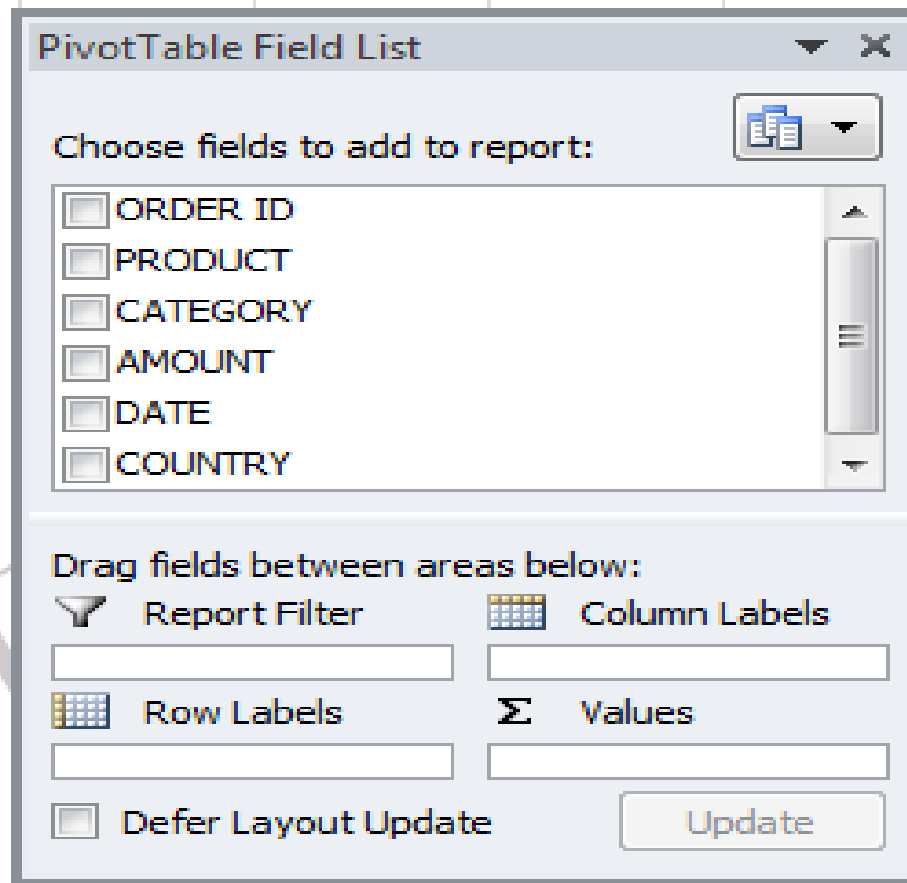
Steps:

- i. Click on insert tab
- ii. Click on pivot tables from the ribbon
- iii. The create PivotTable dialog box below appears;
- iv. Click Ok



PivotTables

- The PivotTable field list appears;



PivotTables

- In our sample data, to get the total amount exported for each product, drag the following fields to the different areas;
 1. Product Field to the Row Labels area
 2. Amount Field to the Values area
 3. Country Field to the Report Filter area
- A PivotTable as the one below appears and changes as you select different fields

PivotTables

The screenshot displays the Microsoft Excel interface with a PivotTable and the PivotTable Field List task pane. The PivotTable is located in the range A4:B16 and is titled "Row Labels". The data is summarized by product category and country.

