MODULE
DATA SWS VISUALIZATION
SERVICE SYSTEM AND INTEGRATED REFERENCES
FOR SOCIAL PROTECTION AND POVERTY MANAGEMENT

This module was prepared under the Project (2017 – IDNPOVER - 349) funded by the COMCEC
I. INTRODUCTION

Currently, the world is becoming more and more open and competitive. The demands of fast and high-quality services keep rising, including the foremost important settlement of social protection and poverty alleviation issues. One of the government agendas for poverty alleviation is the improvement of welfare and protection for the poor and the vulnerable. This has been mandated in Presidential Regulation No. 2 of 2015 on the National Medium Term Development Plan (RPJMN) 2015-2019. It requires the involvement of various stakeholders from the center to the regions, including the government, private companies, and community to carry out the agenda.

Various programs to meet the basic needs of the community continue to be implemented by the government. These efforts are implemented through the improvement of a series of national social protection programs covering 40% of the lowest income communities, including Raskin (the Subsidized Rice Program for the Poor), Program Keluarga Sejahtera (PKH) or Family Hope Program (Indonesian Conditional Cash Transfer Program for the Poor), Program Indonesia Pintar (PIP) or Smart Indonesia Program channeled through Smart Indonesia Card (KIS), and Program Indonesia Sehat (PIS) or Healthy Indonesia Program channeled through Kartu Indonesia Sehat (KIS) or Healthy Indonesia Card. The government also organizes community empowerment programs as well as provides access to microcredit, financial inclusion, and the creation of new jobs. Local governments, both provincial and district, have also participated actively in implementing social protection and poverty reduction programs. The purpose of the program is to improve the socio-economic welfare of the poor, to strengthen the socio-economic institutions of the community and to accelerate the development of disadvantaged regions in the effort to achieve a prosperous, democratic, and just society.

Despite efforts made by the central and local governments to reduce poverty and vulnerability, the number of poor and vulnerable to poverty population is still high. According to the Central Bureau of Statistics (BPS), the percentage of Indonesia's poor population in 2017 was 10.12%. In addition, people who are above the poverty line are vulnerable to falling into poverty when facing economic crisis. The income distribution gap also widened, as seen from the high gini ratio of Indonesia in 2017 which was still at 0.391. Similarly, the gap between rural and urban areas was still high. In March 2017, the proportion of the rural poor was 13.93% higher than the urban areas, which was 7.72%.

Furthermore, in many cases, the poor and vulnerable to poverty families have not received comprehensive social protection services even though they deserve to be beneficiaries. The pessimal service and
management of social problems originated from the way of understanding and partiality in overcoming social problems. Neglecting the synergistic aspects and integrity in the management process also becomes one of the sources. The management of social problems based on the current sectoral service paradigm has not been directed to target of service and is not continuously implemented. There are still many sectoral service programs that are still running independently in accordance with the main tasks and functions of each institution. Law Number 11 Year 2009 has mandated that the implementation of social welfare conducted by the government, both central, regional, and the community must be directed, sustainable, and integrated.

Since regional autonomy applies, district/municipal governments have not optimally conducted social welfare services. This is mainly due to the lack of optimum coaching, supervision and assistance by the Central Government. As a result, local government participation in planning, budgeting and services which are leaning towards the poor, the vulnerable to poverty population, as well as society with other social problems is still low and not comprehensive. This is further exacerbated by the problem of Integrated Poverty Database which still has inclusive and exclusive errors that are still relatively high and updating by regions that has not been implemented optimally. In addition, the available Integrated Poverty Database has not been fully utilized by the regions to improve the implementation of social protection and poverty reduction programs.

