# Appendix B: Tableau Workshop Instructions[[1]](#footnote-1)

**Retrieving the data**

1. <http://www.oecd.org/dac/stats/aid-at-a-glance.htm>
   1. Go to Interactive summary charts by aid (ODA) recipients.
   2. Download the underlying data as a csv. file.
   3. From the data, we would like to find out 1) who were the top ten donors of each of the five countries in the Mekong region in 2013, 2) what sectors received the most funding for each of the five countries in the Mekong region in 2013.

**Filtering the Data: Donors**

1. Go to “Data” tab, and click on “Filter”. On the header of each column, drop down menus will appear.
2. Click on the drop down menu of “RecipientNameE” and choose the five countries in the Mekong region: Cambodia, Laos, Thailand, Myanmar, Vietnam.
3. Click on the drop down menu of the “DonorName” column (F) and deselect the “(blanks)” option to filter out the missing values.
4. Now we are able to get a complete set of filtered data with non-blank donors that applies to the five countries in the Mekong region. By selecting all of the current data (ctrl+A), copying (ctrl+C) and pasting the data (ctrl+V) to a new sheet, we are creating a new sheet that is free of the filters with only the necessary information we need. We rename this new sheet as “Donors”.

**Connecting to Tableau: “Donors” worksheet**

1. Open Tableau Public and click on the orange button “Open Data”.
2. Under “In a file”, choose “Text File” that allows us to connect to cvs. files. Choose the csv. workbook to connect.
3. Drag the “Donors” sheet to the orange “*Drag tables here*” space.
4. Click the orange button “Go to Worksheet”.
5. Here we will be able to see the data we connected to (the “Donor” sheet), Dimensions and Measures of the data.
   1. Dimensions: By default, Tableau treats any field containing qualitative, categorical information as a dimension. A dimension is a field that can be considered an independent variable.
   2. Measures: By default, Tableau treats any field containing numeric (quantitative) information as a measure. A measure is a field that is a dependent variable; that is, its value is a function of one or more dimensions.
6. To answer the question of “who were the top ten donors (of Cambodia, Vietnam etc.)?”, we drag “Amount” and “Donor Name E” to “Columns” and “Rows” shelves, respectively. [[2]](#footnote-2)
7. Right-click the “Donor Name E” on the Rows shelve and sort the donors by sum of amount in descending order.
8. Now we’d like to create an option that enables us to look at the top ten donors of each of the five countries. Here is when filters in tableau come in:
   1. Drag “Recipient Name E” into the “Filters” area. Select all of the five countries.
   2. Right-click on this filter, and click “Show Quick Filter”. Now we will be able to use the filter we just created. Options include changing the filter into a single- or multi- selection one, and editing and changing the title of the filter.
   3. Now we also would like to include a filter that only shows the top ten donors, of for example, Vietnam. Drag “Amount” into the “Filters” area, click on “Sum” option, “next” and “ok” the filter.
   4. Right-click the Sum(Amount) filter and choose “Quick Table Calculation” option. Then choose “Rank” and select “1” and “10” as the range.
9. Rename the worksheet as “Donors”.
10. Now we are able to create the first worksheet that enables people to look at the top ten donors of each of the five Mekong countries in 2013!

**Filtering the Data: Sectors**

1. Now we’d like to create a new sheet in our csv file that shows the sectoral amount and the shares of each sectors of the five countries.
2. Go to the master sheet that we worked on, and filter out the five countries in the Mekong region (see step 3)).
3. Click on the dropdown menu of “sectorname” and deselect the “(blanks)” option.
4. Copy and paste the filtered data to a new sheet renamed as “Sectors”.
5. On the “Sectors” sheet, create a new column entitled “Total”. To calculate the sum of each sectors in each of the five countries, use “sum” function on the amount. Sum the total amount for different sectors of the five countries. (You should be able to generate one total number for each of the five countries). To fill the remaining rows without messing up the total number data, lock the row number in our “sum” function by adding a $ sign. For example, if Cambodia has sectors from row 2 to row 11, with amounts in column D, we should modify the function into “sum(D$2:D$11)”. Repeat the procedure with the five countries, and drag the function to the remaining blank rows.
6. Create a new column entitled “% of Total”. In this column, we use functions to decide the share of the amount of each sector to the total. Use function “=amount/Total”.
7. Now we will be able to have a csv worksheet that has our desired data.