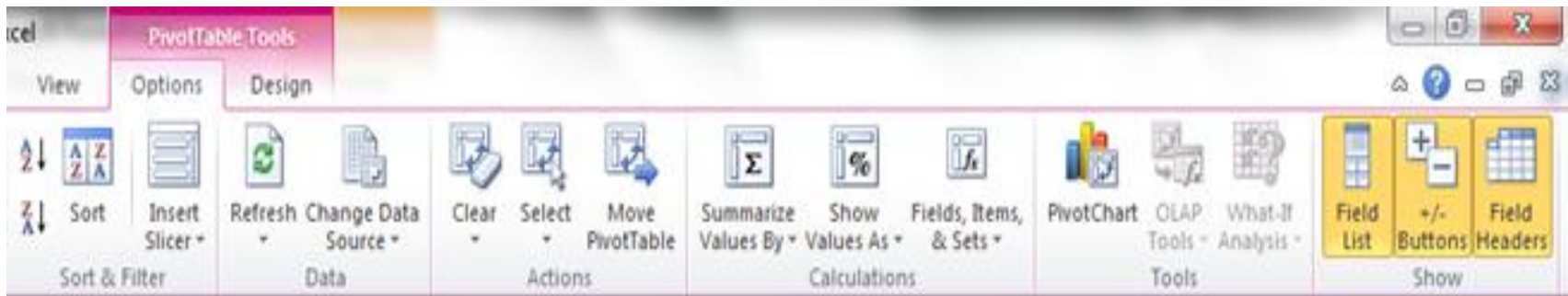
Row Labels	Sum of AMOUNT
APPLE	79784
BANANA	37915
BEANS	18600
BROCCOLI	25249
CABBAGE	29870
CARROTS	35470
LEMON	10812
MANGOS	26830
ONIONS	30150
ORANGE	26310
SUKUMAWIKI	49794
Grand Total	370784

The PivotTable Field List task pane is open, showing the following configuration:

- Choose fields to add to report: ORDER ID, PRODUCT, CATEGORY, AMOUNT, DATE, COUNTRY
- Drag fields between areas below:
 - Report Filter: CATEGORY, COUNTRY
 - Column Labels: (empty)
 - Row Labels: PRODUCT
 - Values: Sum of AMOUNT
- Defer Layout Update: Update

PivotTables

- You can sort, filter and change the summary calculations using the options provided under the PivotTable tools shown below;



