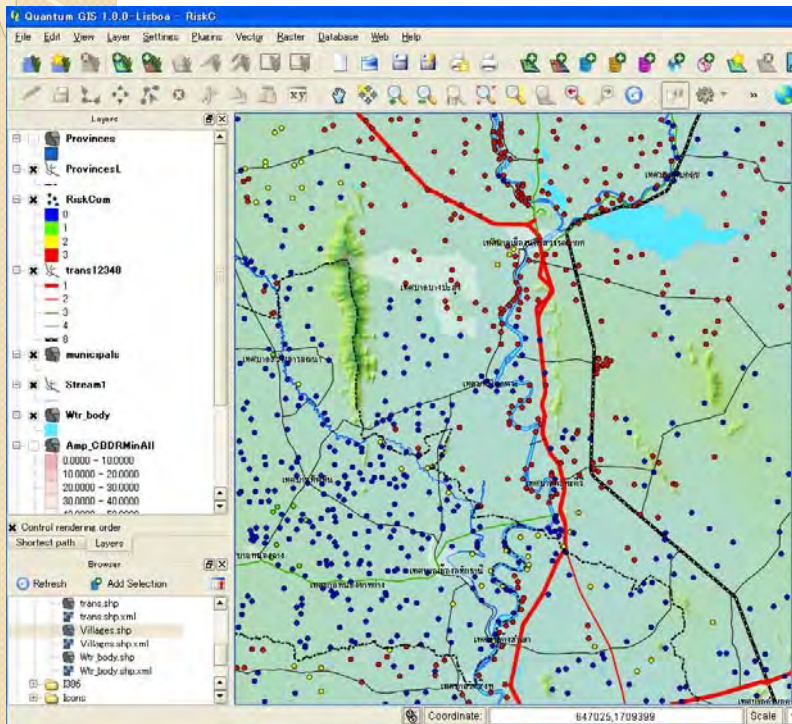


## 2. Making Inventory Maps (Risk Community)

### 2.1 Making risk community map



It is important to understand situation about risk community.

In this chapter, we make risk community map by using QGIS and Excel.

Source files

/ Risk\_Community\_N.xls  
(list of risk community)

/ village (shape file)

/ provinces (shape file)

/ RegionC (shape file)

/ trans (shape file)

/ Wtr\_body (shape file)

/ Stream (shape file)

/ thailand.osm (openstreetmap)

/ dem\_90\_u\_ft (image file)

## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

Risk\_Community\_N.xlsx is Excel format file. This file contains Risk community profiles (location, risk level population ...).

First row is name of attribute column.

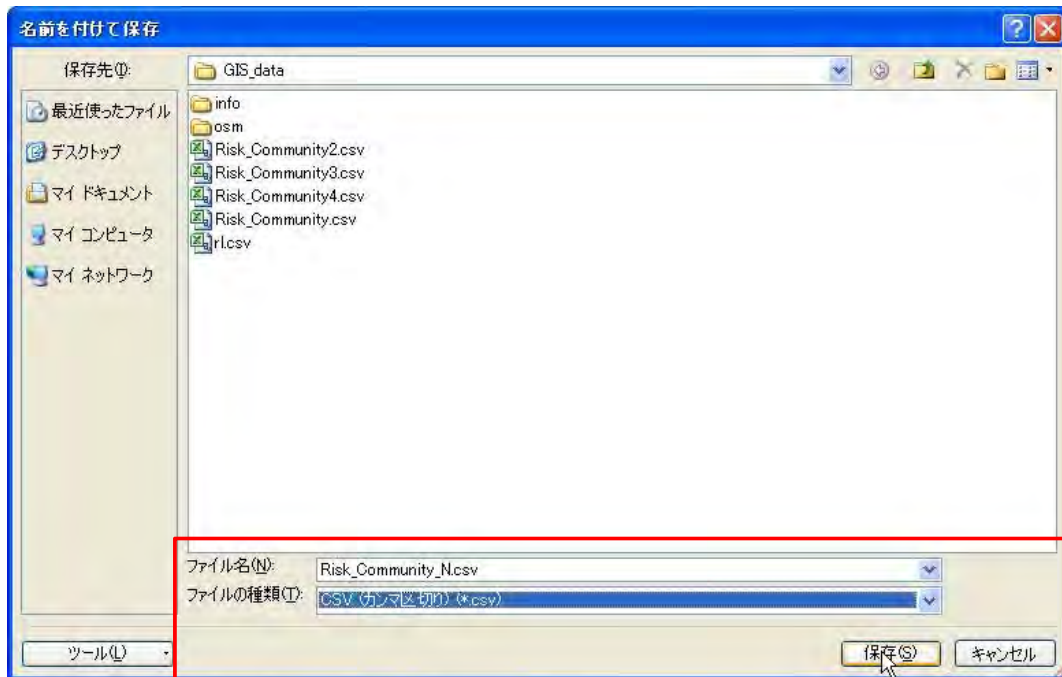
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Vill_Code	RC_Code	Prov.Co	Amp.Co	Amphoe	Tambon	Moo	Vill_Nami	Populati	Househ	Risk level	Pan_basi	RiverBas	foothill
13010100	RC01	13	1301	เมืองปทุมธานี	บางปะกอก	0	ชุมชนวัดสี	680	176	2			1
13010100	RC01	13	1301	เมืองปทุมธานี	บางปะกอก	0	ชุมชนวัดศาลา	723	158	2			1
13010100	RC01	13	1301	เมืองปทุมธานี	บางปะกอก	0	ชุมชนวัดศาลา	588	171	2			1
13010401	RC01	13	1301	เมืองปทุมธานี	บ้านกลาง	1	คลองบางไผ่	853	299	2			1
13010402	RC01	13	1301	เมืองปทุมธานี	บ้านกลาง	2	หมู่บ้านเจ้า	2378	1058	2			1
13010403	RC01	13	1301	เมืองปทุมธานี	บ้านกลาง	3	คลองบางห	158	35	2			1
13010805	RC01	13	1301	เมืองปทุมธานี	บางหลวง	5	คลองโพธิ์	500	325	2			1
13010806	RC01	13	1301	เมืองปทุมธานี	บางหลวง	6	ท่านขุนบางไ	387	77	2			1
13010900	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	0	ชุมชนคลอง	514	149	2			1
13010901	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	1	ท่านขุนบางไ	454	116	2			1
13010902	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	2	โพธิ์ฟ้า	974	231	2			1
13010903	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	3	หนองปรัง	1278	366	2			1
13010904	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	4	คลองบางไผ่	532	107	2			1
13010905	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	5	บางเดื่อ	3263	1389	2			1
13010906	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	6	บ้าน	2383	586	2			1
13010907	RC01	13	1301	เมืองปทุมธานี	บางเดื่อ	7	หมู่ไทย	487	106	2			1
13020100	RC01	13		หลวง คลองหนึ่ง		0	หมู่บ้านช่อ	1190	288	2	1		
13020116	RC01	13		หลวง คลองหนึ่ง		16	หมู่บ้านโพ	6272	1836	2	1		
13020118	RC01	13		หลวง คลองหนึ่ง		18	บ้านท่าโหล	826	303	2	1		
13020120	RC01	13	1302	คลองหลวง	คลองหนึ่ง	20	วัดชัยนิต	350	85	2	1		
13YYYYYY	RC01	13	13YY	คลองหลวง	ท่าโหล	14	ชุมชนวัดค	945	316	2	1		
13030201	RC01	13	1303	คลองหลวง	บึงยี่โถ	1	ชุมชนสราย	2404	1356	2			1
13030202	RC01	13	1303	คลองหลวง	บึงยี่โถ	2	ชุมชนฟ้าส	5296	2541	2			1
13030204	RC01	13	1303	คลองหลวง	บึงยี่โถ	4	ชุมชนหม	3448	1368	2			1
13040501	RC01	13	1304	คลองหลวง	หนองสาม	1	ตอกปทุม	566	117	2	1		
13040502	RC01	13	1304	คลองหลวง	หนองสาม	2	หนองขาม	455	95	2	1		
13040503	RC01	13	1304	คลองหลวง	หนองสาม	3	หนองน	686	222	2	1		
13040504	RC01	13	1304	คลองหลวง	หนองสาม	4	หนองน	492	116	2	1		

Data field

## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

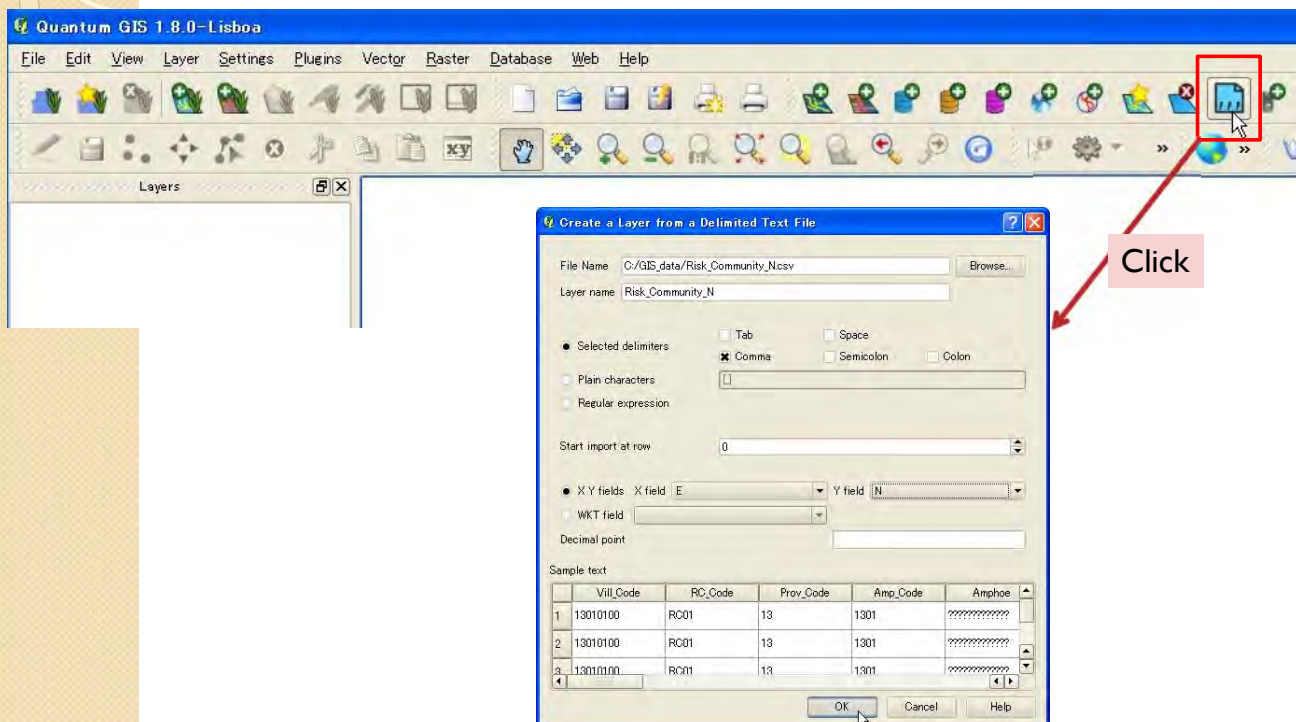
In order to import the Excel data, save the data sheet to “csv” format file.



## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

Open QGIS and push “Add Delimited Text Layer” button to import the “csv” file.



## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

File Name: C:/GIS\_data/Risk\_Community\_N.csv

Layer name: Risk\_Community

Selected delimiters:  Comma

X field: E, Y field: N

Sample text:

	Vill_Code	RC_Code	Prov_Code	Amp_Code	Amphoe
1	13010100	RC01	13	1301	??????????
2	13010100	RC01	13	1301	??????????
3	13010100	RC01	13	1301	??????????

Coordinate Reference System Selector

Specify CRS for layer Risk\_Community\_N

Filter: 47N

Recently used coordinate reference systems:

Coordinate Reference System	Authority ID
Indian 1975 / UTM zone 47N	EPSG:24047
WGS 84 / UTM zone 47N	EPSG:32647

Coordinate reference systems of the world:

Coordinate Reference System	Authority ID
Kalianpur 1975 / UTM zone 47N	EPSG:24347
Kertau 1968 / UTM zone 47N	EPSG:24547
WGS 72 / UTM zone 47N	EPSG:32247
WGS 72BE / UTM zone 47N	EPSG:32447
WGS 84 / UTM zone 47N	EPSG:32647

+proj=utm +zone=47 +datum=WGS84 +units=m +no\_defs

## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

Specify CRS for layer Risk\_Community\_N

Filter: 47N

Recently used coordinate reference systems:

Coordinate Reference System	Authority ID
Indian 1975 / UTM zone 47N	EPSG:24047
WGS 84 / UTM zone 47N	EPSG:32647

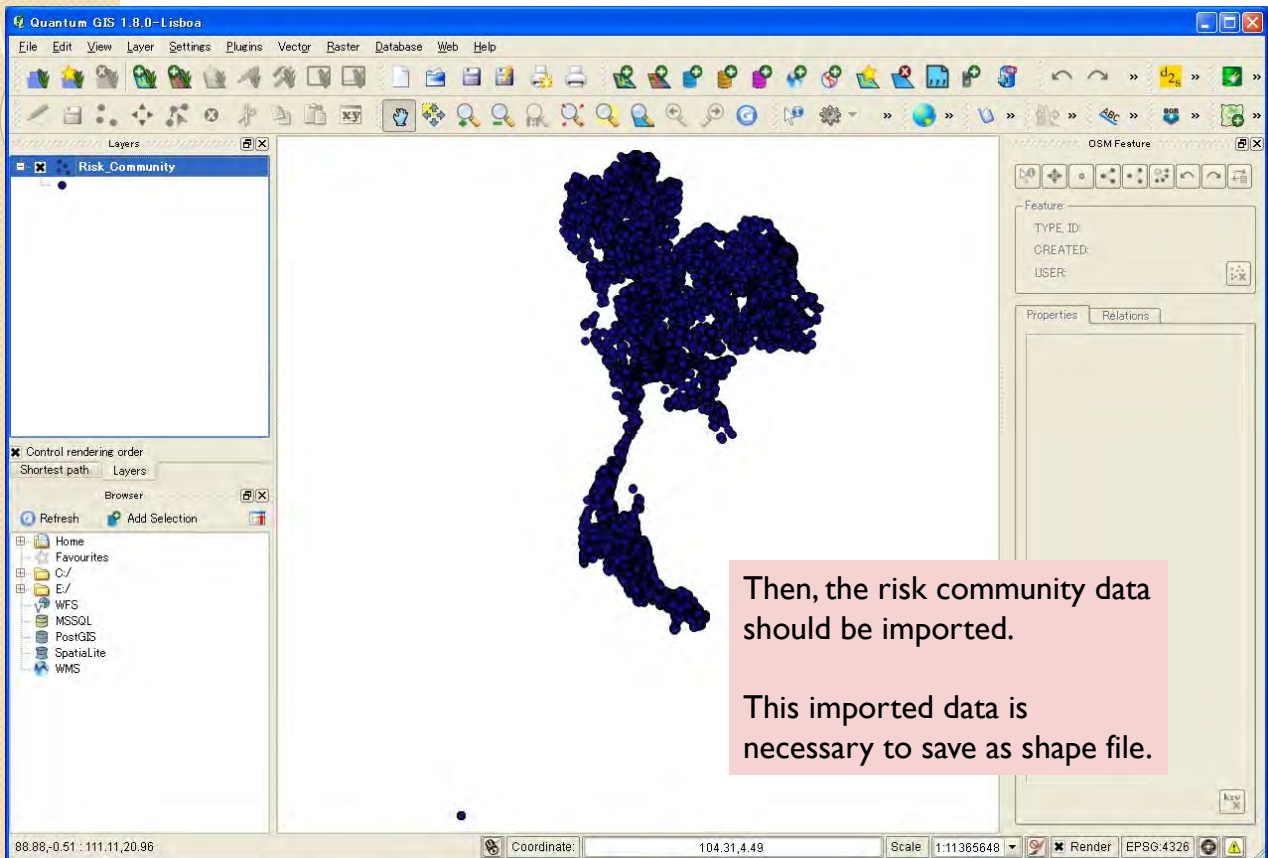
Coordinate reference systems of the world:

Coordinate Reference System	Authority ID
Kalianpur 1975 / UTM zone 47N	EPSG:24347
Kertau 1968 / UTM zone 47N	EPSG:24547
WGS 72 / UTM zone 47N	EPSG:32247
WGS 72BE / UTM zone 47N	EPSG:32447
WGS 84 / UTM zone 47N	EPSG:32647

+proj=utm +zone=47 +datum=WGS84 +units=m +no\_defs

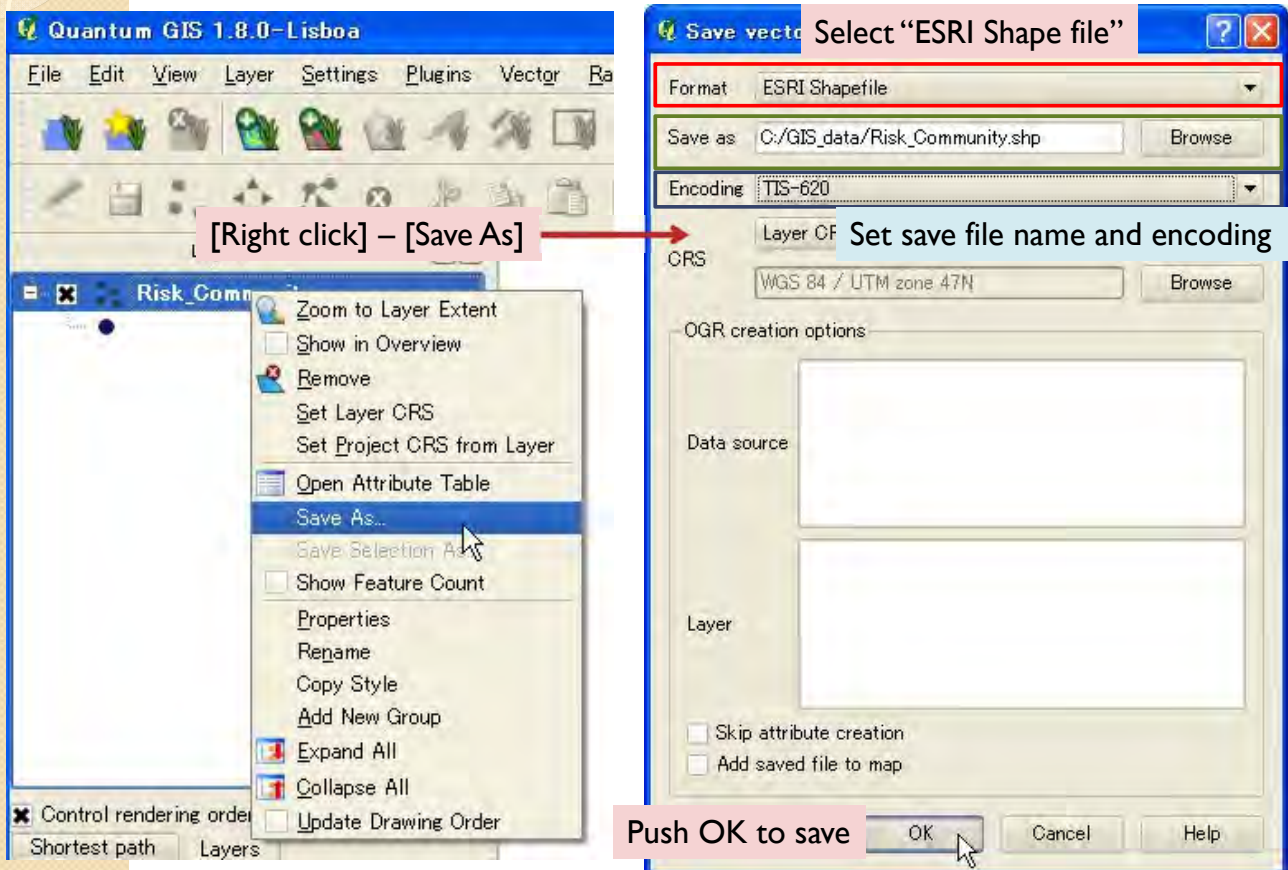
## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file