In relation to these problems, capacity building of local government in the utilization of Penyandang Fakir Miskin (PFM) or the poor and Orang Tidak mampu (OTM) or the underprivileged data, such as those verified and validated by the Ministry of Social Affairs’ Integrated Services and Referral System (Sistem Layanan dan Rujukan Terpadu-SLRT) and in synergy with the New Generation of Social Welfare Information System (Sistem Informasi Kesejahteraan Sosial New Generation - SIKS-NG) becomes very important. There are a number of tools that can be used to strengthen local government in the utilization of SLRT data, including: pivottable, regional categorization analysis, and mapping. The description of the analysis results of the three tools is as follows:

- **Pivottable.** This tool is available in Microsoft Excel, but its usefulness has not been widely known. Tabulation and data compilation are very easy and fast to do with pivottable. Through a table format built on the framework of problem analysis, tabulation and data compilation to see the problem can be done quickly. The results of tabulation and compilation of such data will be important data to be visualized using area categorization analysis and mapping tools.
• **Regional Categorization Analysis.** This analysis is conducted to categorize the data of an indicator into 3 classes. Categorization is conducted by using the target data or the average value of an indicator. The results obtained depict the achievement of an indicator above the average value or target value and below the average value or target value of the indicator being analyzed.

• **Data visualization through Mapping.** The tabulated/compiled and categorized indicators data are then visualized by mapping. Data indicator that is visualized by mapping will show the achievement of indicator in each location, whether it is a province, district, sub-district, village/kelurahan or hamlet/RW/RT. Thus, problems in each location can be seen spatially.

Based on the reference problem analysis using these tools, the outline of the SLRT data visualization module is as follows:

1. Introduction
2. SLRT Indicator Data and Flow Analysis
3. SLRT Data Visualization Steps
   a. Preparation of SLRT Indicator Data
   b. SLRT Indicators Data Categorization Analysis
   c. Data Visualization Steps through Mapping
4. Interpretation of SLRT Data Mapping Results
5. Closing
II. SLRT INDICATORS DATA AND ANALYSIS FLOW

Integrated Service and Referral system (SLRT) in synergy with Ministry of Social Affairs’ New Generation of Social Welfare Information System (SIKS-NG) administers PFM data and in the future Data will also manage OTM data. Currently, the PFM data format comes from the Integrated Database (BDT) developed by BPS in 2011. In addition, SLRT also manages data on social protection programs and national and regional poverty alleviation; namely:

- In national level, Smart Indonesia Card program (Kartu Indonesia Pintar-KIP), Healthy Indonesia Card (Kartu Indonesia Sehat-KIS), Family Hope Program (Program Keluarga Harapan-PKH) and Rice for Prosperity (Beras Sejahtera-Rastra).
- In regional level, adapting to the social protection and poverty reduction programs implemented by each region.

Based on the above illustrations, it can be understood that SLRT is rich in data with depth level up to the Village/Kelurahan even to the level of Rukun Warga (RW) and Rukun Tetangga (RT). In addition, due to synergy with SIKS-NG, the updating of PFM and OTM data will be conducted twice a year, i.e. in May and November. Meanwhile, complaints and referral data related to social protection programs and poverty reduction are made in real time and dynamically.

PFM data managed by SLRT are generally divided into 5 major sections, i.e.: (1) location recognition data, (2) respondent's data, (3) housing description data, (4) socio-economic data of household members, and (5) asset ownership data and program participation. This figure shows that there are a number of indicators that can be built to monitor and evaluate the appropriateness and gap of implementation of social protection and poverty reduction programs. The results of monitoring and evaluation of the achievement of various indicators will be important information for policy makers and managers to improve the implementation of future programs.

2.1. SLRT Indicator Data

Before establishing an SLRT indicator as a frame for monitoring and evaluating the successful implementation of social protection and poverty alleviation programs, it is necessary to, first, understand the form of indicators. In general, there are 2 forms of indicators, namely:
- Maximum Indicator: is an indicator that indicates a good achievement when the value increases, and vice versa. Examples of such indicators are the Human Development Index, Prime Elementary Participation Rate, and others.

- Minimum Indicator: is an indicator that indicates a good achievement when its value decreases, and vice versa. Examples of such indicators are the Poverty Percentage, Gini Ratio, Child Death Rate, Maternal Death Rate, and so on.