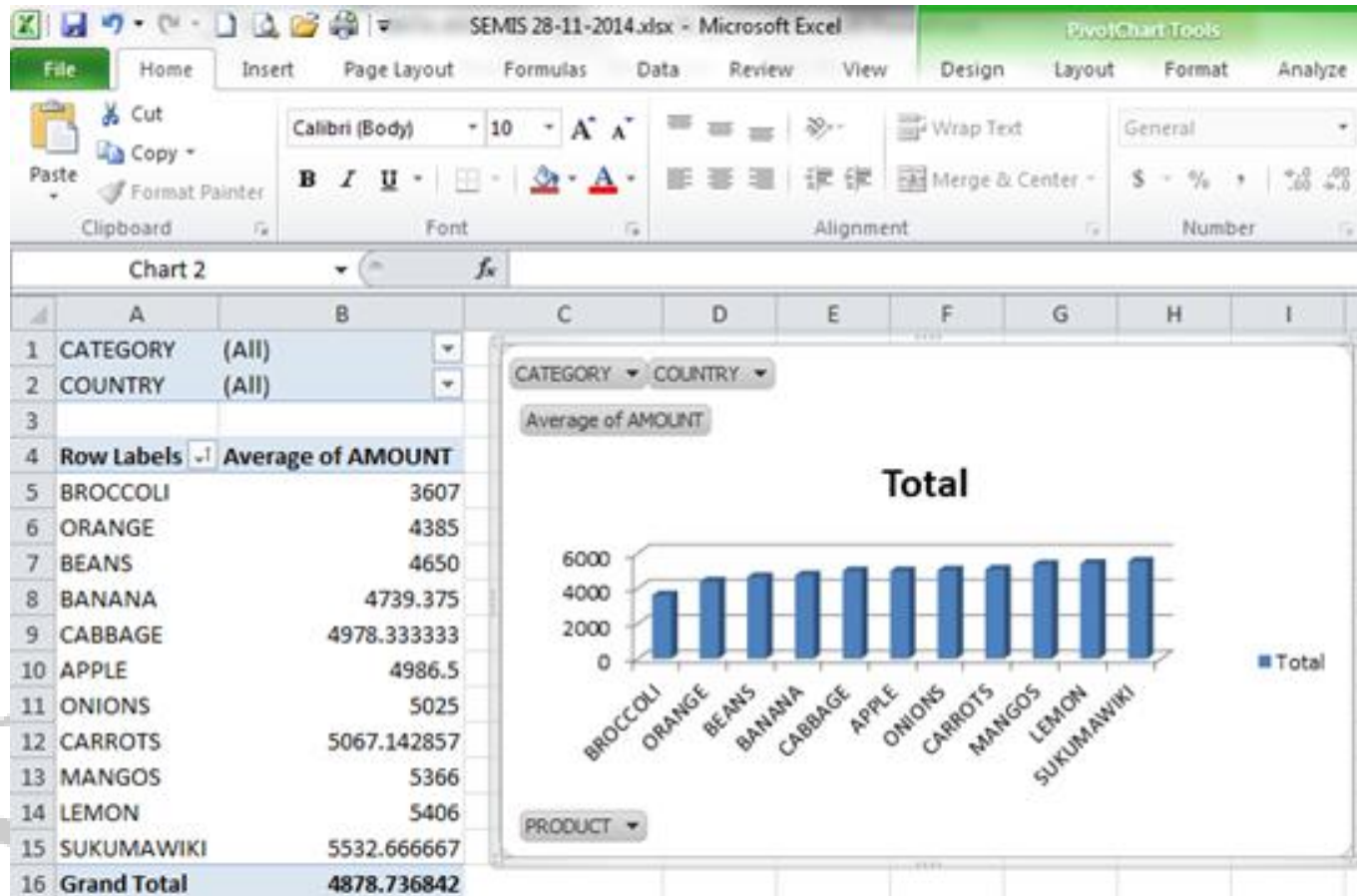
PivotChart

- Steps for inserting PivotChart
 - i. Click on the PivotTable
 - ii. Click on PivotTable tools
 - iii. Under options, click on PivotChart
 - iv. From the insert chart dialog box, select the type of the chart to use e.g. 3-D Clustered Column
 - v. Click Ok

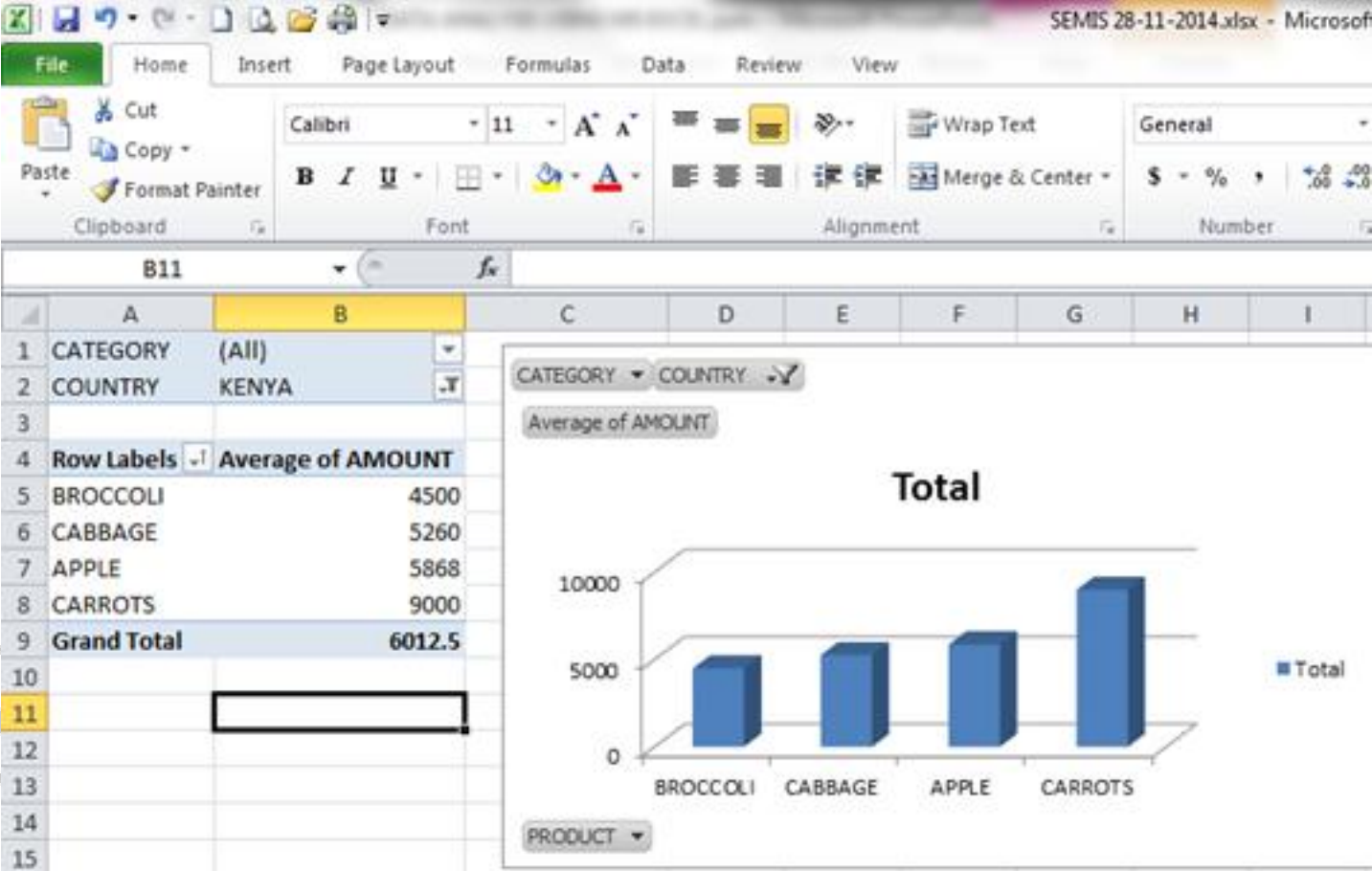
NB 1: Under PivotChart tools, you can change chart layout options as you want e.g. chart title, chart axis titles, etc