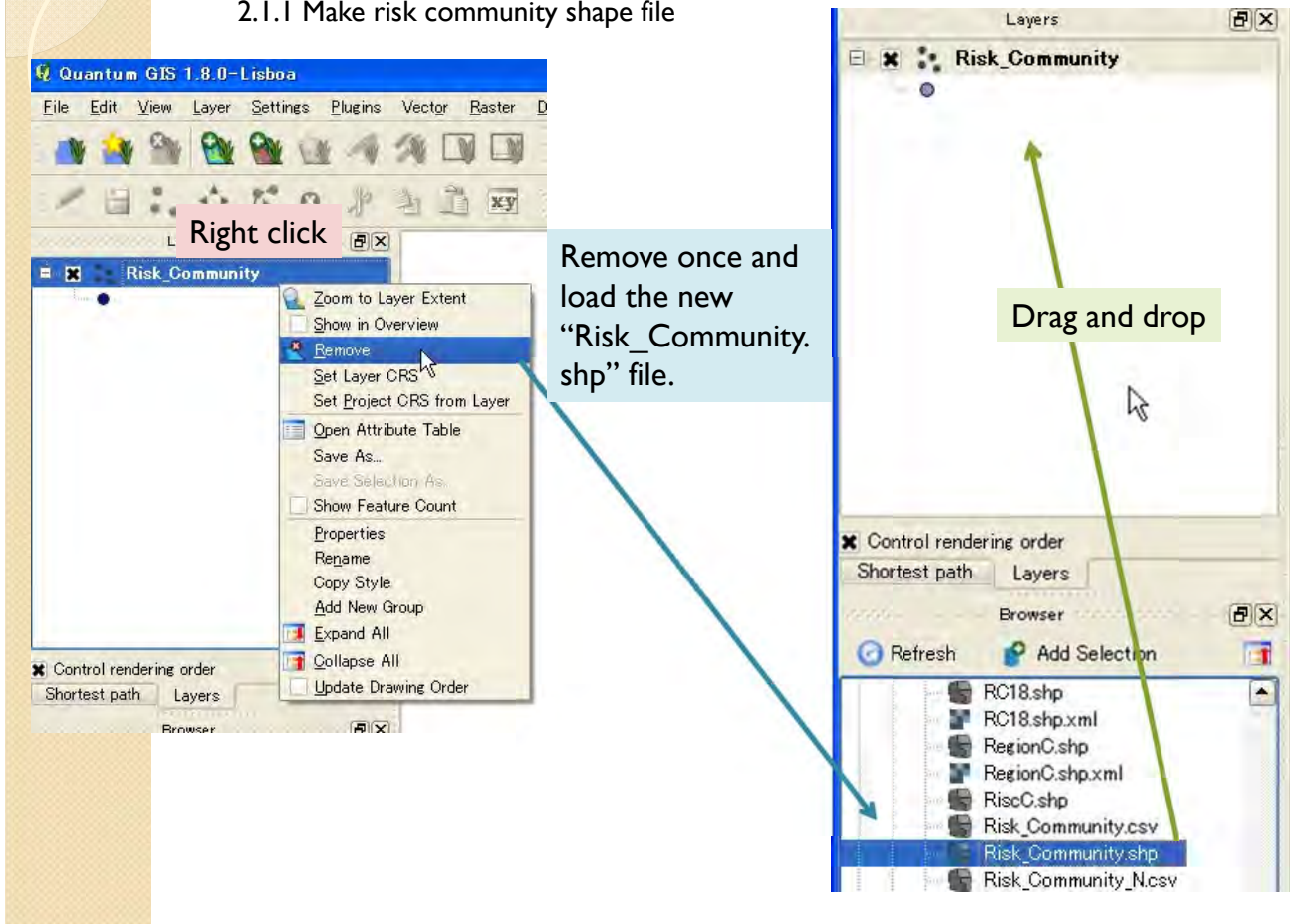
## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file



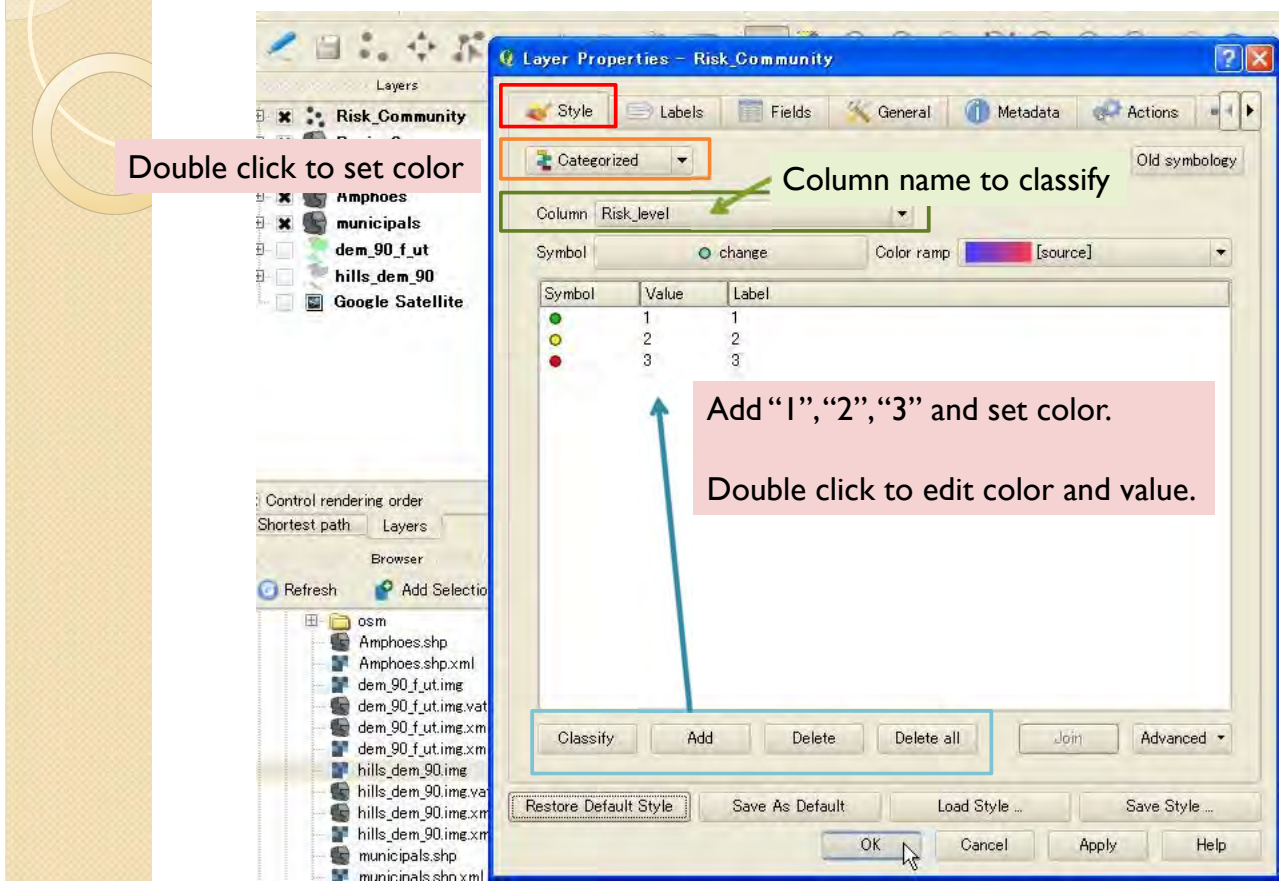
## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file



## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file



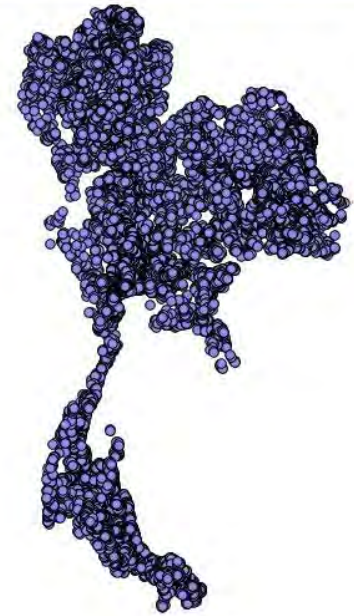
## 2. Making Inventory Maps

### 2.1.1 Make risk community shape file

Notes :

No location information communities are at "0,0".

Other community location data are also imprecise. In addition, some risk communities are double counted in the list (Excel file). Some parts were removed, but it is not perfect. Please pay attention if you use this data.

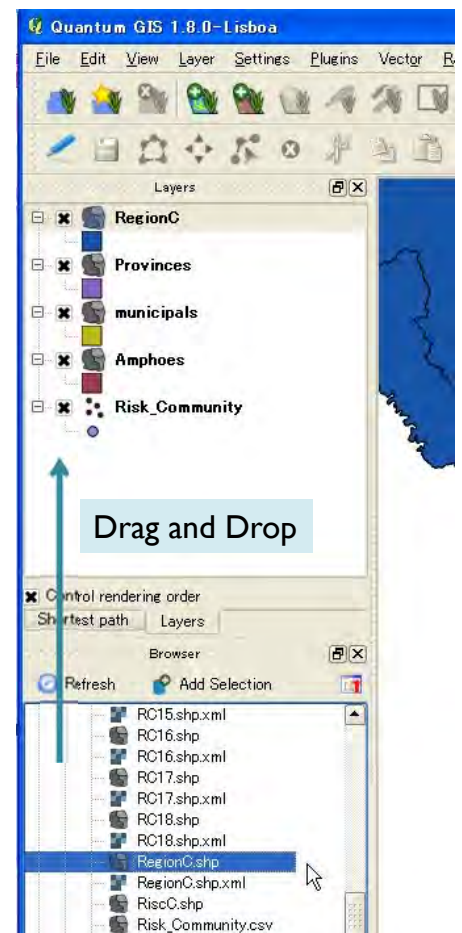


## 2. Making Inventory Maps

### 2.1.2 Import administrative data

Import following administrative data from "GIS\_data" folder.

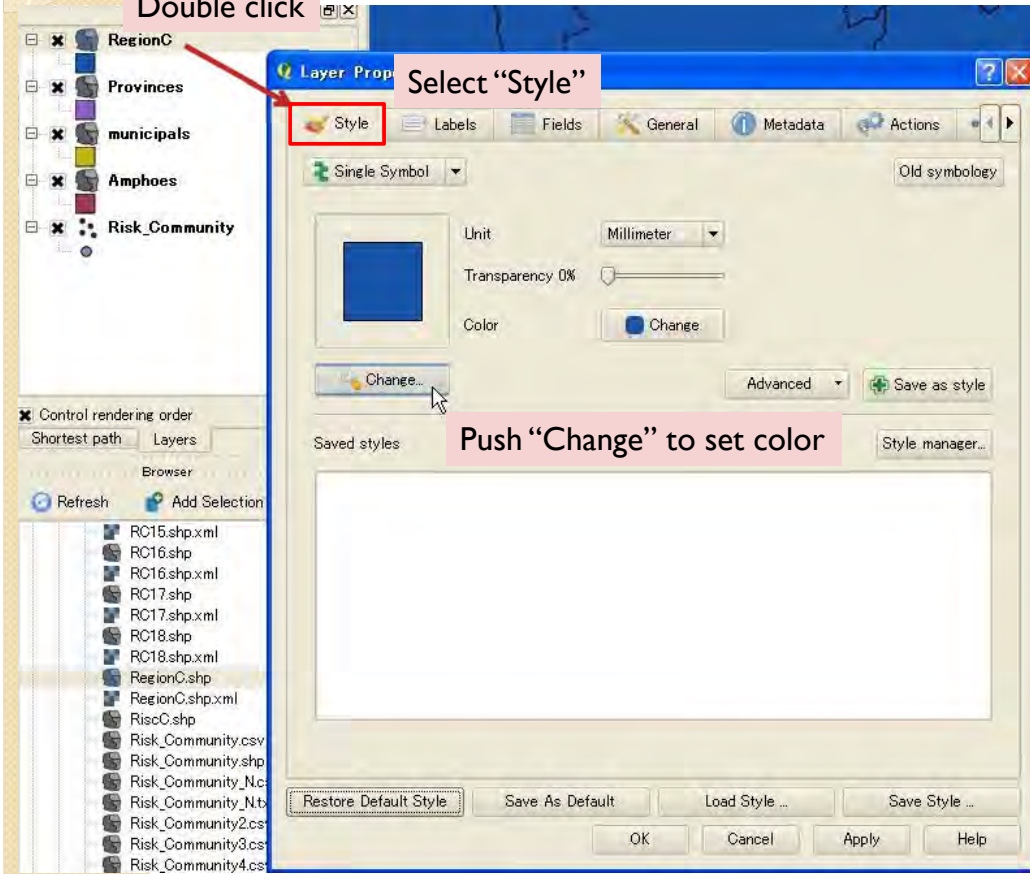
/ RegionC.shp  
/ Provinces.shp  
/ municipals.shp  
/ Amphoes.shp  
/ Villages.shp



## 2. Making Inventory Maps

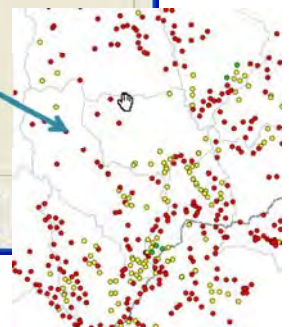
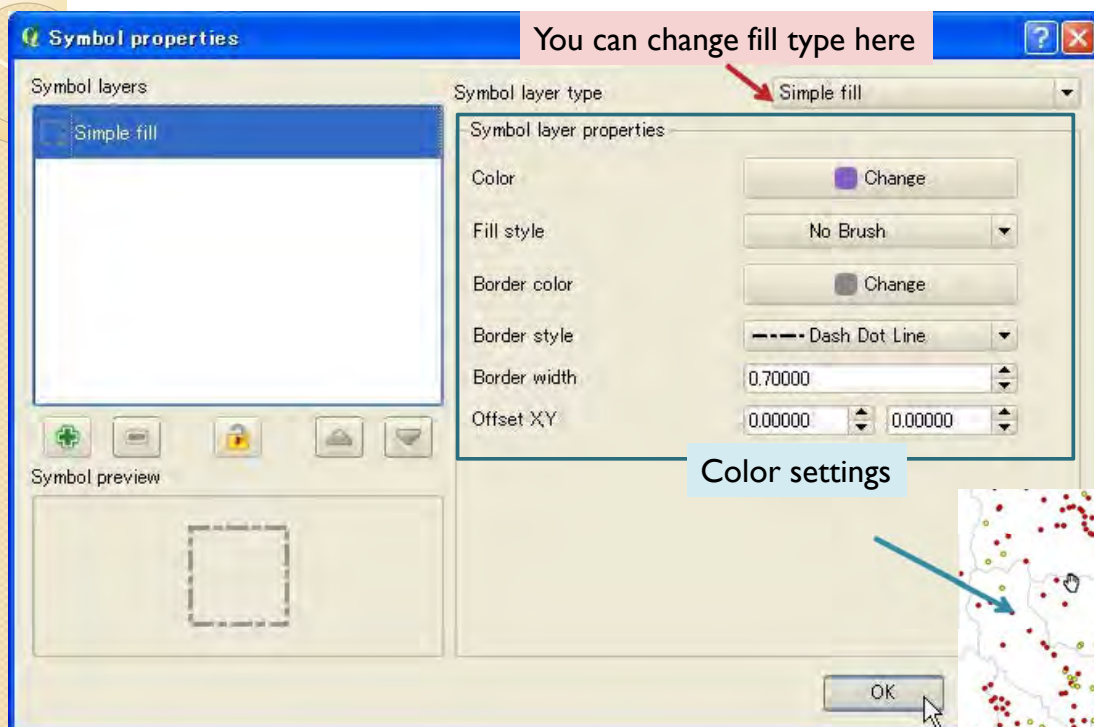
### 2.1.2 Import administrative data

Double click



## 2. Making Inventory Maps

### 2.1.2 Import administrative data



## 2. Making Inventory Maps

### 2.1.3 Import elevation data

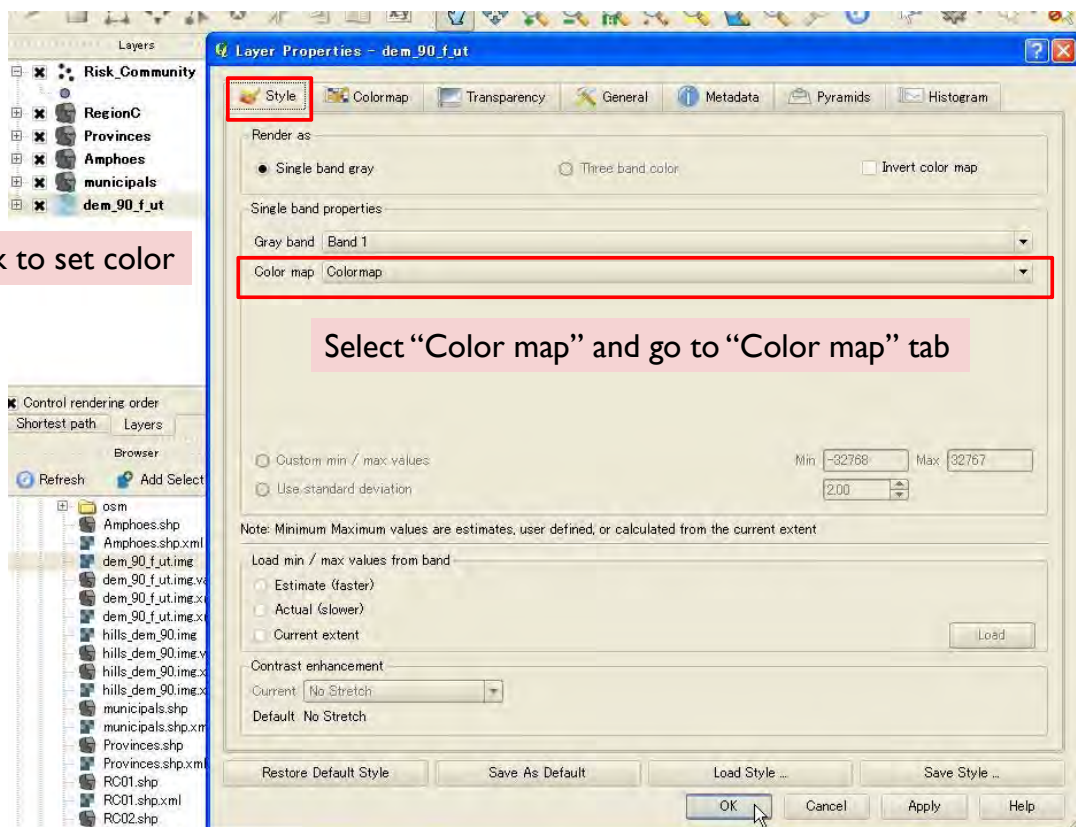
Import “dem\_90\_f\_ut” from “GIS\_data” folder.