Understanding these indicators is very important because it is related to the interpretation of the indicator data visualization, especially if the data visualization is made in the form of the indicators interaction. It is important to note that if the data visualization is made in the form of indicators interaction then the indicators being interacted should have a causal relationship, because it will facilitate the interpretation.

Referring to the available BDT (PFM) form and the need for utilizing SLRT data to strengthen monitoring and evaluation of the implementation of social protection and poverty reduction programs, the indicators are constructed as shown in the following table.

Table 1. Indicators of Social Protection and Poverty Reduction (PSPK) Derived from SLRT Data
2.2. Analysis Flow

The visualization of SLRT indicator data can be conducted with a gradual flow of analysis from the central, provincial, district/city, sub-district and village levels, even the lowest level can be conducted at the dusun (hamlet) or RW/RT level. A central-level analysis is conducted to see the achievement of an SLRT indicator in the province, and then monitor and evaluate which SLRT indicators becoming the burden for the national (central) government. The indicators which become the national burden will serve as a material/direction for the Ministries/Institutions to encourage the province to see the performance of problem indicators at the district/city level. Continuing at the provincial level will encourage districts to see the performance of problem indicators at the sub-district or what burdens are in level of district/cities, as well as the sub-districts to see the indicator achievements in each village/kelurahan.

Through the analysis flow, central government can determine priorities focusing on strengthening interventions and monitoring social protection programs and poverty alleviation in each province. The same can be done by the province for each district/city, and from district/city to sub-district, from sub-district to village/kelurahan. The results of achievement analysis of SLRT indicator can be used by the government at various levels to conduct coordination meeting of Poverty Reduction Team in order to further synergize the implementation of social protection programs and poverty alleviation. More importantly, it can be utilized for strengthening the preparation of planning and budget allocation focusing more on various levels, ranging from central to village/kelurahan level. The analysis flow chart of the SLRT indicator data as described in brief can be seen in Figure 1 below:

Figure 1. Analysis Flow for SLRT Indicator Data Visualization through Mapping
III. SLRT DATA VISUALIZATION STEPS

3.1. Preparation of SLRT Indicator Data

Before performing the visualization of SLRT indicator data using mapping, the first step to do is to tabulate and compile data or categorize indicator data based on location, poverty group (D1-D4, D1, D2, D3, D4), program beneficiaries, or others. On the basis of the clustering framework, a table is built on Microsoft Excel program and data indicator to be tabulated and compiled are inputted in the format.

The next stage, the table format which contains indicator data is blocked from the top left corner of the table to the bottom right corner of the table. Then on the insert menu in the excel program in the upper left corner you click pivottable tools. Tabulation dialogue menu and data compilation and analysis will appear. Next, tabulation and compilation are done by dragging the topic item location, the poverty groups, and the others into the dialogue menu that is divided into columns and rows. The tabulation and compilation results are obtained quickly and can be seen on the right side of the dialog menu. Description of the dialog menu of the pivottable can be seen in the following figure.

Figure 2. Tabular Dialogue and Data Compilation Menu View of Pivottable Tools
3.2. SLRT Indicator Data Categorization Analysis

The results of tabulation of indicator data that have been disaggregated by location, poverty group (D1-D4, D1, D2, D3, D4), program beneficiaries or others are included in the area categorization analysis tool. Indicator data input is conducted based on the choice whether it is included in the minimum or maximum indicator. The results of area categorization will appear directly after the choice of the minimum or maximum indicator is clicked. Area categorization utilizes the principle of Z normal distribution or t student with three divisions: the class above the average value or target value, close to the average value or target, and far from the average value or target value (Andi Hakim Nasution and Barizi, 1979; and Steel and Torrie, 1989). If no regional division is done as such, then the map program will automatically divide the region based on the average value of the class without raising it with the target value or the middle value. Comparison of class distribution is based on the automatic division of the map program, and class spread is based on the principle of comparing the target value or the middle value (Andi Hakim Nasution and Barizi, 1979 and Steel and Torrie, 1989) as can be seen in the following figure.