**Connecting to Tableau: “Sectors” worksheet.**

1. On the same tableau file, start a new worksheet.
2. Click on “Connect to Data” option under the “Data” tab.
3. This time, choose the “Sectors” worksheet in our csv. file to connect to tableau. Go to the worksheet.
4. Drag the “% of Total” measure to “Columns” shelf.
5. Now we’d like to show different sectors by colors. To achieve this, drag the “Sectorname” dimension to “color” tab under the “Marks” area.
6. Then, to clearly label the different sectors with their shares, drag the “% of Total” measure to “Label” tab under the “Marks” area. Change the “format” of “SUM(% of Total) into “percentage”.
7. Again, add the “Recipient Name E” dimension to the “Filters” area to create a country filter.
8. Rename the worksheet “sect
9. Now we have our second worksheet that visualizes the sectoral focus of the donations received by the five countries.

**Presenting the tableau worksheets: Dashboard**

1. Tableau presents (and publishes) the visualized worksheets in dashboards.
2. Click on the button to add a new Dashboard.
3. Drag and drop the “Donors” tableau worksheet to the top of the Dashboard.
4. Drag and drop the “Sectors” tableau worksheet to the bottom of the Dashboard.
5. Adjust the title of the Dashboard.

**Creating one filter that controls two worksheets**

1. Now we have a dashboard that has two worksheets, each controlled by a filter. We would like to create a filter that controls both of the sheets. One way to achieve this is to use Tableau functions and a parameter.
2. First, create a parameter entitled “Select Country:”. To edit the parameter: select “String” in “Data Type” and then, click “Add from Field” and choose “Recipient Name E” from either the the “Donor” or “Sector” dataset. What parameter does is to create a list of characters that contains the five country names.
3. Then, in the “Donors” worksheet’s Dimensions section, right-click to create a new calculated field. We name this new dimension as “country yes or no”. In the “formula” part of the calculated field, write:
   1. if [Recipient Name E] = [Select Country:] then "yes"
   2. else "no"
   3. end
4. Save the “country yes or no” dimension. Use this dimension as the filter for worksheet “Donors” instead of “Recipient Name E”. Choose only “yes” to create the filter.
5. Repeat the process and create a “country yes or no 2” for the “Sectors” worksheet. Use “country yes or no 2” to replace “Recipient Name E” as the sheet filter.
6. Now go back to the dashboard. Under the “Analysis” tab, click on the “Parameters” option to show the parameter “Select Country:”.
7. Remove the two previous filters from the Dashboard.
8. Now, with the “Select Country:” parameter, we’ll be able to control two worksheets.
9. Formatting the Dashboard: you can make the elements floating and fit them in vertical or horizontal boxes.
10. Add a title to the Dashboard by checking “Show Title” in the bottom left hand corner.

**Publish the Dashboard through Tableau Public**

1. Click “File” and “Save to Web”. Log into your tableau public account and follow the instructions (If Tableau requires you to create a local extraction, just click “ok” to create a local tableau data file and then publish).
2. On the website that Tableau Publish generated, click on “Share” and get the weblink or html code of your online dashboard.
3. Share your work! An example of this visualization can be found [here](https://public.tableau.com/shared/ZGT6Z5853?:display_count=yes).

1. This workshop was presented by the SIPA team to the staff of Open Development Cambodia team on Tuesday, January 18th in the ODC offices in Phnom Penh, Cambodia. It was also given to PanNature and Open Development Vietnam on Wednesday, March 18th in Hanoi, Vietnam. [↑](#footnote-ref-1)
2. Users should try to explore different forms of visualization before deciding on which one to use. Under the “Marks” tab, users will be able to explore the possibilities of visualization, such as pie charts, line charts, horizontal/vertical bar charts etc. In this example, we think the best visualization form is a horizontal bar chart. [↑](#footnote-ref-2)