## 2. Making Inventory Maps

### 2.1.3 Import elevation data

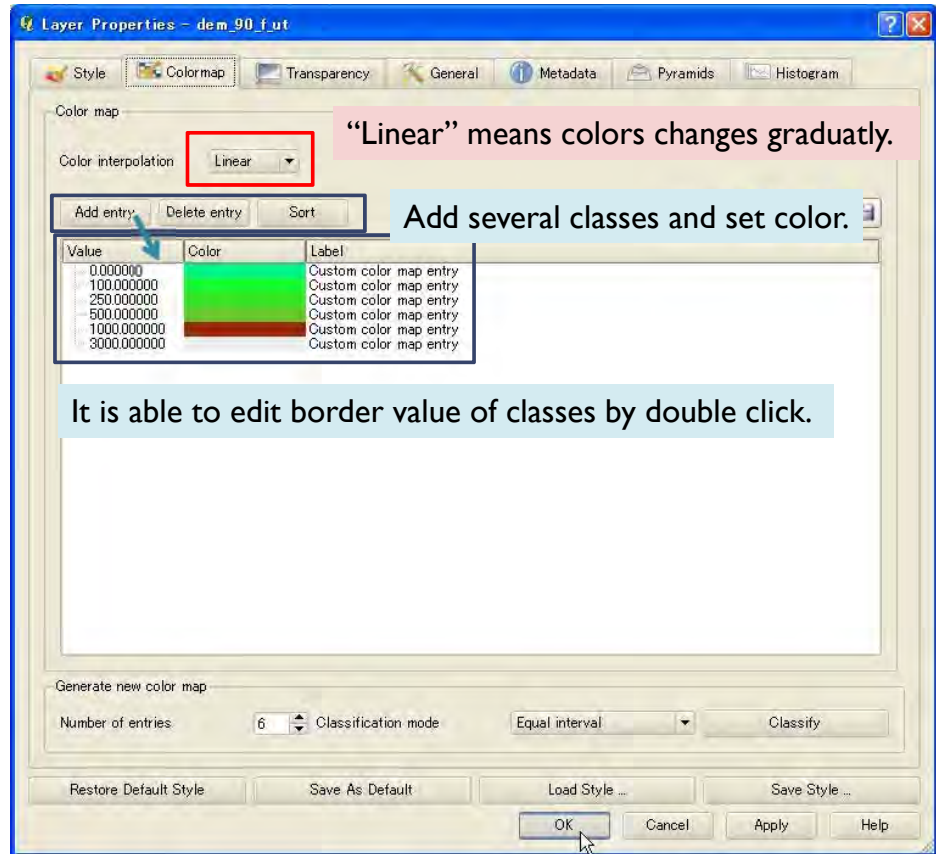
Double click to set color





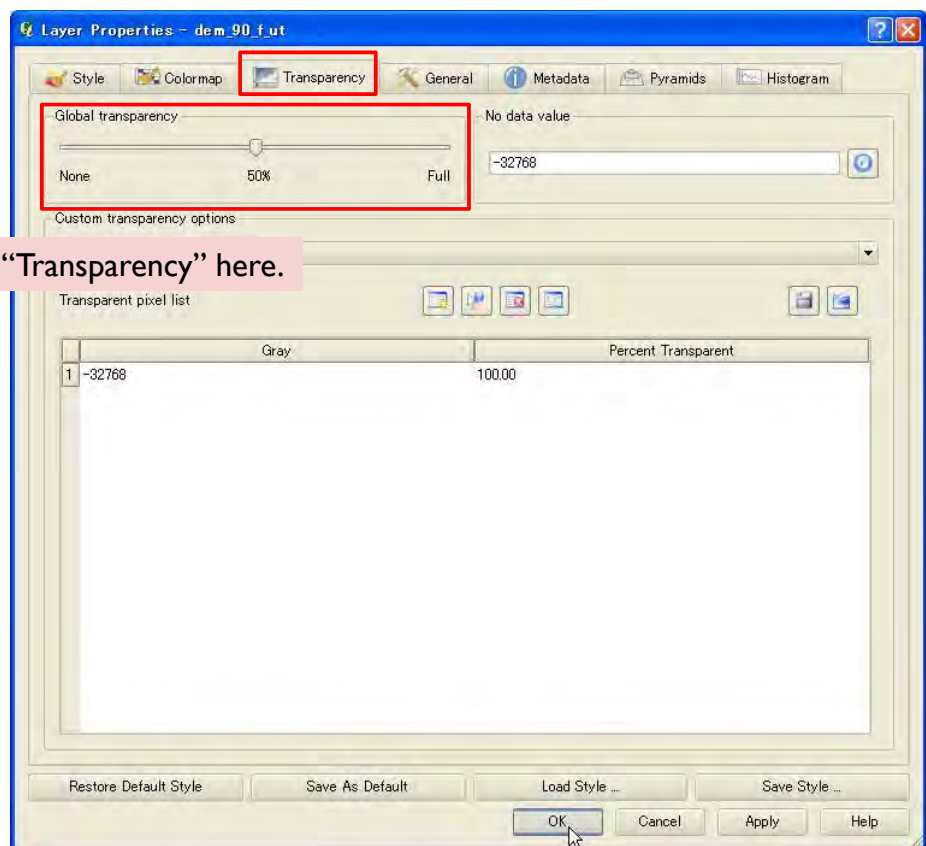
## 2. Making Inventory Maps

### 2.1.3 Import elevation data



## 2. Making Inventory Maps

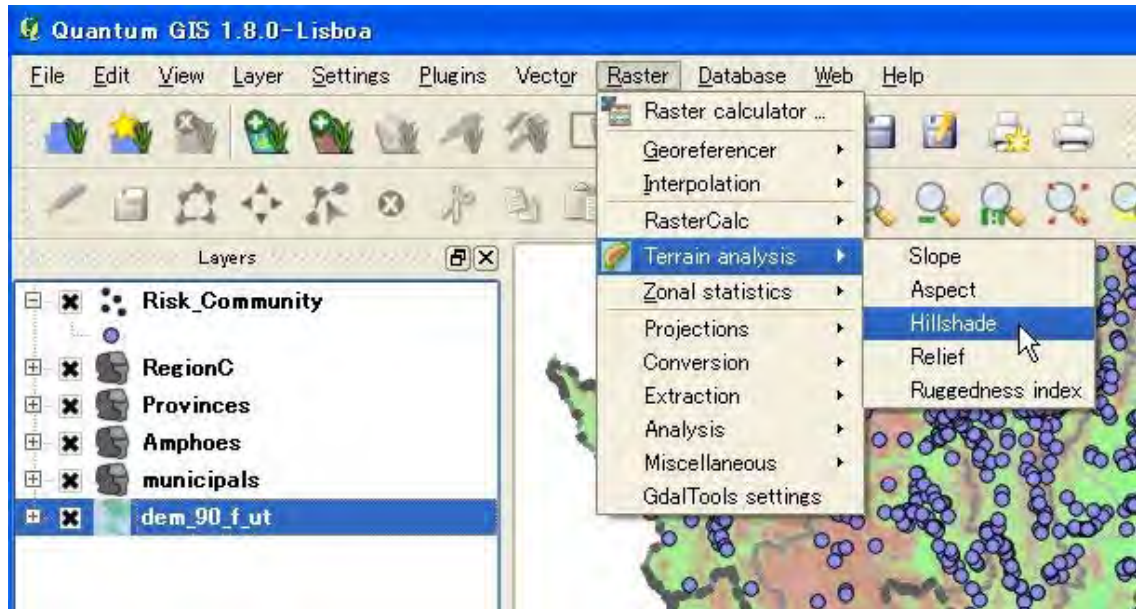
### 2.1.3 Import elevation data



## 2. Making Inventory Maps

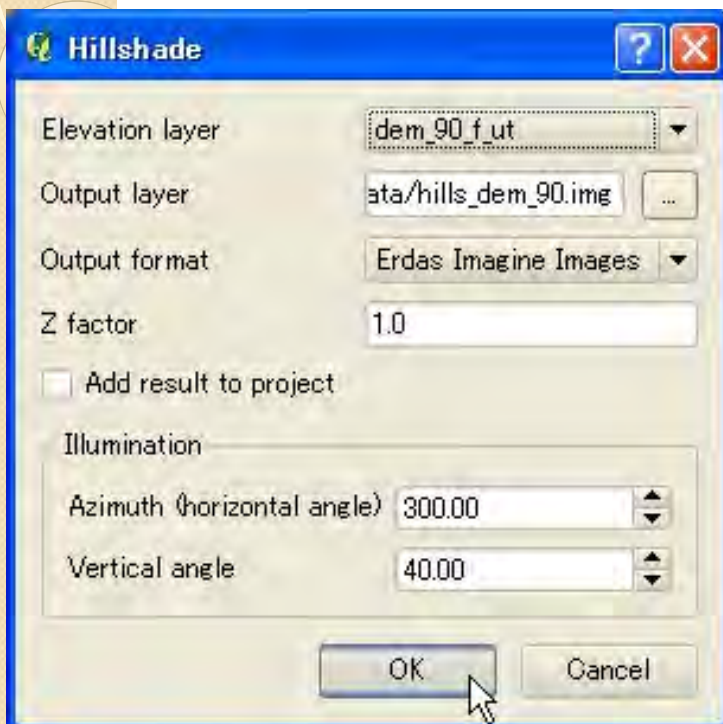
### 2.1.4 Making hill shade data

Select [Raster] – [Terrain analysis] – [Hillshade] to make hill shade.



## 2. Making Inventory Maps

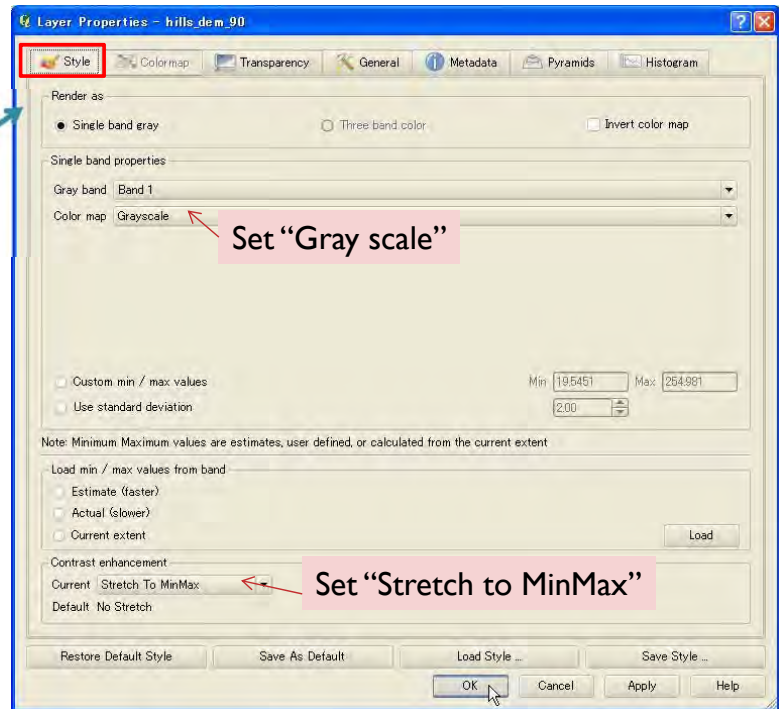
### 2.1.4 Making hill shade data



Select as these settings and push OK to make hill shade.

## 2. Making Inventory Maps

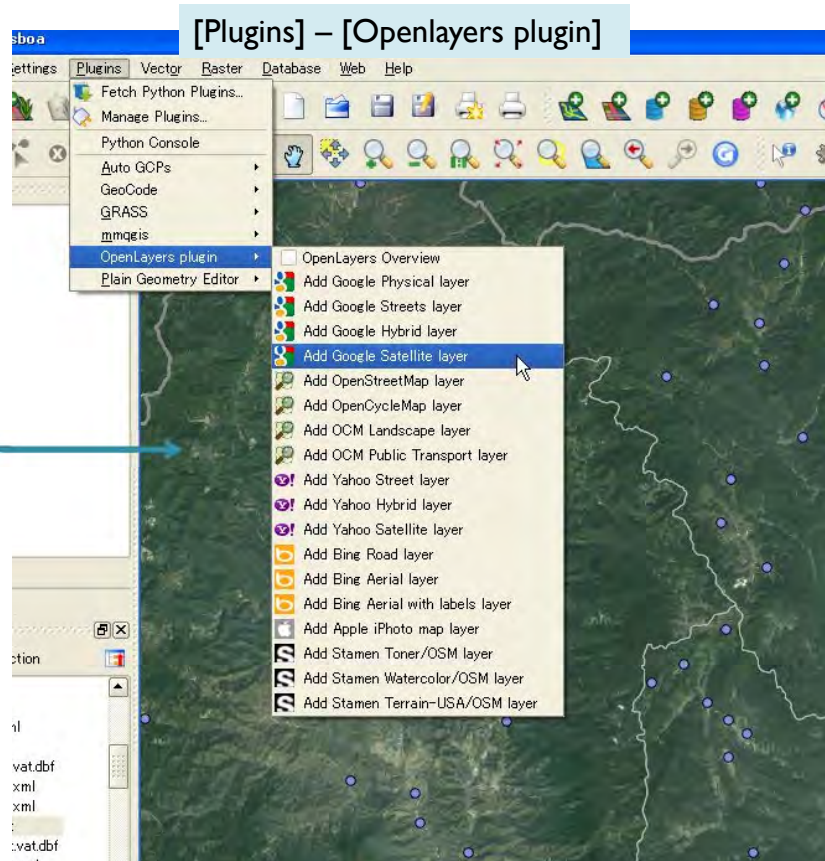
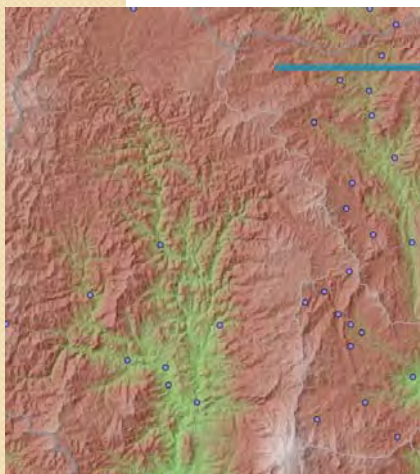
### 2.1.4 Making hill shade data



## 2. Making Inventory Maps

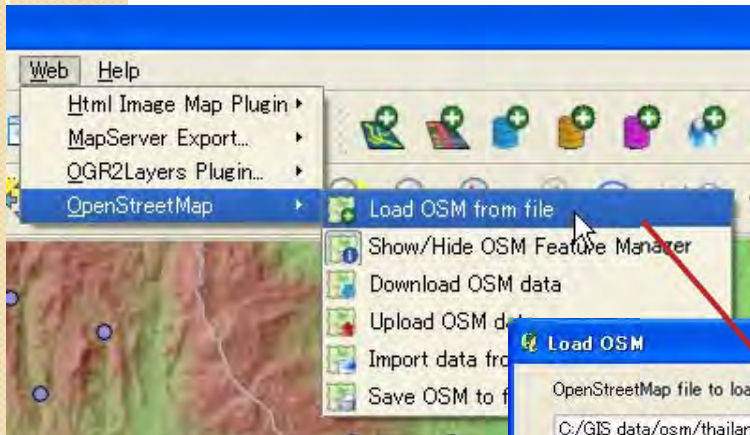
### 2.1.5 Import online Maps

Instead of the hill shade and elevation data, you can use online map when you use internet connection.

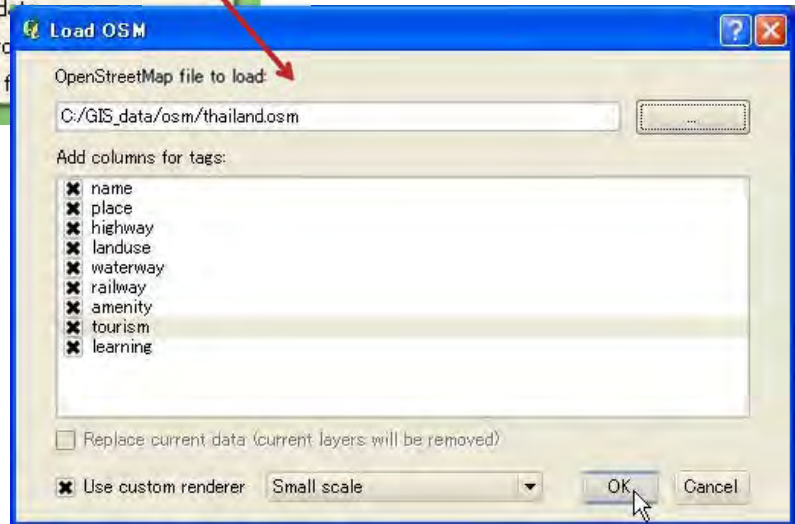


## 2. Making Inventory Maps

### 2.1.6 Import Open Street Map



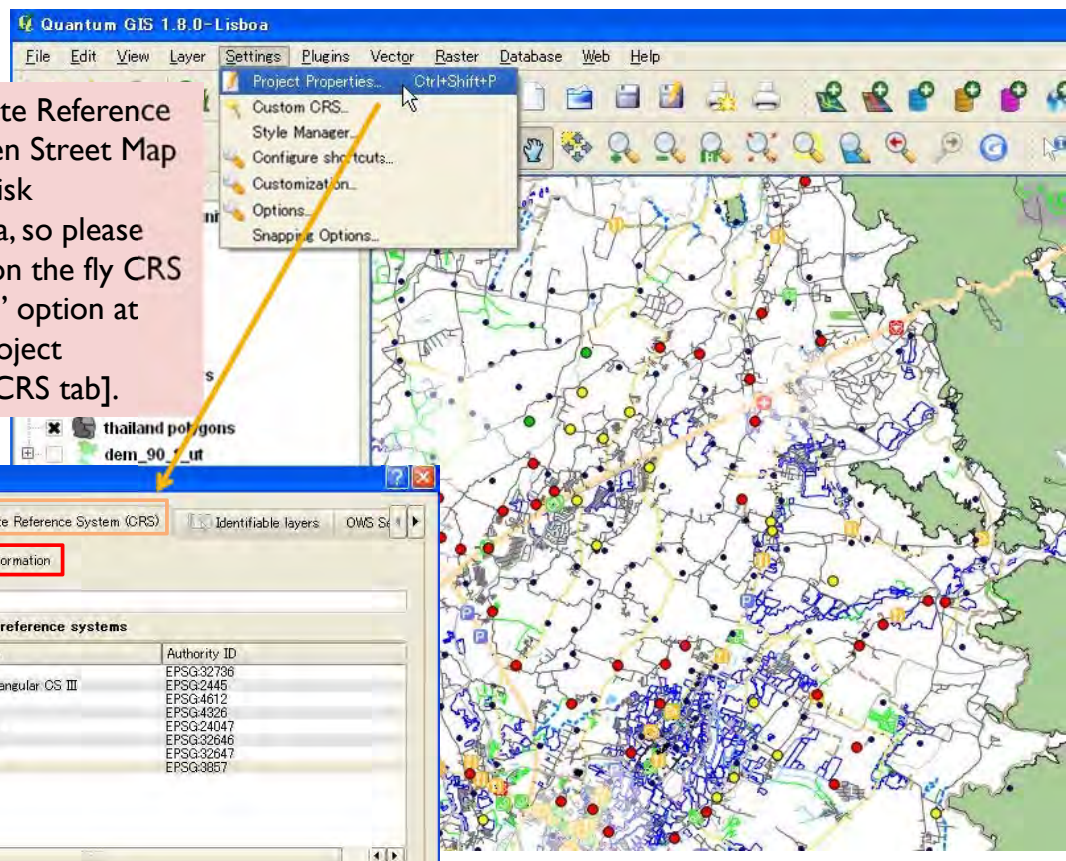
[Web] – [OpenStreetMap]  
– [Load OSM from file] to  
load Open Street Map.