![Figure 3. Automatic Class Division Patterns by a Mapping Program of an Indicator (Minimum or Maximum)](image)

![Figure 4. Class-Division Pattern Based on the Principles of Determination of Comparison with Target Value of Minimum Indicator](image)
Figure 5. Pattern of Class Division Based on the Principles of Determination of Comparison with the Middle Value of a Maximum Indicator

The analysis tools for area categorization determination of an SLRT indicator to be used in visualization using the mapping tools as shown below:
3.3. Data Visualization Steps through Mapping

Currently, there are several mapping applications in the world of which some are provided for free while others are not. Some big names of paid mapping applications include Arc GIS and Map Info. Meanwhile, free mapping applications include QGIS, Map Window and Open Street Maps.

In accordance with “Joint Declaration of Indonesia, Go Open Source (IGOS)” on 30 June 2004 signed by five ministers, i.e. Minister of Research and Technology, Minister of Justice and Human Rights, Minister of Communication and Information, Minister of Administrative Reform and Minister of National Education, thus Ministry of Social Affairs’ SLRT National Secretariat utilizes a Free Open Source Software (FOSS) mapping application to perform data visualization of SLRT indicator data.

When this tutorial was created, the latest version of QGIS is 2.18.6 with the code name Las Palmas. This version is a version with long-term support supported by the developer team and community for the next few years.

Some considerations when deciding to use QGIS are:

- Support from a vast community around the world
- Ability to access data from various kinds of database format
- Ability to open various file type from other mapping applications
- Ability to do analysis on advanced level using image satellite.

This guide assumes that you have installed QGIS on your computer. No installation steps in this guide are provided. Besides, it is assumed that you already have a basemap on your computer.

This brief guide is addressed for beginners who are new to this application especially in making some basic to intermediate level of maps.
Displaying Basic Map

Open the application on QGIS mapping by pressing **Start** button on the bottom left corner of your computer and then type “QGIS” (without quotation mark).

Choose QGIS Desktop 2.18 to open the QGIS mapping application.

On the first window, the application will display blank map as the following.
To insert basic map, choose the Add Vector menu located on the list of icons in the left side.

On the next window of Add Vector Layer, switch Source Type with Directory (marked by number 1) and then press Browse button (marked by number 2) to determine the folder where you want to save your basic map.
In the folder where you have saved your basic map, press **Select Folder** to close the window.

Press **Open** button on the **Add Vector Layer** to display your basic map on the screen.

On the **Coordinate Reference System Selector**, you can ignore the determination of coordinate system which by directly pressing **OK**.

If you have more than one basic map, you will see a confirmation request window. Choose the required basic map and then choose **OK**.

Now, you will see the basic map on your QGIS worksheet.
To display the list of sub-districts, right-click on the name of basic map (in this example is Bojonegoro_Kec) in the Layers column situated in the bottom left and then choose Properties.

![Image showing the properties menu](image1.png)

![Image showing the labels settings](image2.png)
Choose the **Labels** menu in the series of menus on the left and then change the option **No Labels** on the top with **Show Labels for This Layer** on the top (see the area marked by number 1 above). Make sure you choose **KECAMATAN** (sub-district) to display the name of sub-district on the map (see the area marked by number 2 on the picture above). Press **OK** to display the name of sub-district on the map.

To clarify the display of name of sub-district, you can add white area around the name of sub-district. Repeat the step from **Properties** on **Bojonegoro_Kec** and then choose **Labels** on the left. Afterward, choose **Buffer** menu (marked by number 3) and activate the option **Draw Text Buffer** (marked by number 4). Directly press **OK** button. Pay attention to the picture above.

**Saving Map**

To save map, choose **Project** menu and then choose **Save As**.