NB 2: The chart display changes as you change the filter criteria under the PivotTable e.g.

PivotChart with all data in the PivotTable



PivotChart with filtered data in the PivotTable



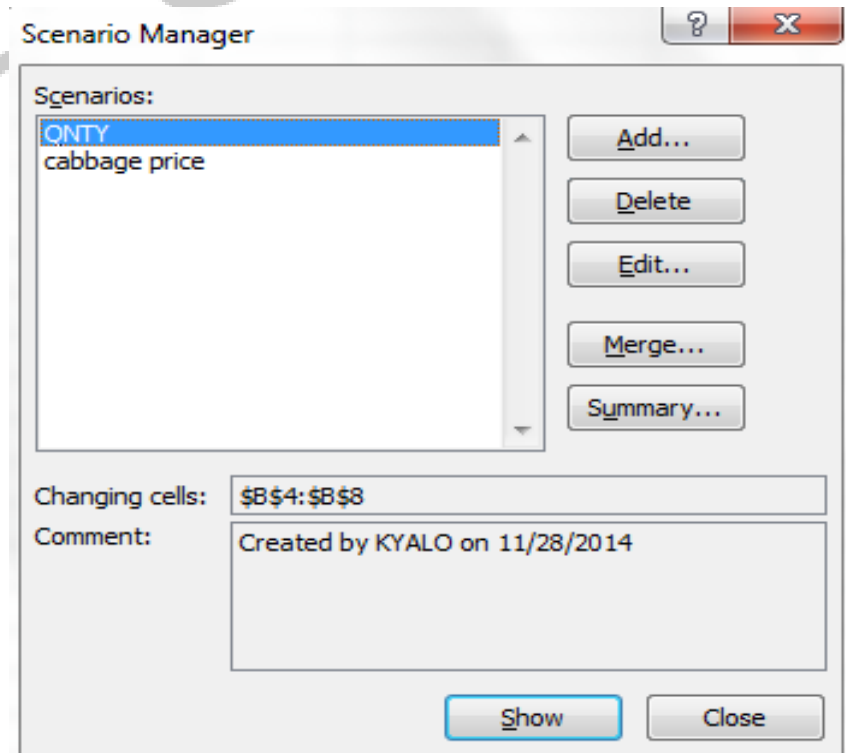
WHAT-IF ANALYSIS

- What-If Analysis allows one to try out different values (scenarios) for formulas and predict the possible outcomes based on different scenarios
- Steps
 - i. Click on your worksheet
 - ii. Click on data tab
 - iii. Click on What-if Analysis on the data ribbon
 - iv. Choose to use scenario manager or goal seek or table