## 2. Making Inventory Maps

### 2.1.6 Import Open Street Map

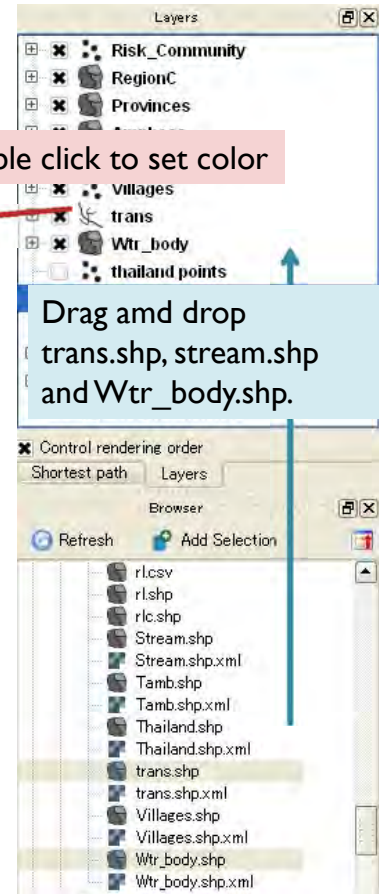
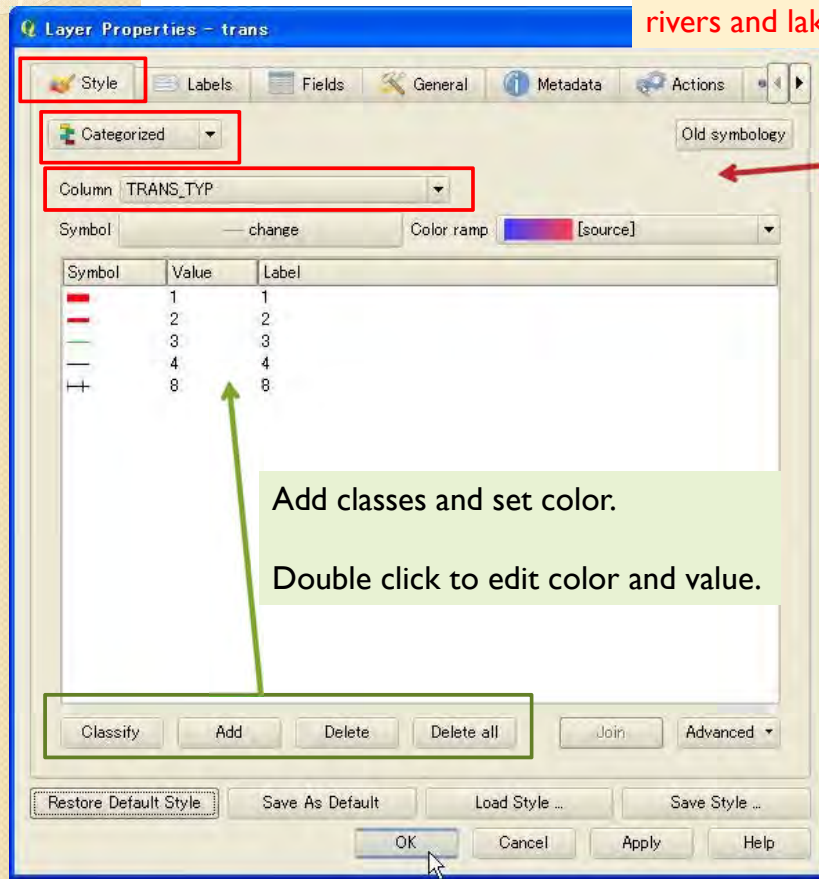
CRS (Coordinate Reference System) of Open Street Map is different to risk community data, so please check "Enable on the fly CRS transformation" option at [Settings] – [Project Properties] – [CRS tab].



## 2. Making Inventory Maps

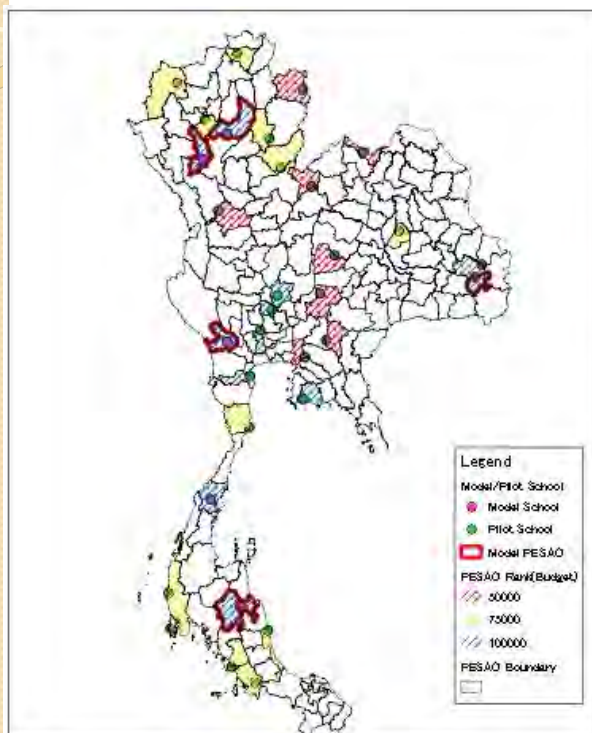
### 2.1.7 Import Other Data

You can import roads, railways, rivers and lakes.



## 3. Making Inventory Maps (Disaster Education)

### 3.1 Making model/pilot schools and ESAO map



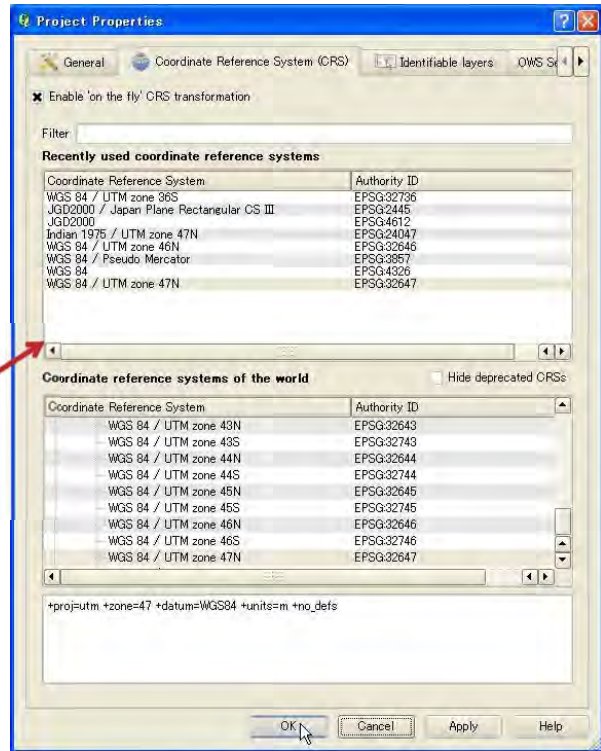
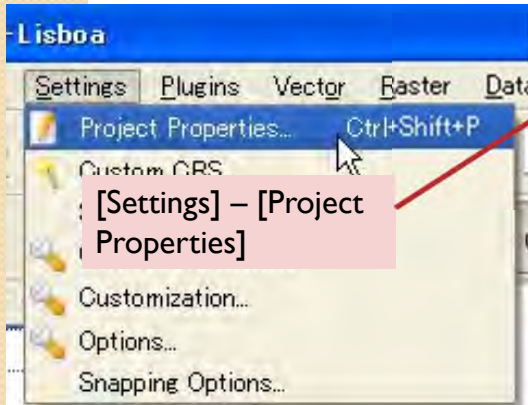
In this chapter, we make model/pilot schools and ESAO map by using QGIS and Excel.

- 1.Import Shape file (geographical data) and Excel file (disaster education information)
- 2.Integrate both into one shape file
- 3.Make coloring
- 4.Make inventory maps
- 5.Import and set color for risk area
- 6.Make risk area map with ESAO

### 3. Making Inventory Maps

#### 3.1.1 Import PESAO and SESAO file

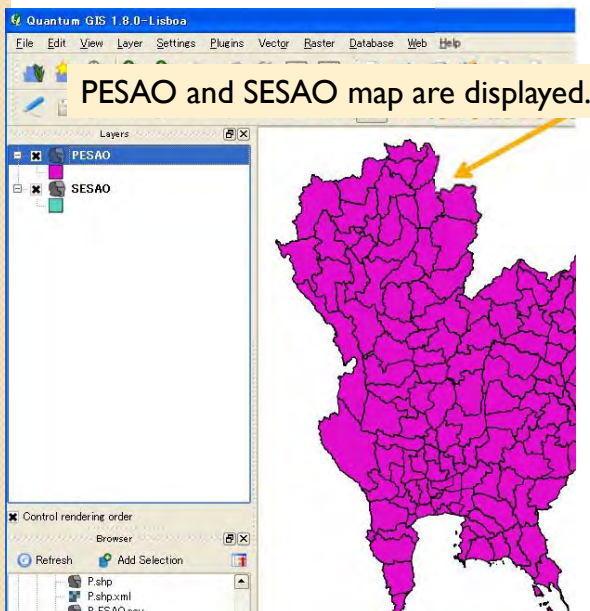
At first, make sure that Coordination Reference System (CRS) is set as WGS84 / UTM 47N and “Enable ‘on the fly’ CRS transformation” is checked.



### 3. Making Inventory Maps

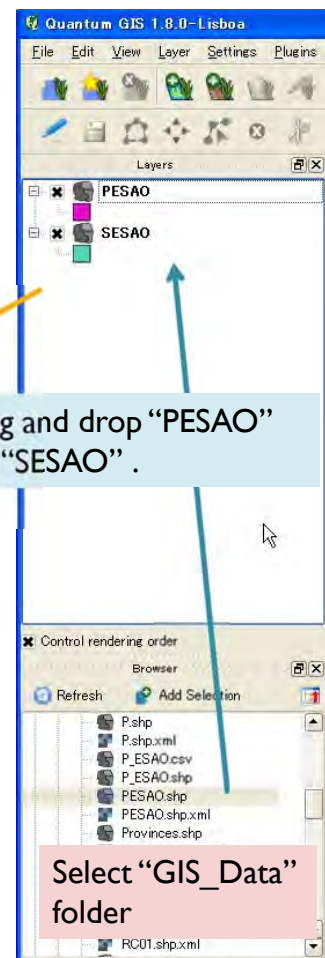
#### 3.1.1 Import PESAO and SESAO file

Select “GIS\_Data” folder in the “Browser” field and drag and drop “PESAO” and “SESAO” file into “Layers” folder.



Drag and drop “PESAO” and “SESAO”.

Select “GIS\_Data” folder



### 3. Making Inventory Maps

#### 3.1.1 Import PESAO and SESAO file

Right click and select "Open Attribute Table"

There are only ID numbers in the attribute table which are linked to the each feature of the map.

It is necessary to import ESASO data from Excel file.

QID
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

### 3. Making Inventory Maps

#### 3.1.2 Import PESAO and SESAO data from Excxel file

Title

Data field

QID	Name	Province	No_School	Budget	Model_ESA	Model_SchPilot	dummy1	dummy2
1	เชียงใหม่ 1	เชียงใหม่	110	75000	0	0	0	0
2	เชียงใหม่ 2	เชียงใหม่	186	0	0	0	0	0
3	เชียงใหม่ 3	เชียงใหม่	153	0	0	0	0	0
4	เชียงใหม่ 4	เชียงใหม่	153	0	0	0	0	0
5	เชียงใหม่ 1	เชียงใหม่	94	0	0	0	0	0
6	เชียงใหม่ 2	เชียงใหม่	158	0	0	0	0	0
7	เชียงใหม่ 3	เชียงใหม่	157	0	0	0	0	0
8	เชียงใหม่ 4	เชียงใหม่	111	0	0	0	0	0
9	เชียงใหม่ 5	เชียงใหม่	102	0	0	0	0	0
10	เชียงใหม่ 6	เชียงใหม่	103	0	0	0	0	0
11	น่าน 1	น่าน	206	0	0	0	0	0
12	น่าน 2	น่าน	156	50000	0	0	1	0
13	พะเยา 1	พะเยา	109	0	0	0	0	0
14	พะเยา 2	พะเยา	150	0	0	0	0	0
15	แพร่ 1	แพร่	124	75000	0	0	1	0
16	แพร่ 2	แพร่	0	0	0	0	0	0
17	แม่ฮ่องสอน 1	แม่ฮ่องสอน	75000	0	0	1	0	0
18	แม่ฮ่องสอน 2	แม่ฮ่องสอน	0	0	0	0	0	0
19	ลำปาง 1	ลำปาง	140	100000	1	1	0	0
20	ลำปาง 2	ลำปาง	160	0	0	0	0	0

Open "ESAO\_DisasterEducation.xls".

Table to import into GIS must be simple table like this figure.

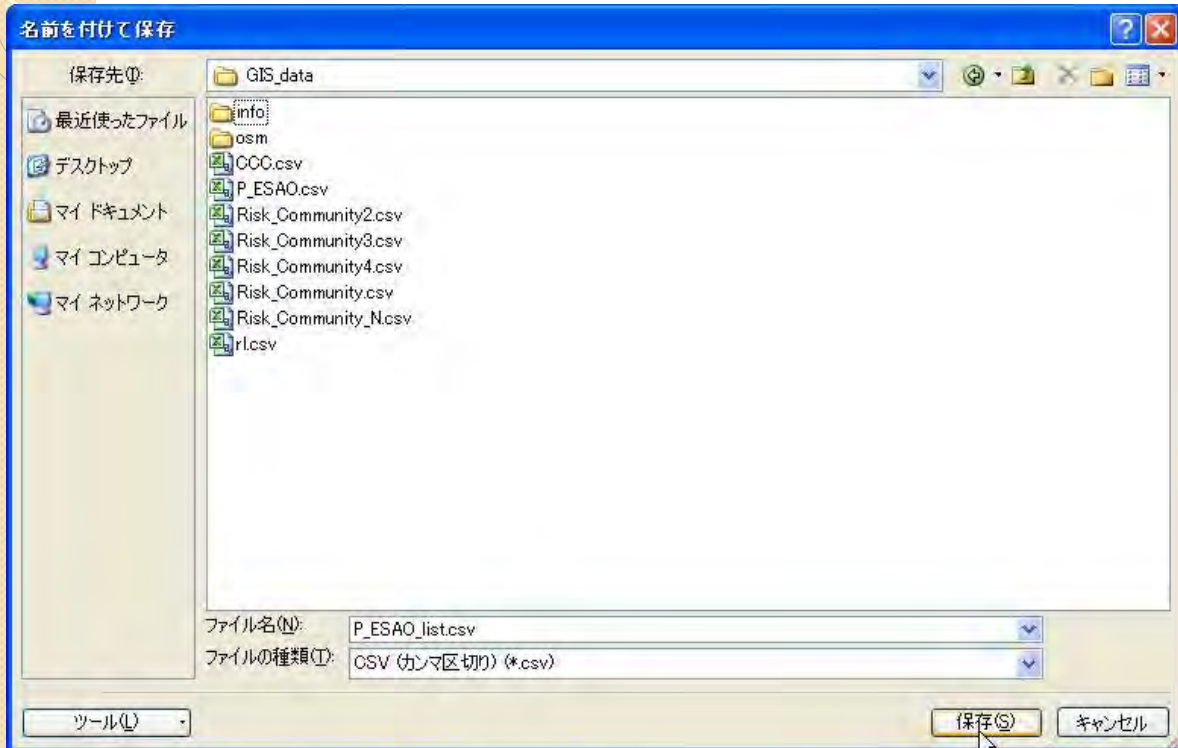
The first row is title of the attribute column. Write only alphabet and "\_". Do not use " " (space), "-", ",", "..."

Data field is below. Do not use " ".

### 3. Making Inventory Maps

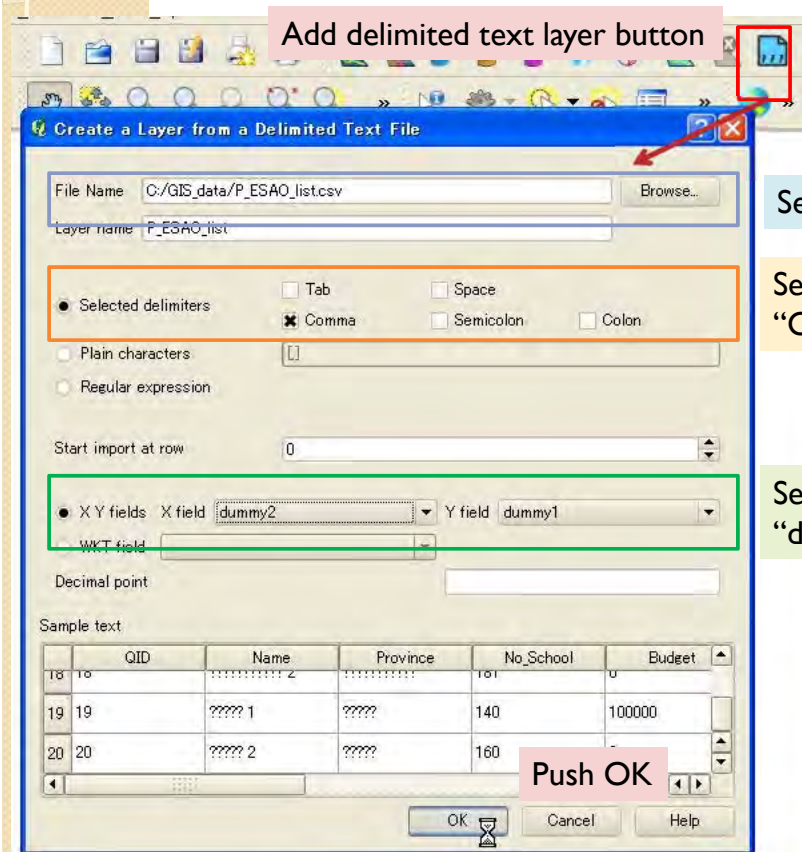
#### 3.1.2 Import PESAO and SESAO data from Excel file

Save “P\_ESAO” and “S\_ESAO” sheet as “P\_ESAO\_list.csv” and “S\_ESAO\_list.csv”. Please use file format as “CSV (comma delimited)”.



### 3. Making Inventory Maps

#### 3.1.2 Import PESAO and SESAO data from Excel file



Load the saved csv file by “Add delimited text layer” button.

Select file

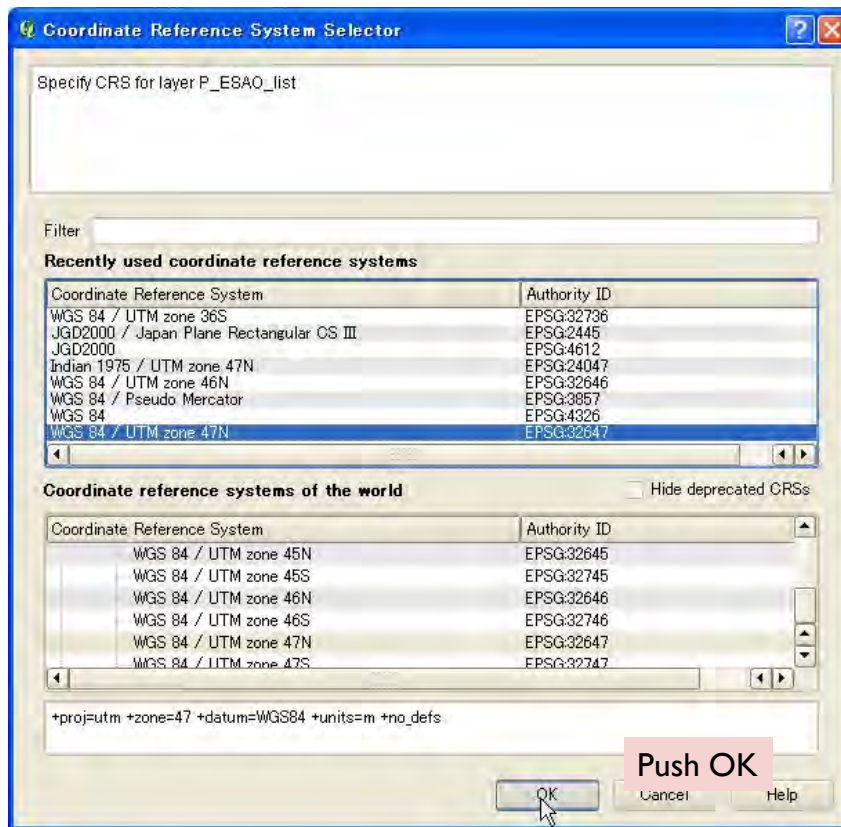
Select “Selected delimiters” and “Comma” only.

Select “XY fields” and “dummy1” and “dummy2”.