Make sure you save on the desired folder which you can easily remember when you want to use it in the future.
Preparing Excel Data

To display data you have, you need to make an Excel Archive to load the data which we want to input into our map. To load data into the map, you need several columns, which include **Kode Wilayah** (Region Code) and **Nama Wilayah** (Region Name). To retrieve Region Code and Region Name related to the map, follow the steps below

**For The Users of Microsoft Office Excel 2007**

From the **Office** menu, the ball on the top left corner, choose **Open**. Pay attention to the following picture.

![Excel Archive](image)

**For The Users of Microsoft Office Excel 2010**

From the **File** menu, choose **Open**. Pay attention to the following picture.

![Excel Archive](image)
Opening Dbf File

After you choose Open menu, you will see a new window showing the file(s) to choose. Go to the folder where you saved your basic map.

To open the required file, on the bottom right side, change All Excel Files into All Files. Choose Nama Wilayah.dbf which you want to work on. In this example, we use Bojonegoro_Kec.dbf.
On the table you have just opened, copy the column **Kecamatan** and **KEC_NO** into blank excel.

Close the file named **Bojonegoro_Kec.dbf**. Do not save your file if you are requested to do so.

Go back to the blank Excel which now has two columns, **Kecamatan** and **KEC_NO**.

Fill in the data you have in column C and the other columns. Pay attention to the following picture.
Hereunder are details that you need to pay attention to when creating the Excel data:

1. The title of column has to begin from the top left side (column A1)
2. The title of column should not exceed 32 characters.
3. The title of column should include no space. You can use the combination of small and capital letters, or you can use “_” to replace space.
4. No column titles are merged.

When you have finished entering data into the columns as required, save your work in Excel 97-2003 format.

In the saving box change Save as Type from Excel Workbook into Excel 97-2003. As the example in this manual, the file is saved as Data_Kesehatan.xls. When the file has been saved, close the active Excel windows. Those windows have to be closed, not minimized.
Combining Excel Data into Map

The next step is combining Excel Data you have just created into the basic map you made earlier.

At this point, go back to the previous basic map sheet saved previously (see page 6 for Saving Map).

Click the menu on the left side and then choose the Excel file you have prepared.

Different from the process for preparing basic map, this step requires you to activate the option File and then choose Browse to select the Excel file you have prepared. Press Open to open the Excel file.

Now, on the Layers box on the bottom left side you will see the name sheet in the Excel data you have just entered.
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The next step is merging the Excel Data with the basic map.

Right-click on Bojonegoro_Kec in the Layers box and then choose Properties.
On the **Layer Properties** window you have opened, choose **Joins** menu located on the left and then click [ ].

On the **Add Vector Join** you have just opened, choose the Excel Data which you want to join with the map and then click **Join Layer**. In this example, we use **Kemiskinan PPLS**. On the **Join Field** and **Target Field**, choose the key connecting the Excel Data and the basic map you have. In this example, we use ID2010 as the Region Code for connecting the Excel Data and the basic map.

Before you click OK, make sure the Cache Join Layer in Virtual Memory has been crossed.

To make sure that the joining process has been done correctly, you need to check it by right-clicking **Bojonegoro_Kec** and then choose **Open Attribute Table**.
On the **Attribute Table** Window you have opened, you will see several columns on the right to the data we have entered in the Excel format.

If the column corresponding to Region Name is multiplied, then the joining process has been successful.
Displaying Map Colour Based on the Existing Data

To display map colour based on the data entered, you need to right-click and then choose Properties on Bojonegoro_Kec (see the picture on page 12).

In the Style menu on the left, you need to follow the steps below as shown by the numbers in the above picture.

1. Change the option box into Graduated to display colour gradation from the lightest shade to the darkest one, or vice versa.
2. On the Column option, choose the data you want to display along with the colours.
3. In the Classes option, you can make some adjustment to add group of colours you want to use. It is better to put 5 and 3 as the highest and lowest value, respectively. This depends on the number of regions on the map. If you have more than 10 regions, you can put 5, but if you have less than 5 regions, choosing 3 should be enough.
4. You can choose the colour gradation you need from the Colour Ramp, marked by number 4. Choose the colour gradation you need.
5. When you have finished, press Classify which is marked by number 5 to calculate and adjust the data to the choices you have made previously.