WHAT-IF ANALYSIS

Using the Scenario Manager

- Click on Scenario Manager from What-if-Analysis drop down list
- The dialog box below appears;



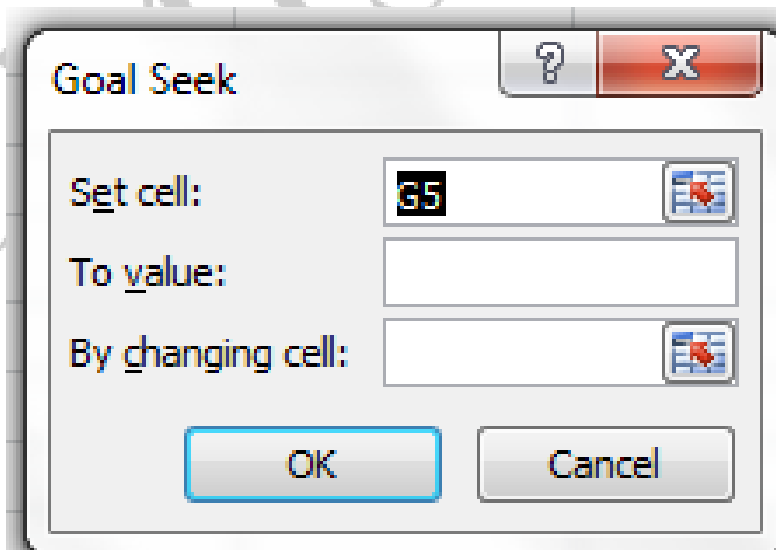
WHAT-IF ANALYSIS

- v. Click on add to add a Scenario
- vi. Type scenario name
- vii. Choose the changing cells e.g. Quantity
- viii. Enter new values for the changing cells
- ix. Click ok
- x. Then click show to view the changes in the calculated values

WHAT-IF ANALYSIS

- Using the Goal Seek
 - i. Select the cell containing the formula that will return the result you're seeking; in this example, cell G5
 - ii. On the Data tab, choose What-If Analysis→Goal Seek in the Data Tools group

NB: Dialog box below appears;



WHAT-IF ANALYSIS

- iii. **Select the To Value text box and enter the goal**
- iv. **Select the By Changing Cell text box and select the cell that you want to change**
- v. **Click OK**
- vi. **If you want to keep the values entered in the worksheet as a result of goal seeking, click OK as in the diagram below;**

WHAT-IF ANALYSIS

	A	B	C	D	E	F	G
1	WHAT IF ANALYSIS						
2							
3	PRODUCT	QUANTITY (KGS)	UNIT BUYING	TOTAL BUYING PRICE	UNIT SELLING PRICE	SELLING PRICE	PROFIT
4	BEANS	500.00	105.00	52,500.00	120.00	60,000.00	7,500.00
5	MAIZE	350.00	126.00	44,100.00	144.00	50,400.00	6,300.00
6	SOGHURM	250.00	89.00	22,250.00	101.71	25,428.57	3,178.57
7	MILLET	420.00	95.00	39,900.00	108.57	45,600.00	5,700.00
8	PEAS	600.00	98.00	58,800.00	112.00	67,200.00	8,400.00
9	TOTAL SALES			217,550.00		248,628.57	31,078.57
10							
11							
12		PROFIT MARGING			14%		
13							
14							
15							
16							
17							
18							
19							
20							
21							

Goal Seek Status

Goal Seeking with Cell G4 found a solution.

Target value: 7500

Current value: 7,500.00

Step

Pause

OK

Cancel

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...END...