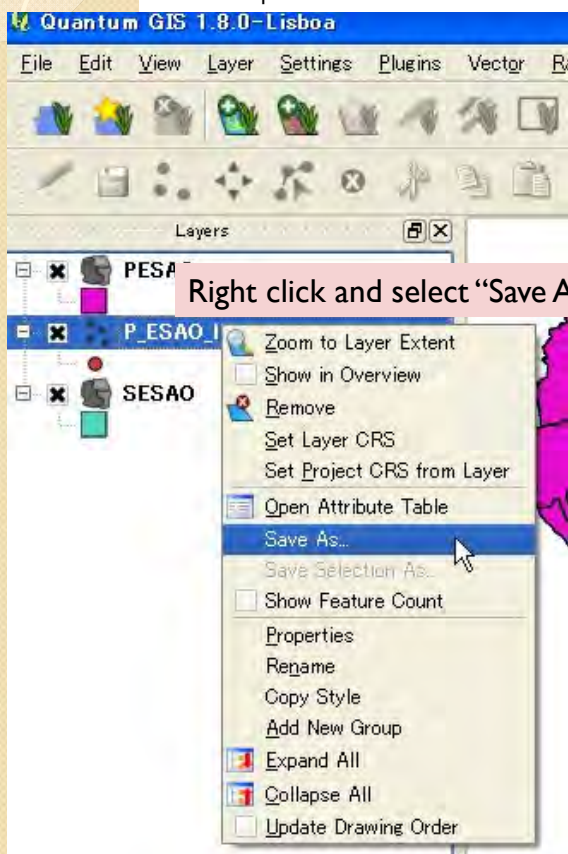
### 3. Making Inventory Maps

#### 3.1.2 Import PESAO and SESAO data from Excel file



### 3. Making Inventory Maps

#### 3.1.2 Import PESAO and SESAO data from Excel file

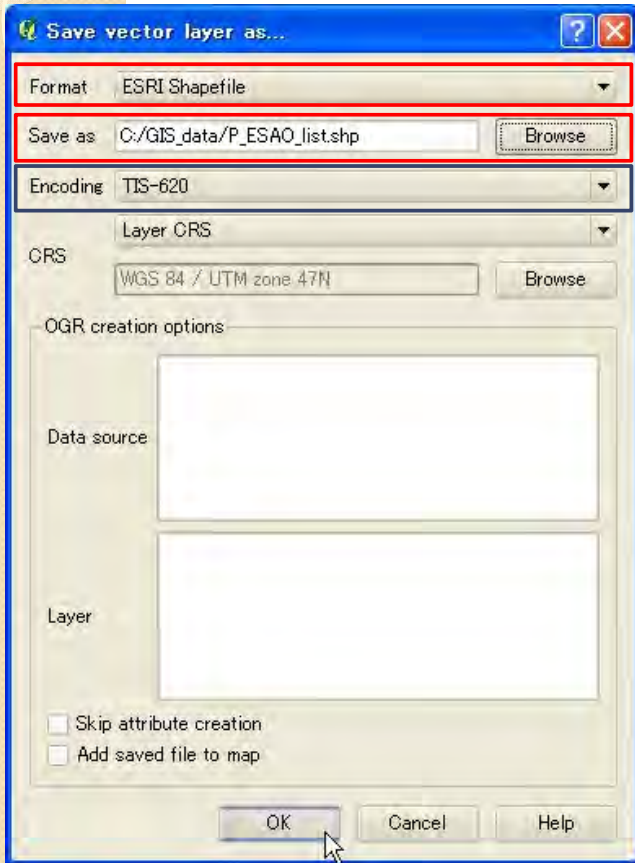


Then, the data will imported.

This is temporary layer, thus save this layer as new file.

### 3. Making Inventory Maps

#### 3.1.2 Import PESAO and SESAO data from Excel file



Select format and file name.

Select "Encoding" as "TIS-620".

Push OK

### 3. Making Inventory Maps

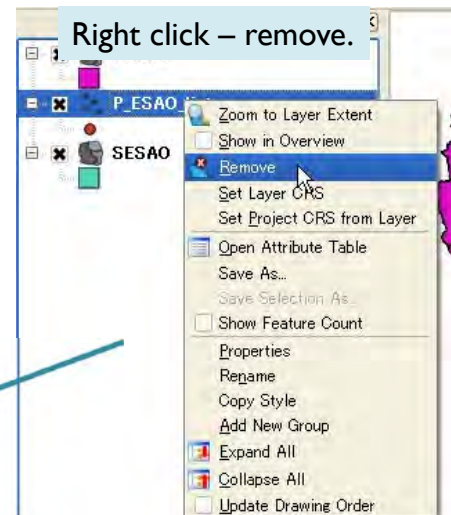
#### 3.1.2 Import PESAO and SESAO data from Excel file



Click "refresh" and drag and drop "P\_ESAO\_list.shp".

Remove the temporary layer.

Click "Refresh" button of "Browser" field, and drag and drop "P\_ESAO\_list.shp" into "Layer" field.

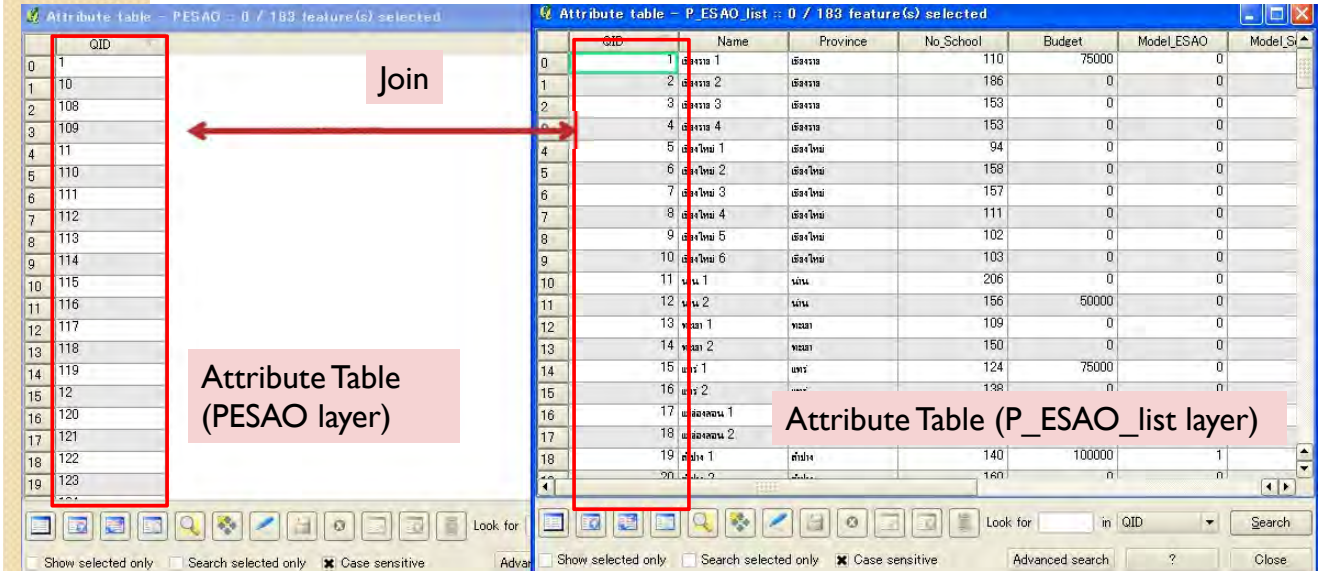


Right click – remove.

### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

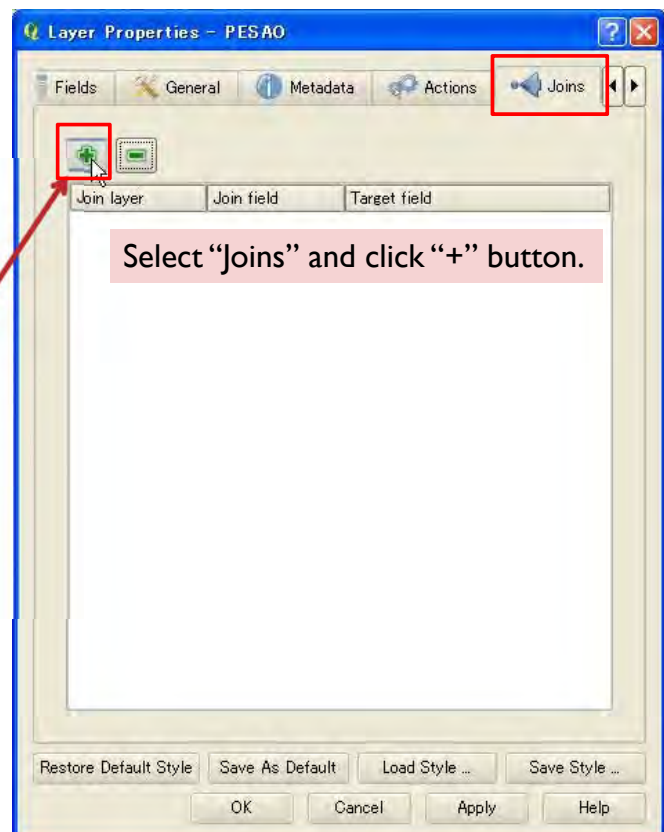
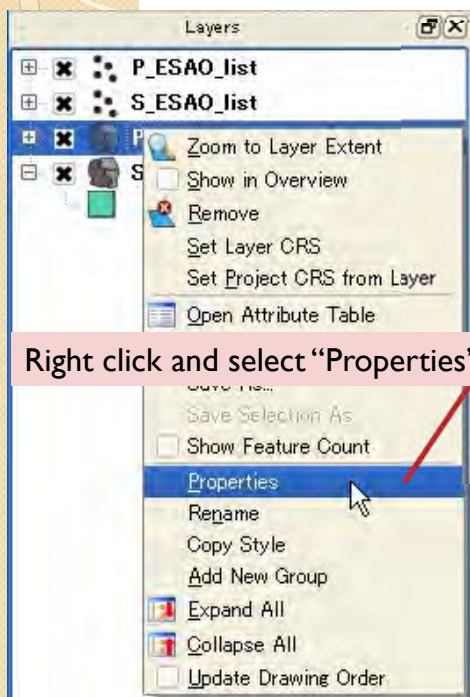
In next step, attribute table of “P\_ESAO\_list” and “S\_ESAO\_list” will be joined into “PESAO” and “SESAO” layers.



### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

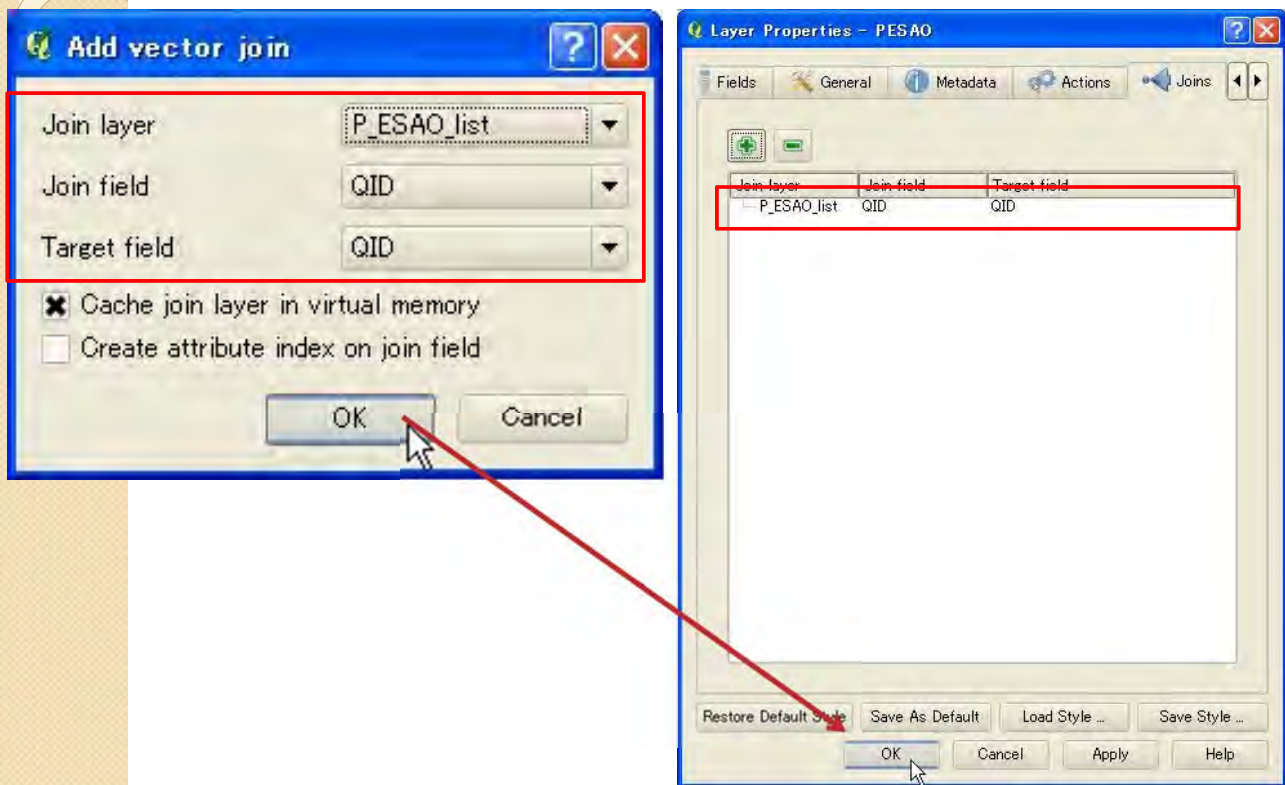
Open “Properties” window and select “Join” tab.



### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

Select “Join layer”, Join field” and “Target field”.



### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

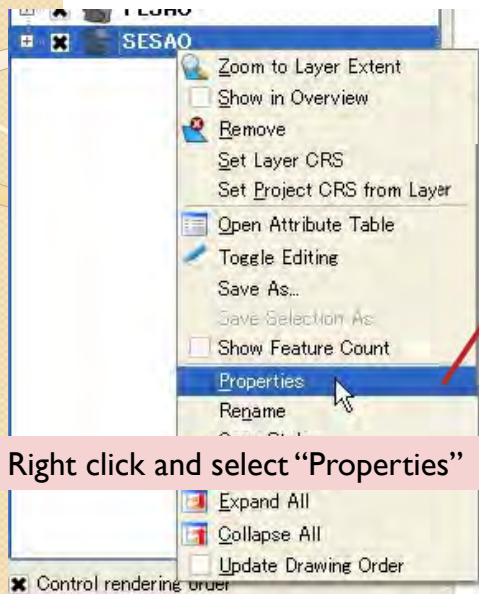
Then, attribute table should be joined.

The image shows the 'Attribute table - PESAO' window in QGIS. The title bar indicates '0 / 183 feature(s) selected'. The table has the following columns: QID, Name, Province, No\_School, Budget, Model\_ESAO, and Model\_Si. The first row is highlighted in green.

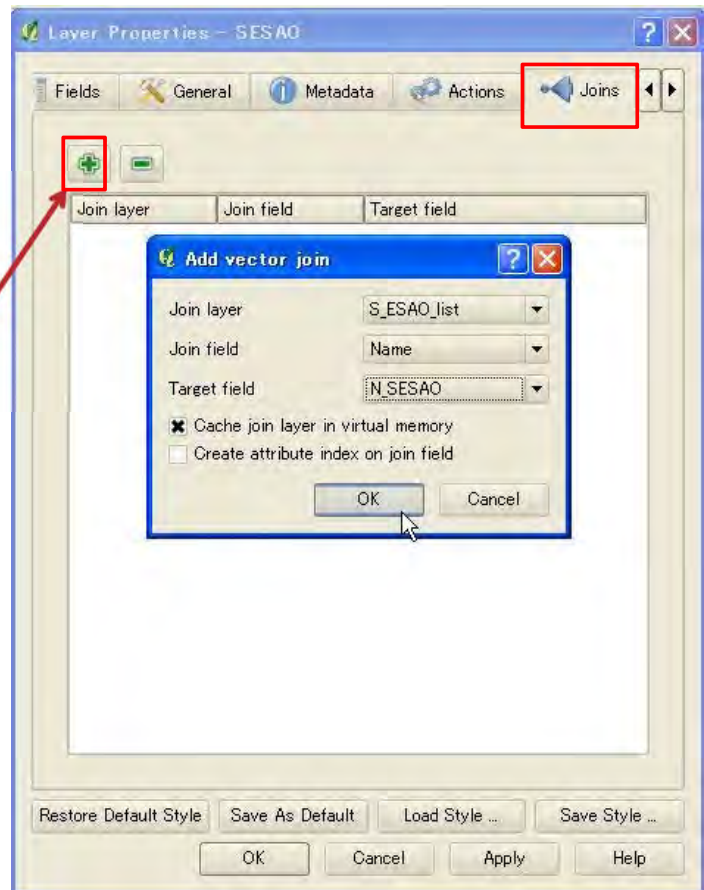
	QID	Name	Province	No_School	Budget	Model_ESAO	Model_Si
0	1	เชียงใหม่ 1	เชียงใหม่	110	75000	0	0
1	10	เชียงใหม่ 6	เชียงใหม่	103	0	0	0
2	108	กรุงเทพมหานคร	กรุงเทพมหานคร	37	0	0	0
3	109	กำแพงเพชร 1	กำแพงเพชร	207	50000	0	0
4	11	น่าน 1	น่าน	206	0	0	0
5	110	กำแพงเพชร 2	กำแพงเพชร	191	0	0	0
6	111	ธัญบุรี	ธัญบุรี	184	0	0	0
7	112	น่านนอก	น่านนอก	137	0	0	0
8	113	น่านปทุม 1	น่านปทุม	129	0	0	0
9	114	น่านปทุม 2	น่านปทุม	123	100000	0	0
10	115	น่านสวรรค 1	น่านสวรรค	172	0	0	0
11	116	น่านสวรรค 2	น่านสวรรค	152	0	0	0
12	117	น่านสวรรค 3	น่านสวรรค	207	0	0	0
13	118	น่านบุรี 1	น่านบุรี	32	0	0	0
14	119	น่านบุรี 2	น่านบุรี	64	0	0	0
15	12	น่าน 2	น่าน	156	50000	0	0
16	120	ปทุมธานี 1	ปทุมธานี	103	0	0	0
17	121	ปทุมธานี 2	ปทุมธานี	67	0	0	0
18	122	พระนครศรีอยุธยา 1	พระนครศรีอยุธยา	192	0	0	0
19	123	พระนครศรีอยุธยา 2	พระนครศรีอยุธยา	166	0	0	0

### 3. Making Inventory Maps

#### 3.1.3 Join attribute table



Join "SESAO" and "S\_ESAO\_list" also.

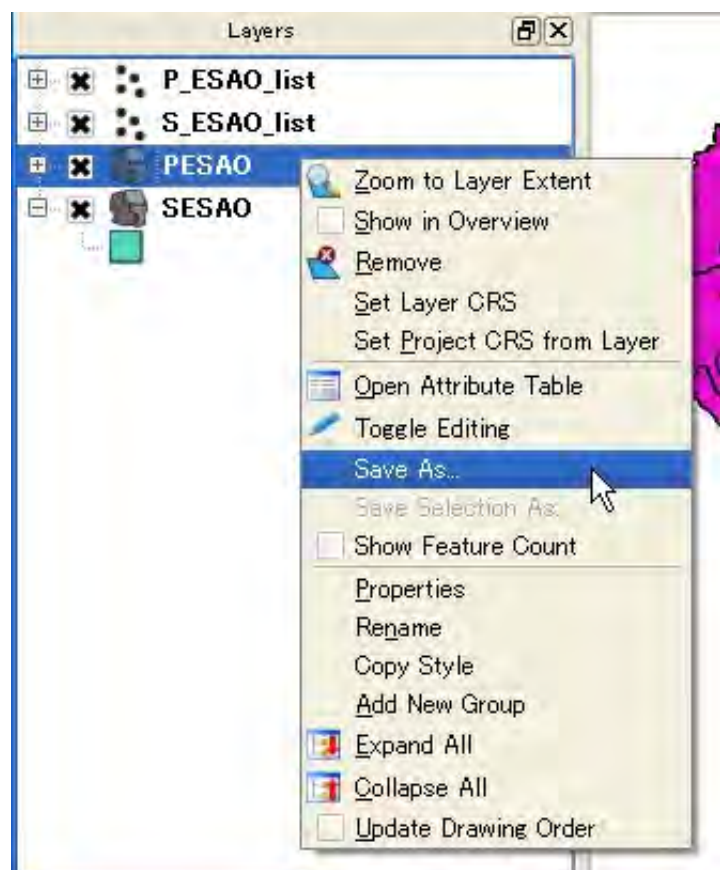


### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

The joined attribute table is re-separable.

To make the joined attribute table permanent, save the "PESAO" and "SESAO" as new file.