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Click OK to view your result.

At this point, you should see colours based on the data you have entered.

**Displaying Diagram on the Map Based on the Existing Data**

In addition to displaying the data with colours, you can also display the data with graphics on map.

Open the Properties window (see the picture on page 12 to find out how to open it) and then choose Diagram.

There are three types of diagram you can display.

1. **Pie chart** – this type of diagram displays data in circles.
2. **Text diagram** – this type of diagram shows data in texts.
3. **Histogram** - this type of data will display data in bar charts.
Generally the components to adjust graphics are similar among those graphics. Pay attention to the following picture to retrieve the pictures related to adjusting graphic. We present the process in adjusting data using **Histogram**.
Below are the descriptions of functions based on the numbers above.

1. Choose the type of graphic you want to display here.

2. The **Attribute** menu is used to choose the column we want to display in the graphic.

3. Double-click on the name of column you want to view.

4. The **Size** menu is used to adjust the size of graphic.

5. Make sure the **Scaled Size** is active.

6. Choose the same column as that in step 2 above.

7. After you choose the column you want to display in graphic. On the **Maximum Value**, press **Find**. The box next to the column will be automatically loaded with the existing data.

8. This is used to adjust the graphic height. The value in this part can be freely adjusted according to the display of map.

Click **OK** to finish the graphic adjustment and display the result on map.
Preparing Map for Printing

After the colour and graphic adjustment has been done, the next step is preparing the map to be printed or published in picture format so it can be used in report document.

From the Project menu, choose New Print Composer Ctrl + P to open the window where your map will be prepared for printing. When you see a window appearing, you can click OK directly to proceed.
There are four areas of work in this part. The top and left areas are used to adjust the display of map you want to print, while the right ones are used to adjust any addition according to the menu you choose from the menu on the left or top.

The white area on the middle is the display of map to be generated. Here are the descriptions of menus available.

THE MENUS ON TOP

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>📐</td>
<td>Used to save your work</td>
</tr>
<tr>
<td>📖</td>
<td>Used to open new composer sheet</td>
</tr>
<tr>
<td>📛</td>
<td>Used to open saved work</td>
</tr>
<tr>
<td>📝</td>
<td>Used to save work in template format</td>
</tr>
<tr>
<td>🖨️</td>
<td>Used to print map</td>
</tr>
<tr>
<td>📷</td>
<td>Used to export map into graphic format</td>
</tr>
<tr>
<td>🐠</td>
<td>Used to export map into SVG format, which is common for printing</td>
</tr>
<tr>
<td>📄</td>
<td>Used to export map into PDF format</td>
</tr>
</tbody>
</table>

THE MENUS ON THE LIFT

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🕐</td>
<td>Digunakan untuk memperbesar tampilan. Perbesaran ini tidak berpengaruh</td>
</tr>
<tr>
<td>🗬️</td>
<td>Used move an object to the centre</td>
</tr>
<tr>
<td>🖼️</td>
<td>Used to add map to the centre</td>
</tr>
<tr>
<td>📚</td>
<td>Used to add picture to the centre</td>
</tr>
<tr>
<td>🖋️</td>
<td>Used to add text to the centre</td>
</tr>
<tr>
<td>📮</td>
<td>Used to add picture to the centre</td>
</tr>
<tr>
<td>🎨</td>
<td>Used to add compass to the centre</td>
</tr>
<tr>
<td>🎨</td>
<td>Used to input a triangle, square, or circle to the centre</td>
</tr>
</tbody>
</table>

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In the menus on the right, you can adjust the size of paper you will use. The standard choice is A4 and the maximum size is A0 (80 cm x 1,2 m).
Adding Map to the Centre Screen

First, you need to choose the menu from the left, and then drag and drop until you create a white screen in the middle.

Afterward, add Map Title on the bottom by choosing menu , With the same steps, add one more text to add more information about the map and map source.