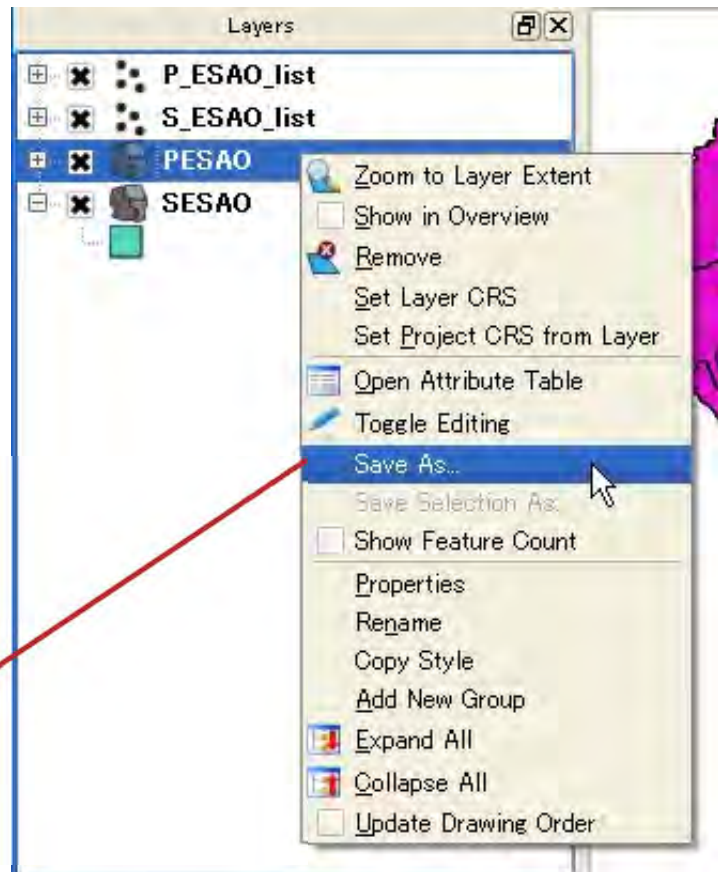
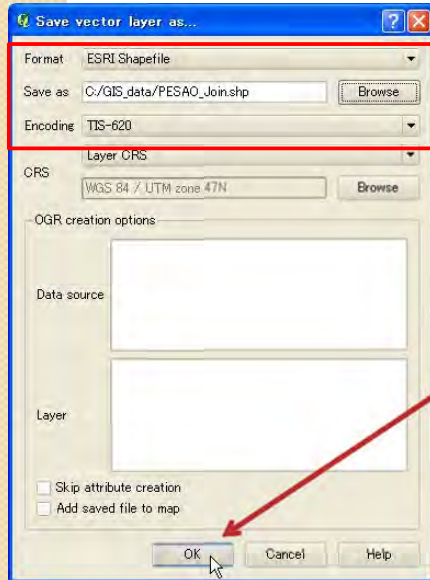


### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

The joined attribute table is re-separable.

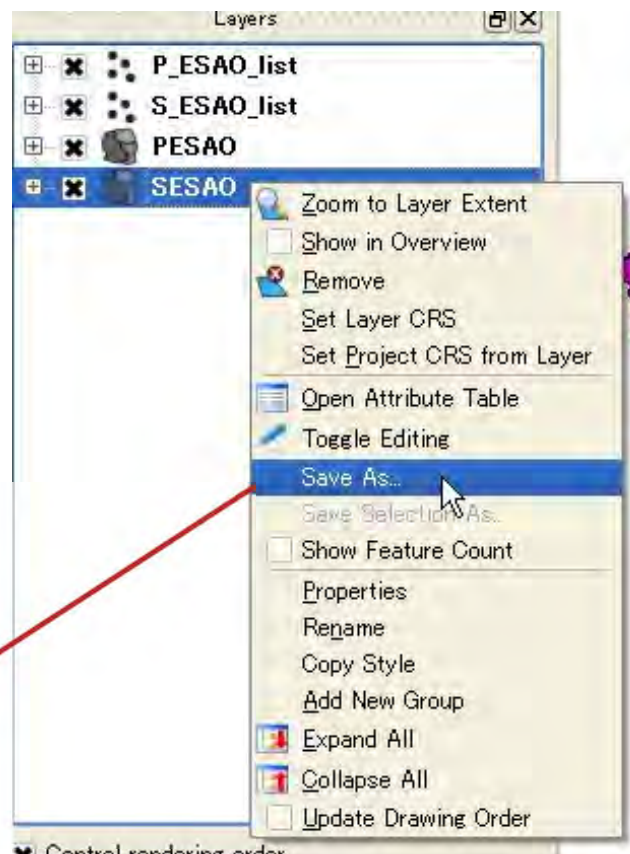
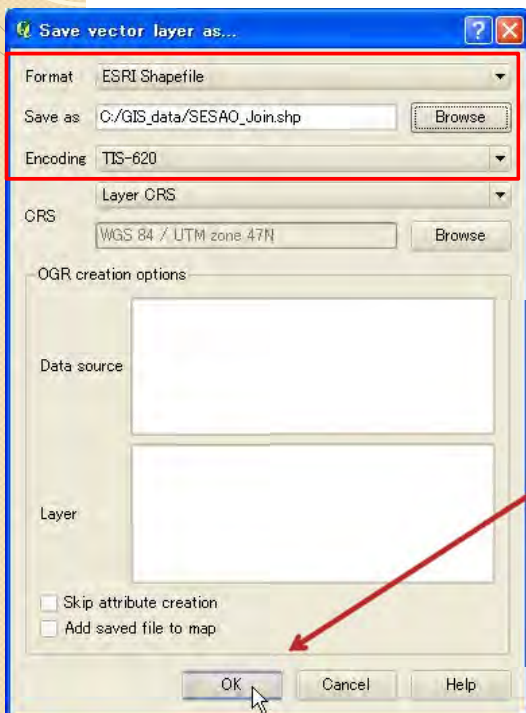
To make the joined attribute table permanent, save the "PESAO" as "PESAO\_Join.shp".



### 3. Making Inventory Maps

#### 3.1.3 Join attribute table

Save the "SESAO" as "SESAO\_Join.shp".



### 3. Making Inventory Maps

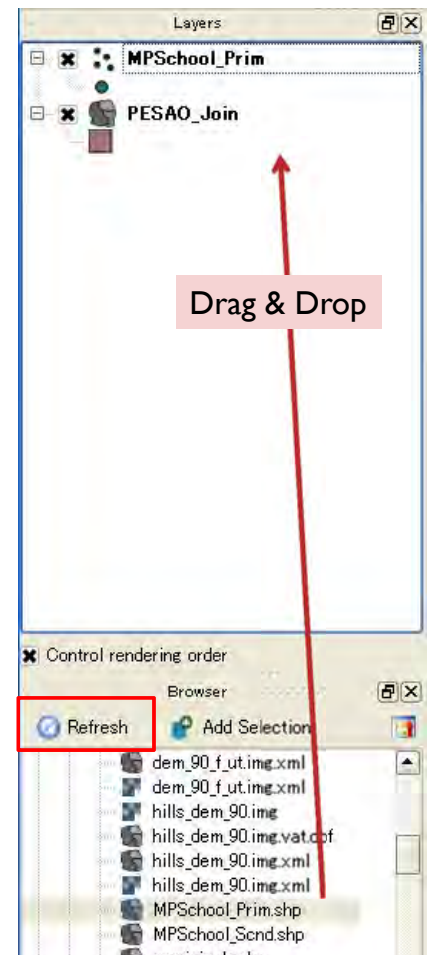
#### 3.2 Making PESAO map

##### 3.2.1 Import data

Click “Refresh”, and drag and drop “PESAO\_Join” and “MPSchool\_Prim” (pilot school data).

After you made joined shape files, “PESAO\_Join” and “SES AO\_Join”, once, it is not necessary to remake these shape file. You can use these file directly to make inventory maps.

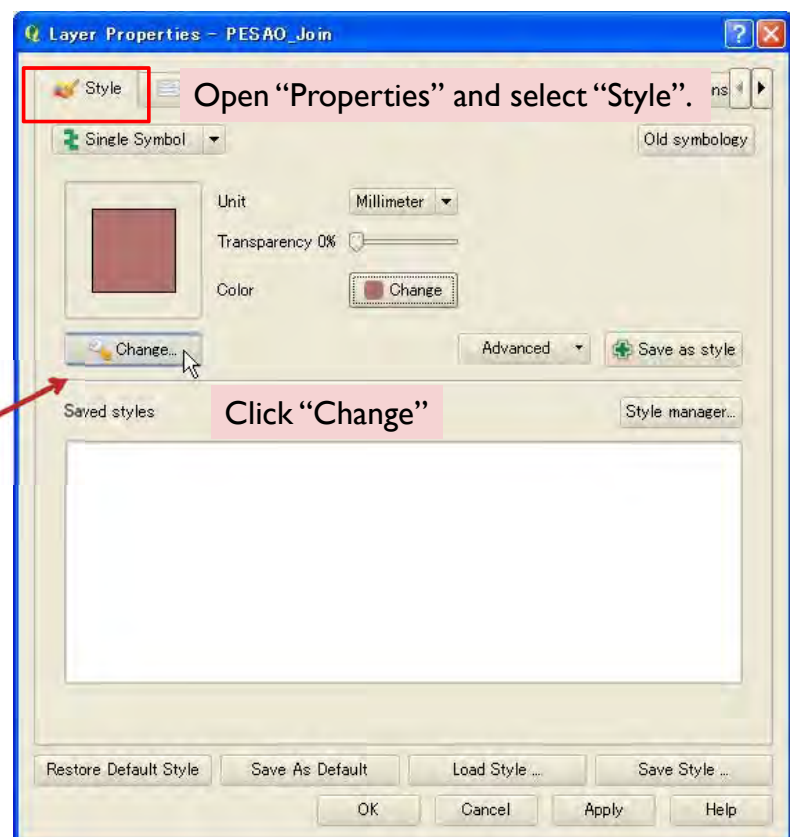
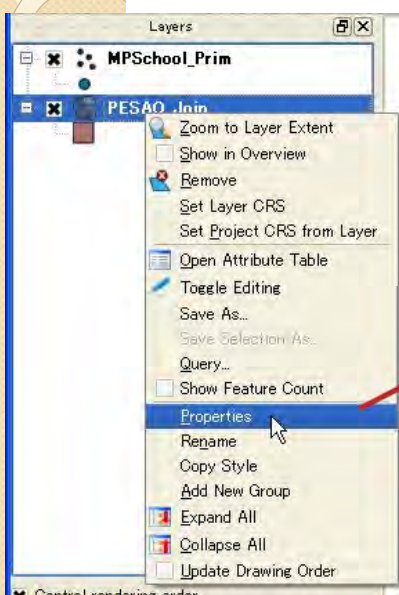
In case you want to update the data, it is required to remake or edit these files.



### 3. Making Inventory Maps

#### 3.2.2 Color setting

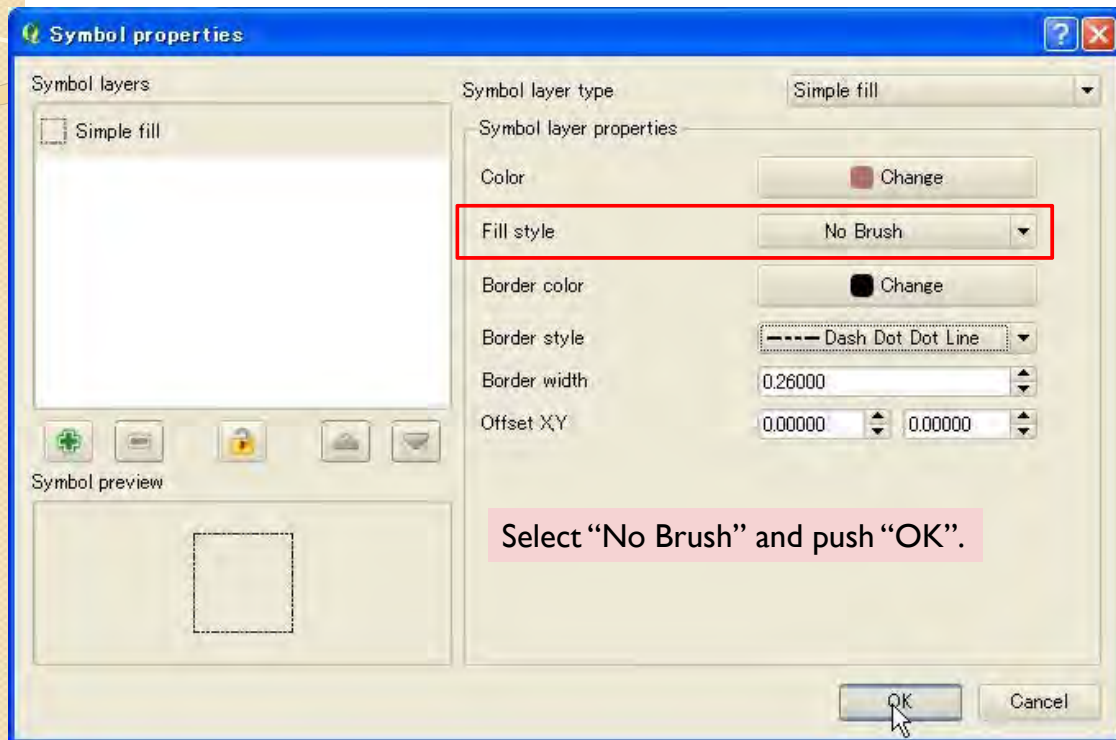
##### Boundary of PESAO



### 3. Making Inventory Maps

#### 3.2.2 Color setting

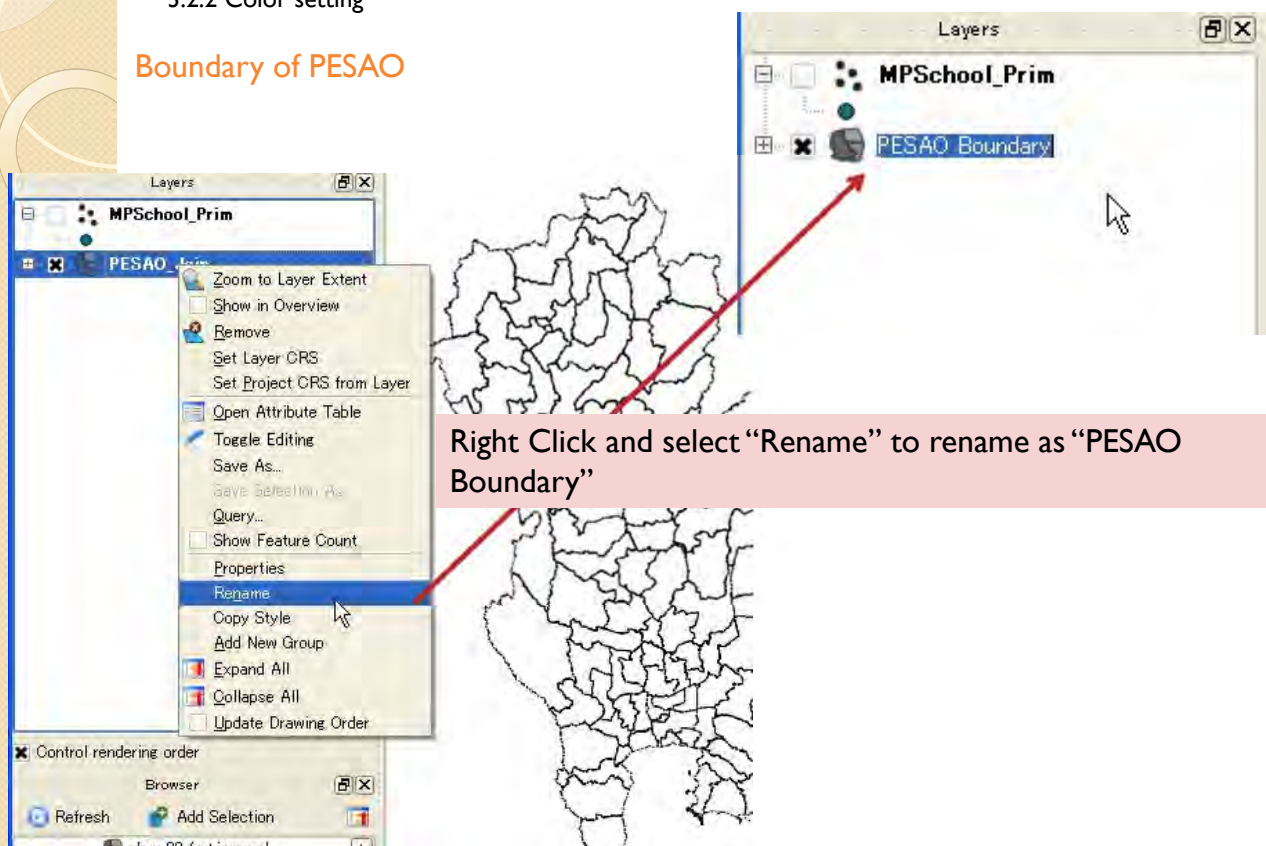
#### Boundary of PESAO



### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Boundary of PESAO





### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Model PESAO

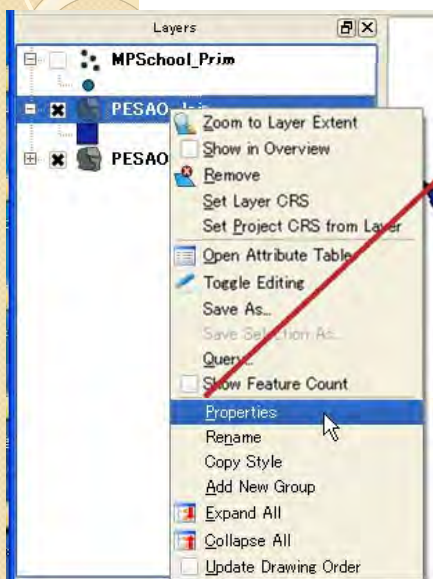
Drag and drop "PESAO\_Join" again.



### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Model PESAO



Open "Properties" and select "Style".

Select "Categorized"

Select "Model\_ESAO"

Double click to set "Value" as "1" and "Label" as "Model PESAO".

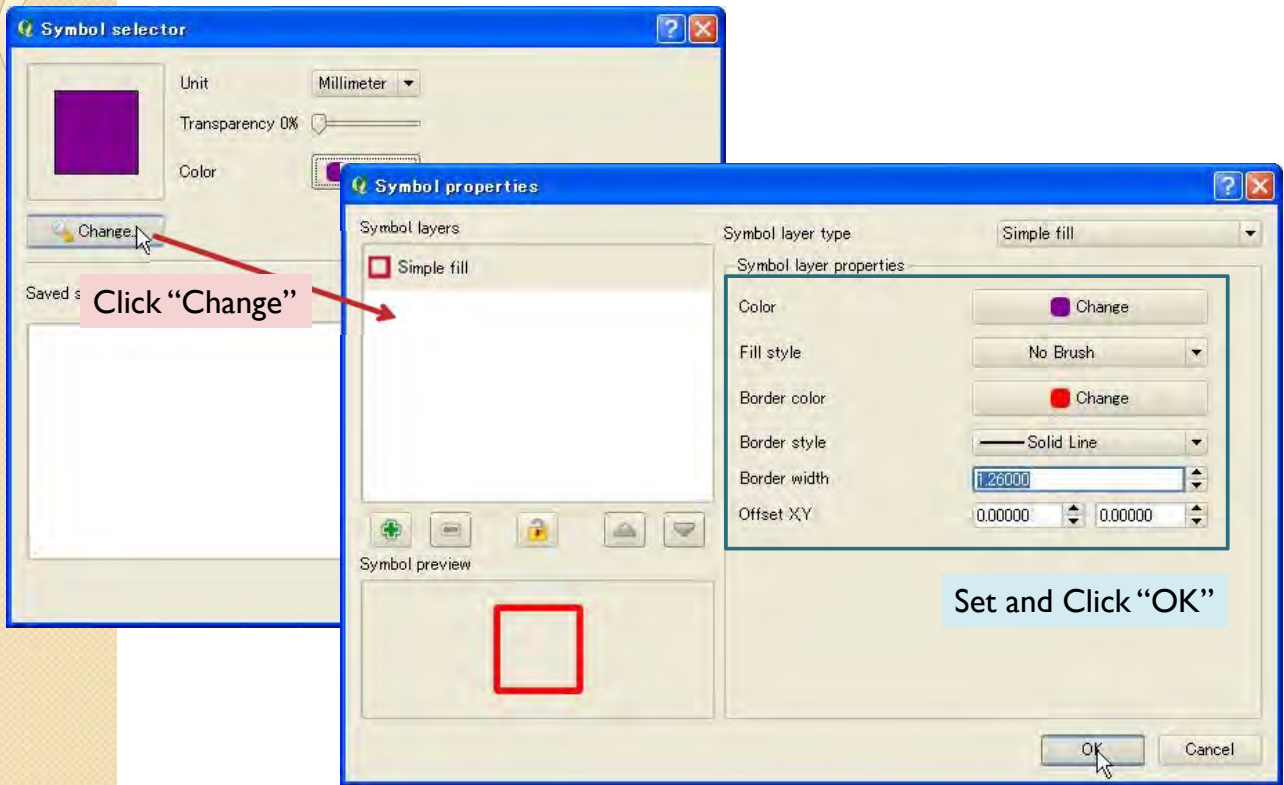
Click "Add"

Symbol	Value	Label
	1	Model PESAO

### 3. Making Inventory Maps

#### 3.2.2 Color setting

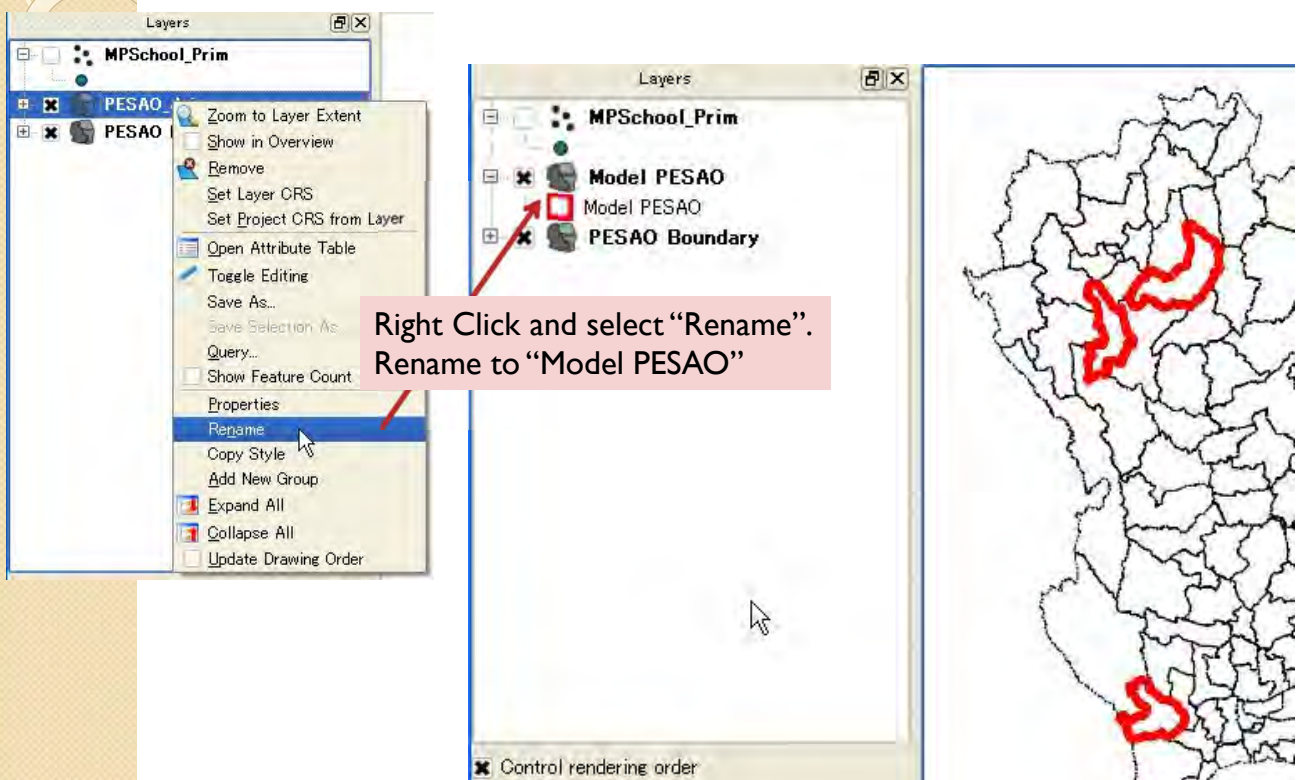
#### Model PESAO



### 3. Making Inventory Maps

#### 3.2.2 Color setting

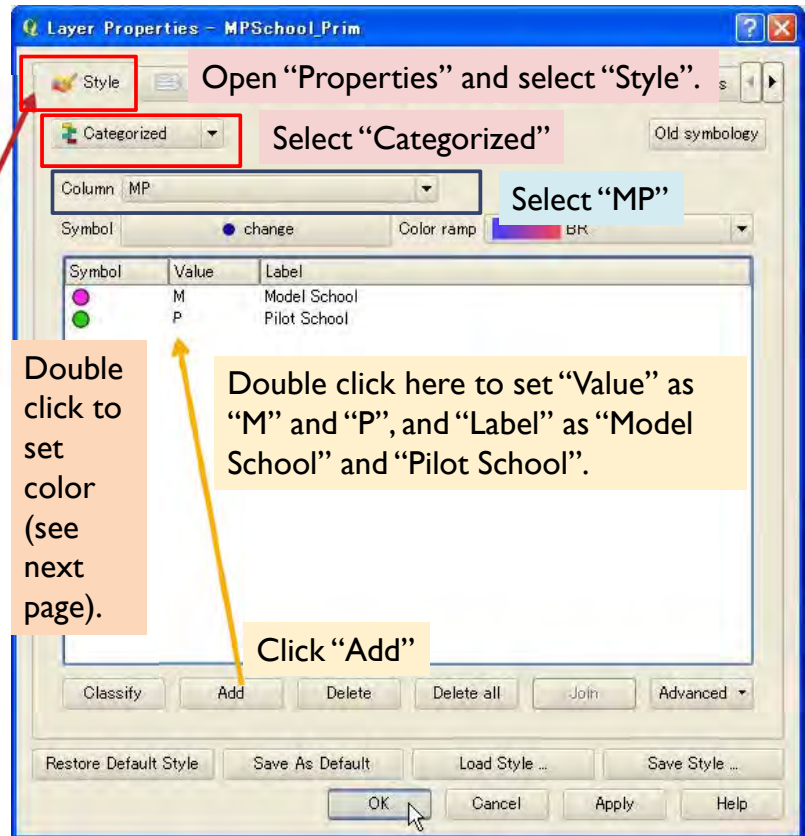
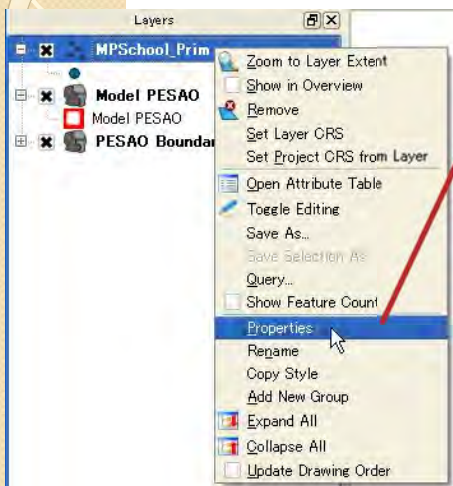
#### Model PESAO



### 3. Making Inventory Maps

#### 3.2.2 Color setting

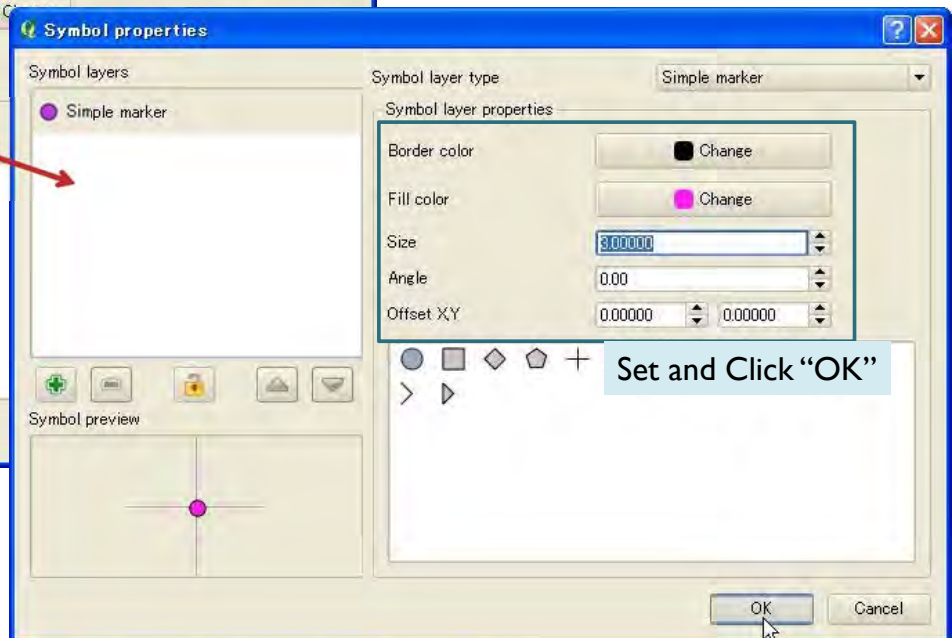
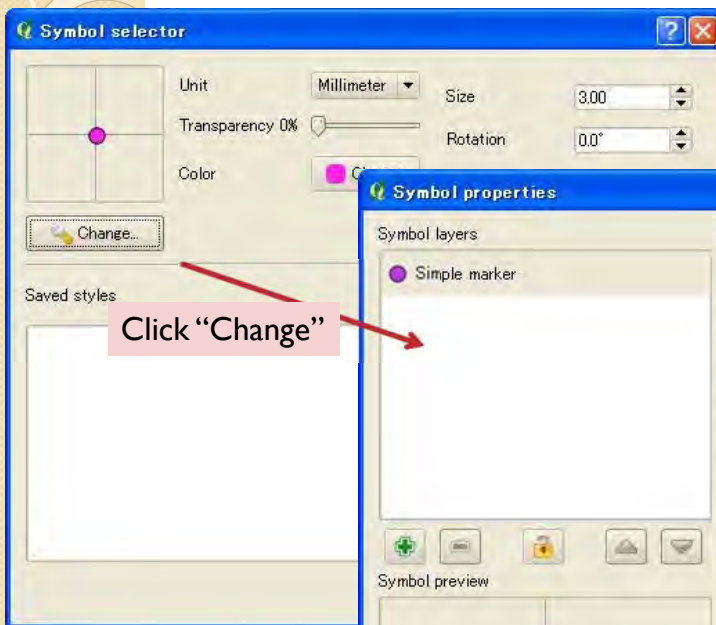
##### Model/Pilot school



### 3. Making Inventory Maps

#### 3.2.2 Color setting

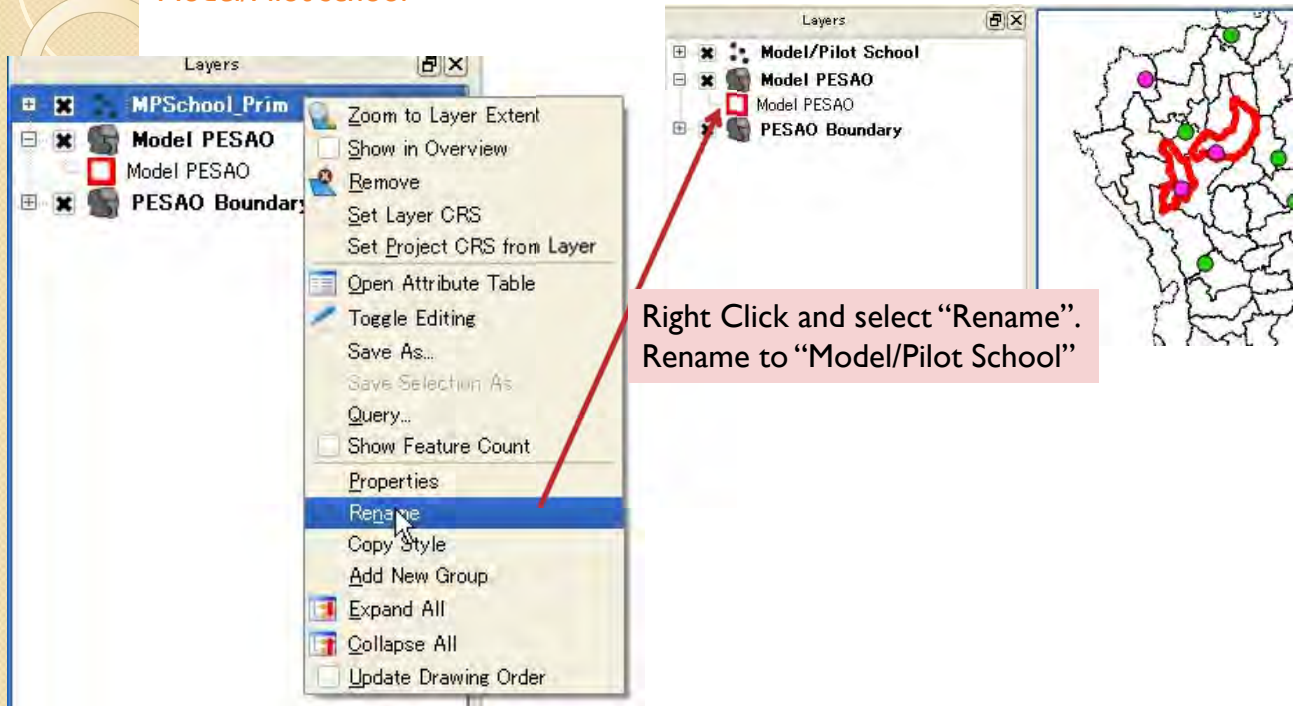
##### Model/Pilot school



### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Model/Pilot school



### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Model/Pilot school rank (budget)

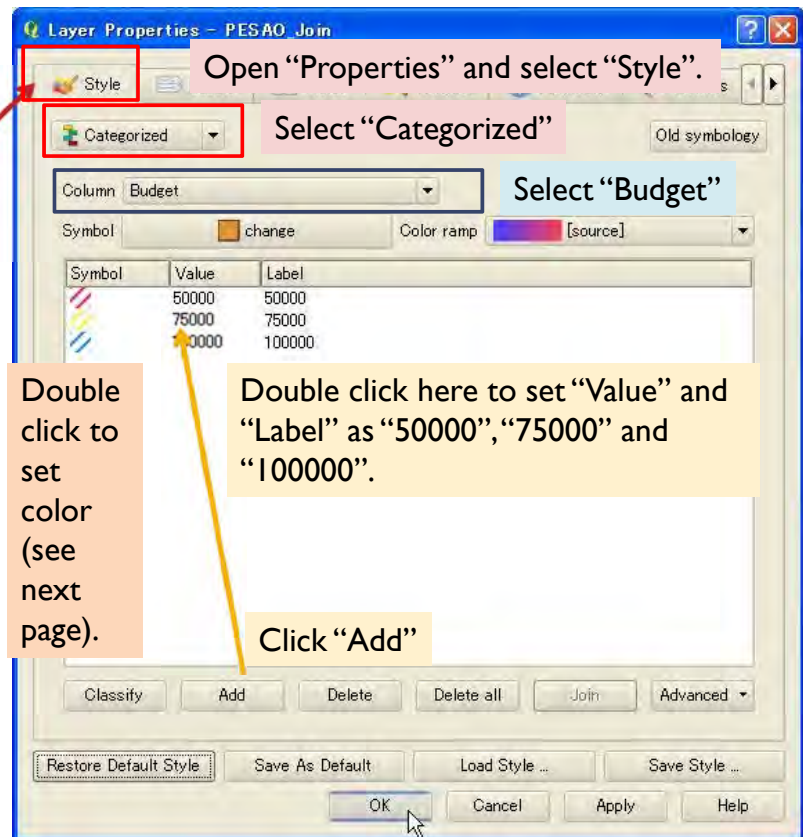
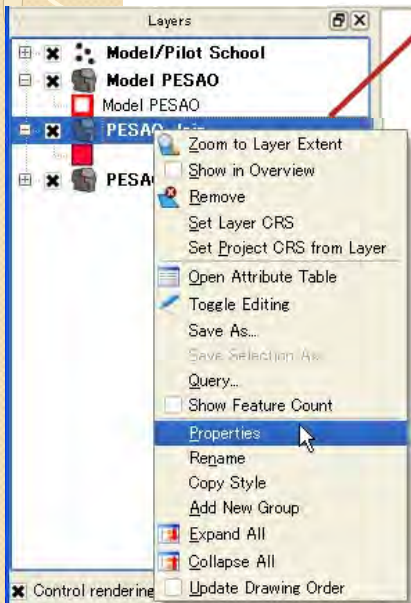
Drag and drop "PESAO\_Join"  
again.



### 3. Making Inventory Maps

#### 3.2.2 Color setting

Model/Pilot school rank  
(budget)



Open "Properties" and select "Style".

Select "Categorized"

Select "Budget"

Double click to set color (see next page).

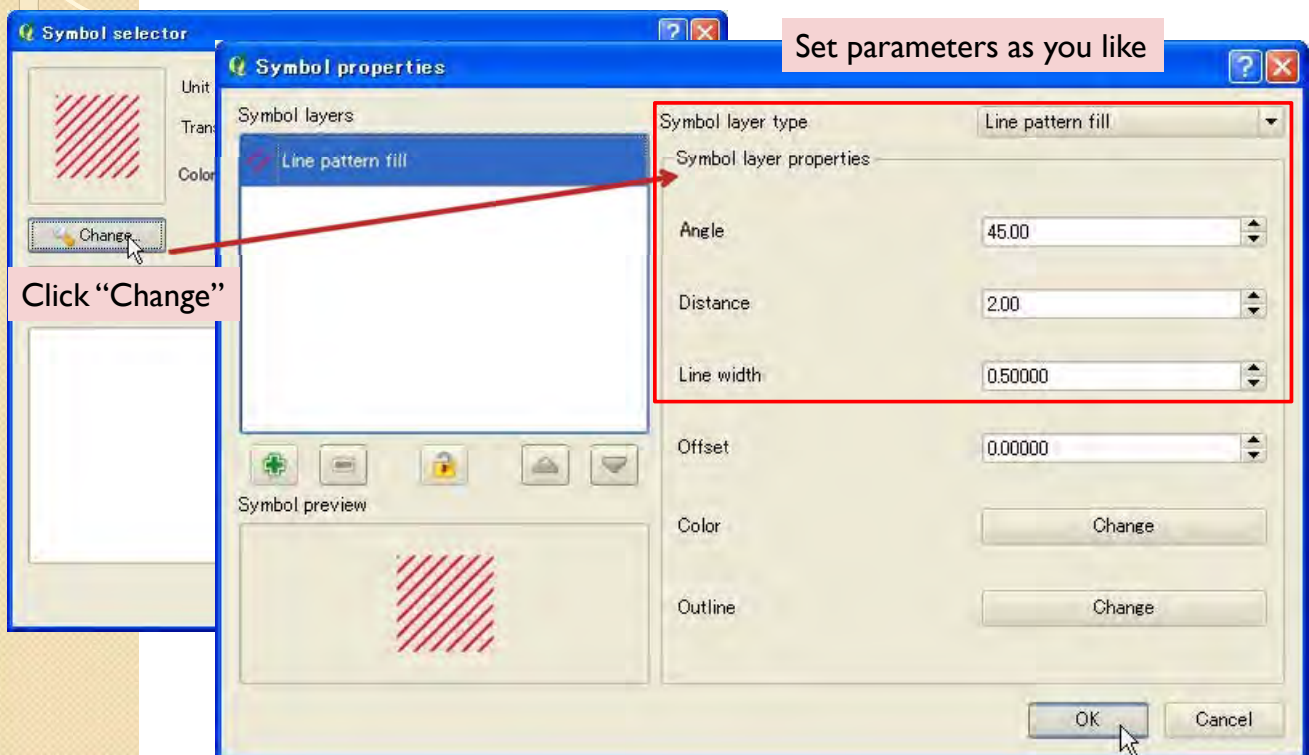
Double click here to set "Value" and "Label" as "50000", "75000" and "100000".