When you are done, you can decide to publish the map into picture format or PDF, as needed, by choosing one of the menus available on age 19.
Displaying Only the Map of Certain Region

When you have a map at village level and we want to display the maps of villages situated in a certain sub-district, you can use the Query facility. From the Layer menu, choose the Query. Look at the picture below.

On the window just opened, follow the steps as shown in the picture below.
1. Choose **Kecamatan** (sub-district) in the **Field** column by double-clicking on the **Provider Specific Filter Expression** under the word “**Kecamatan**”.

2. Press **All** (marked by number 2) until you see all names of sub-districts in the column marked by number 3.

3. Press **=** (equation) marked by number 4, and then choose the name of sub-district you want to display in column marked by number 3 by double-clicking on the name of sub-districts. As an example, now on the **Provider Specific Filter Expression** column under the word “**Kecamatan**” = “**Bubulan**”.

4. Press **Test** (marked by number 5) to display the result.

5. Make sure that the number of villages shown on the **Query Result** window correctly correspond to the number of villages in the very sub-district.

When the number of villages is correct, you can press **OK** to close and display the map of that sub-district.

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IV. THE INTERPRETATION OF MAPPING RESULTS IN SWS

Simple basic mapping analysis can be done by comparing two or several maps in horizontal and vertical analysis. In this manual, mapping analysis is not done computationally to avoid misinterpretation, which may result from poor data validity. Hereunder are descriptions and examples of basic mapping analysis.

4.1. Horizontal Analysis

The comparison analysis is horizontal, i.e. by comparing two or more data/indicators/measurements in a certain period. The presentation can be done by using two maps or one map. Horizontal analysis will be useful to see the distribution pattern in per sub-district/village from some data/indicator. This will enable analysis on correlation between data/indicators.

The examples of horizontal analysis:

- Map of Poor Households (RTM) distribution in the first decil (D1) and the distribution of RTM in the second decil (D2) of per sub-district by 2017; (presentation with two maps).
- Map of RTM distribution in the first decil (D1) of PKH (Family Hope Program) beneficiaries and percentage distribution of RTM in the second decil (D2) of PKH beneficiaries in 2017; (presentation with one map).

4.2. Vertical Analysis

The vertical comparison analysis [time series], i.e. by comparing the same data, condition, or size at two/several different times. This analysis is also called trend analysis, which can be used to see the change trend of data/condition/size, be it rising, intact, or decreasing. This analysis is also useful for measuring the success of programs/activities carried out continuously. The presentation can be done by using two maps or one map.

Here are the examples of vertical analysis.

- Distribution of Poor Households (RTM) D1 per sub-district in 2011 with RTM D1 distribution per sub-district in 2017; (example of presentation with two maps)
- Distribution of RTM D1-D4 per Regency / City in 2011 with RTM D1-D4 distribution per District / City in 2011.
- The distribution of RTM D1 of PKH program beneficiaries in 2015 with RTM D1 distribution of PKH program beneficiaries in 2017.

As a basic analysis material, this mapping tool will at least guide us to explore and examine the phenomena depicted in the map in greater lens.
V. CONCLUDING REMARK

The manual has explained the steps of visualizing the SLRT indicator data using its mapping and interpretation tools. The main purpose of this visualization is to find out the condition of poverty issues and the accuracy of social protection program intervention and poverty reduction in a location. Spatially, the mapping will help to map and ensure the level of achievement of the SLRT indicator in each province, district/city, sub-district or village/administrative village. The results of this mapping will be important information for policy makers and observers of government performance (from the center down to the village/administrative village) to gain instant look on the condition of the achievement of the SLRT indicators, further allowing them to design steps for problem solving.

Through rapid observation and understanding, be it related to monitoring, evaluation, and other coordination activities, government responses, at both central and regional level, will also be accelerated, especially related to improving the quality of Social Protection and Poverty Reduction (PSPK). In addition, updating the dynamic and real time SLRT data will further improve the accuracy, effectiveness, and efficiency of PSPK implementation.