Click "Add"

### 3. Making Inventory Maps

#### 3.2.2 Color setting

Model/Pilot school rank  
(budget)



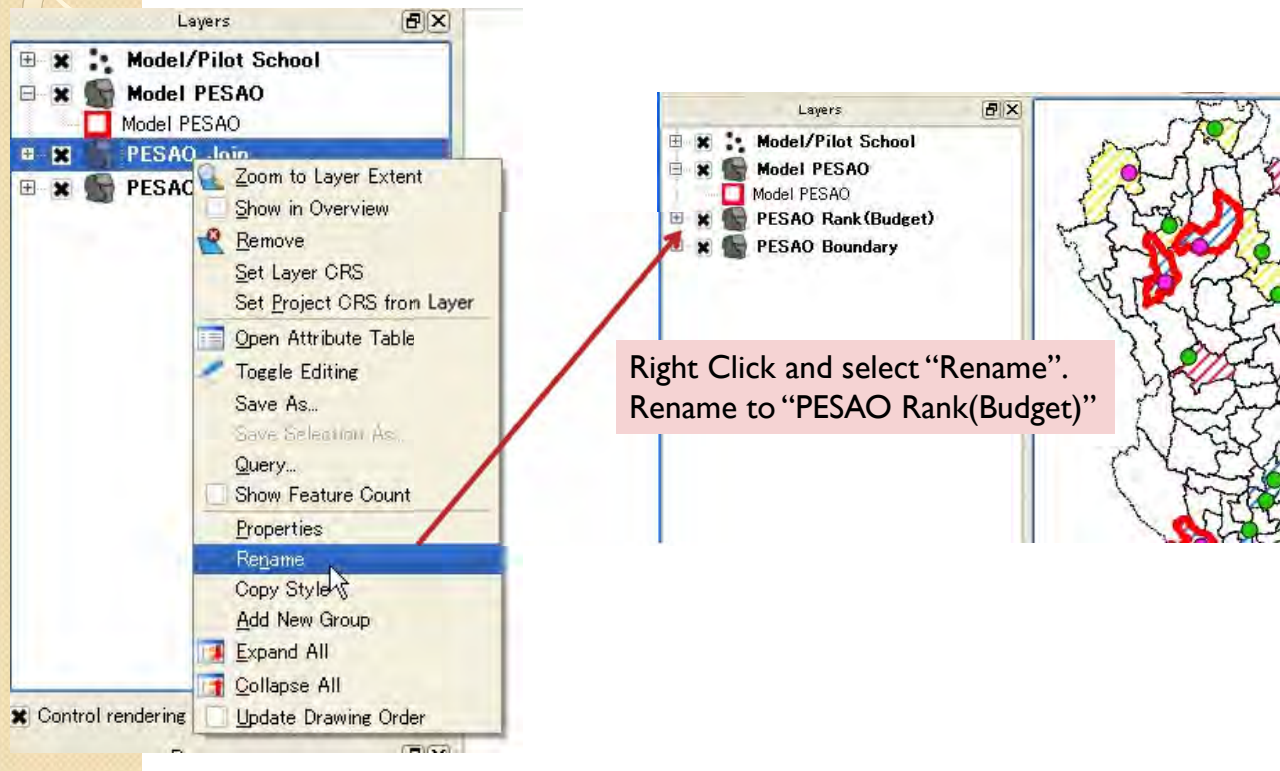
Set parameters as you like

Click "Change"

### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Model/Pilot school rank (budget)



### 3. Making Inventory Maps

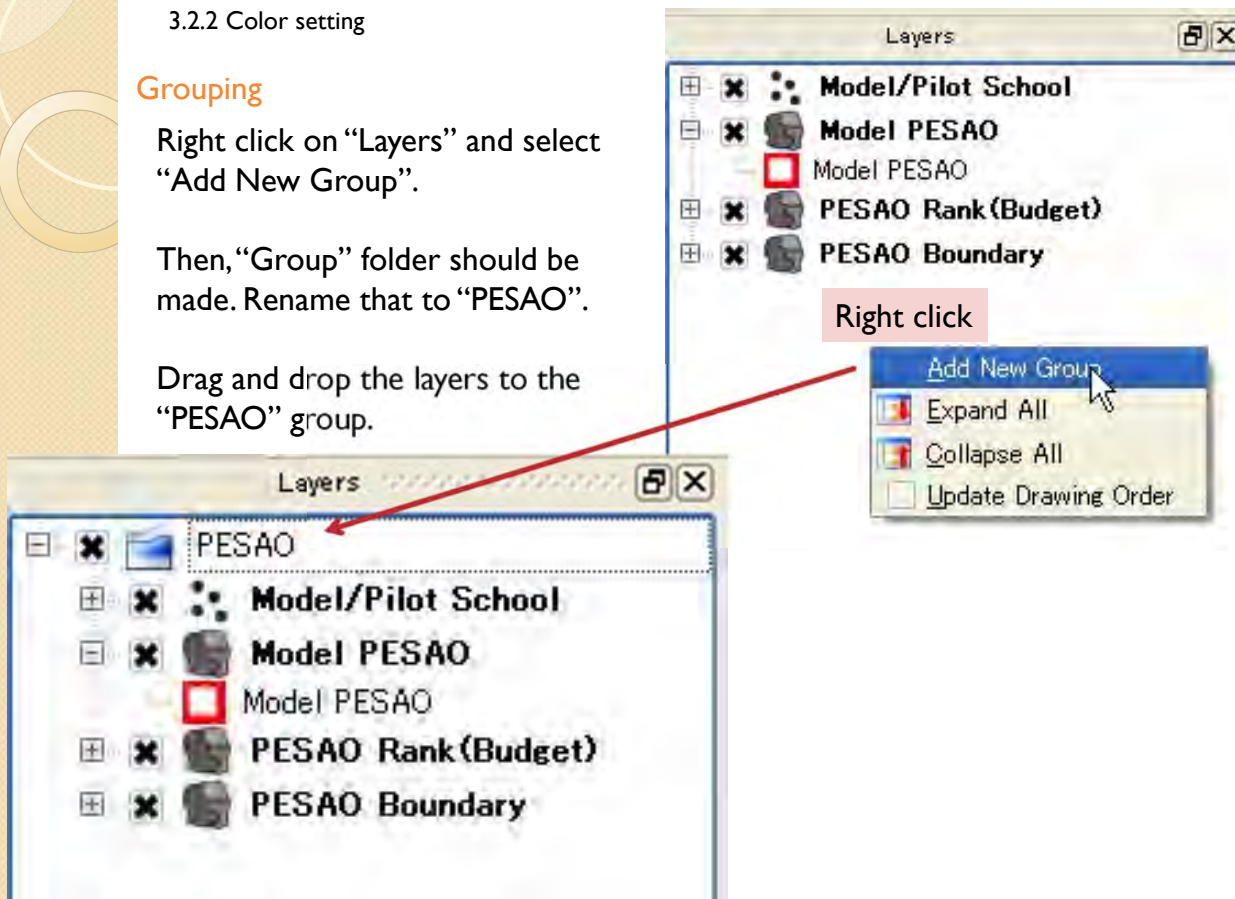
#### 3.2.2 Color setting

#### Grouping

Right click on "Layers" and select "Add New Group".

Then, "Group" folder should be made. Rename that to "PESAO".

Drag and drop the layers to the "PESAO" group.

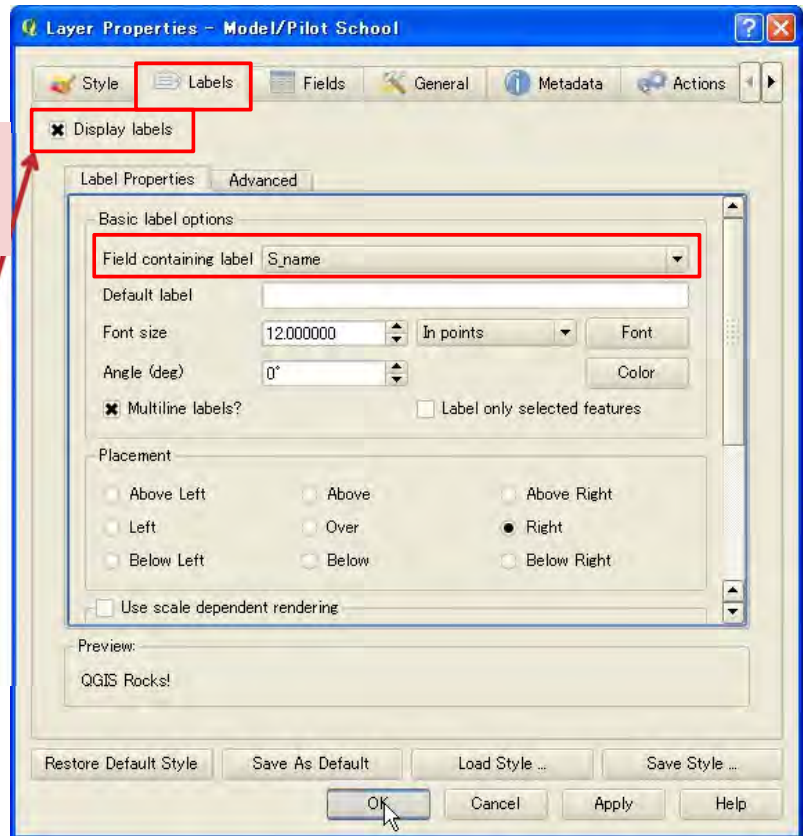
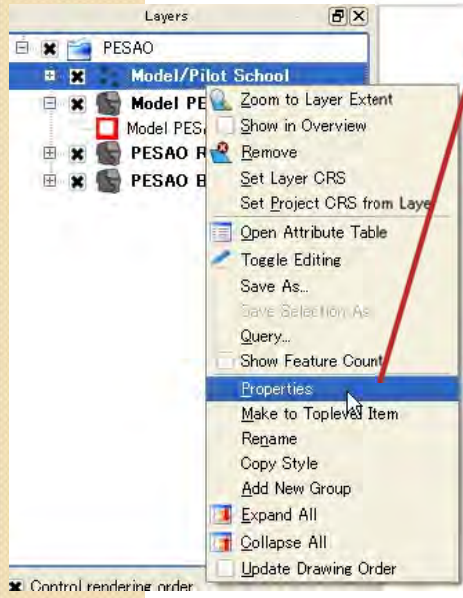


### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Labeling for schools

Open "Labels" tab in properties window. Check "Display labels" and select "Field containing label".

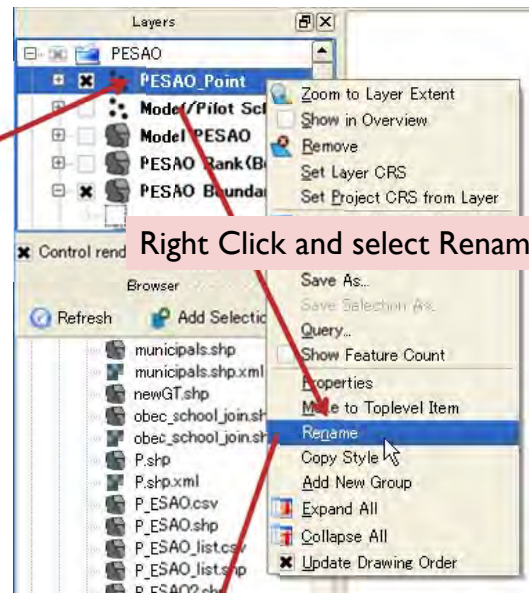
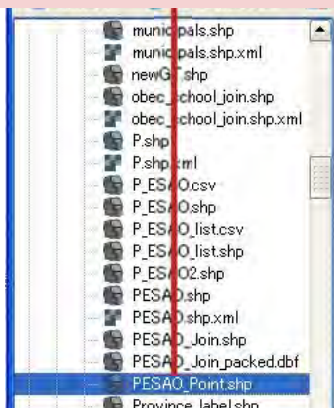
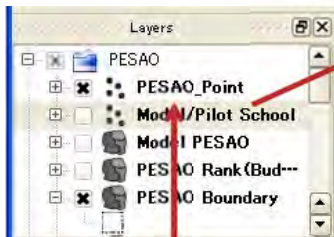


### 3. Making Inventory Maps

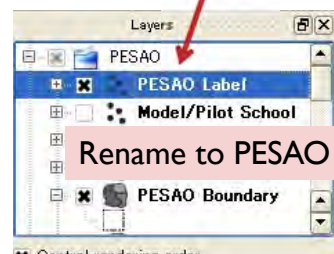
#### 3.2.2 Color setting

#### Labeling for ESAO

Drag and drop "PESAO\_Point.shp" for ESAO label



Right Click and select Rename

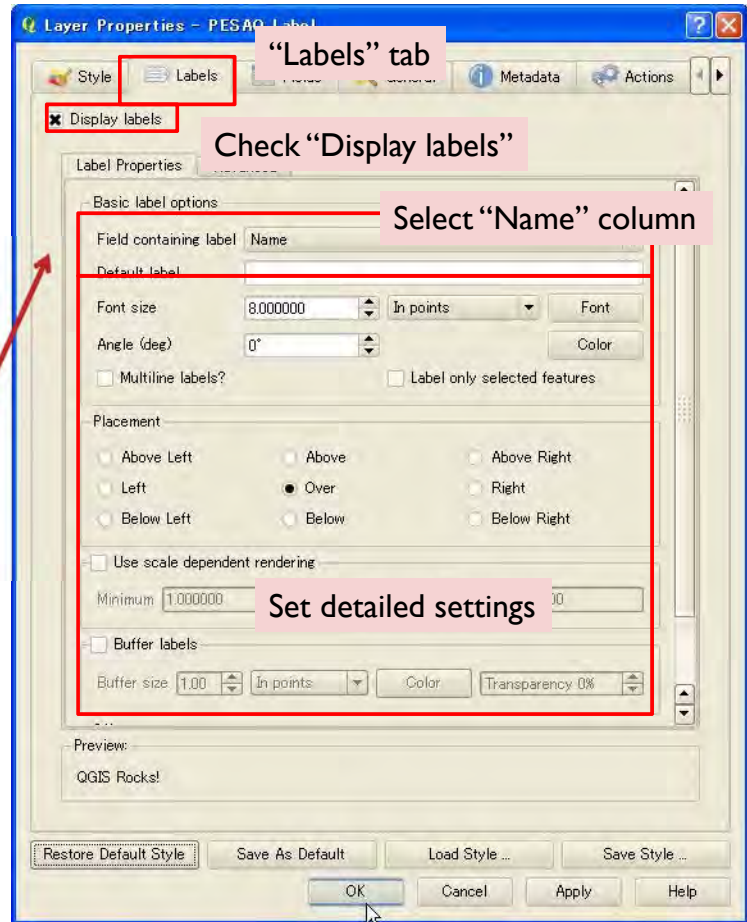
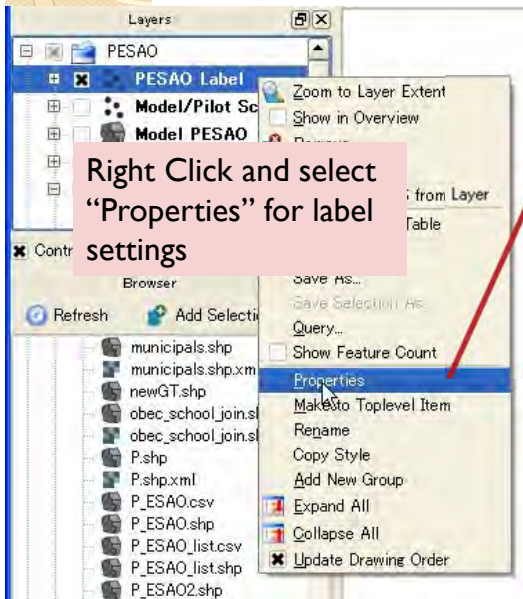


Rename to PESAO Label

### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Labeling for ESAO

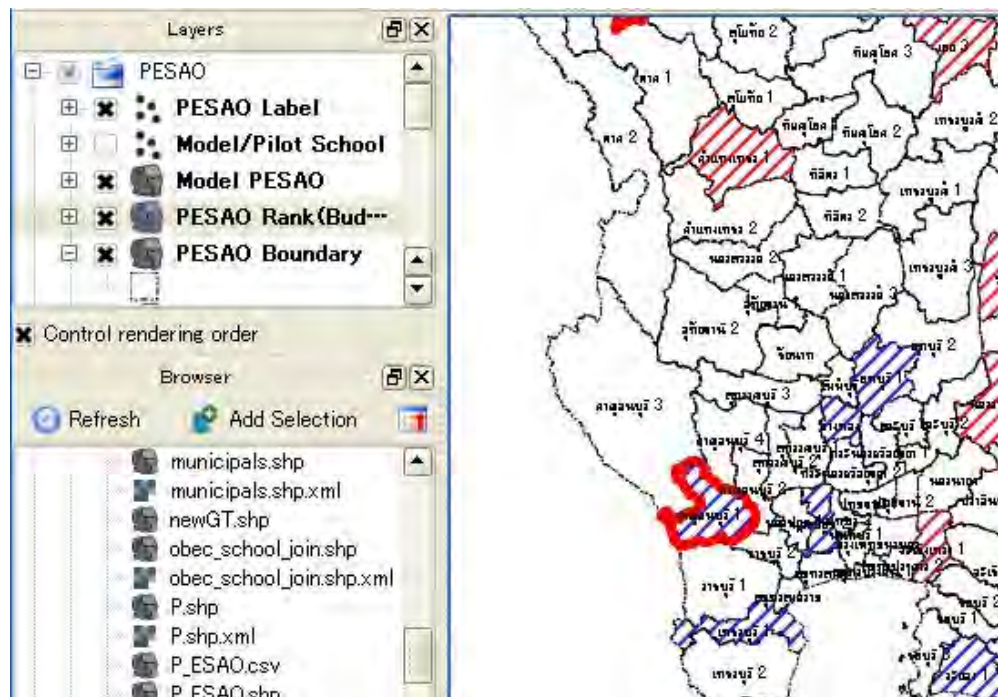


### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Labeling for ESAO

Then, you can see labels for ESAO.



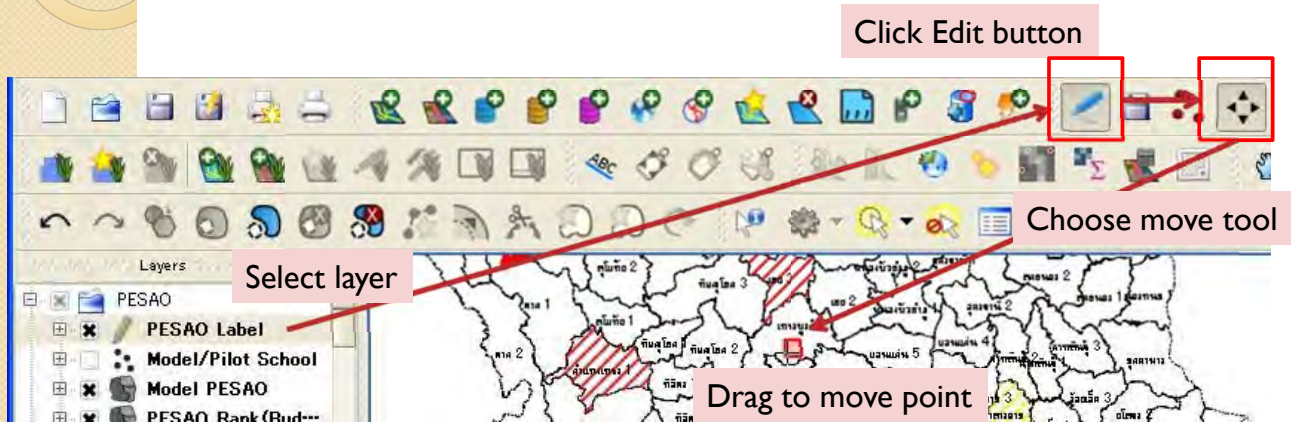


### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Labeling for ESAO

If there are some overlaps of the labels, you can move the points.

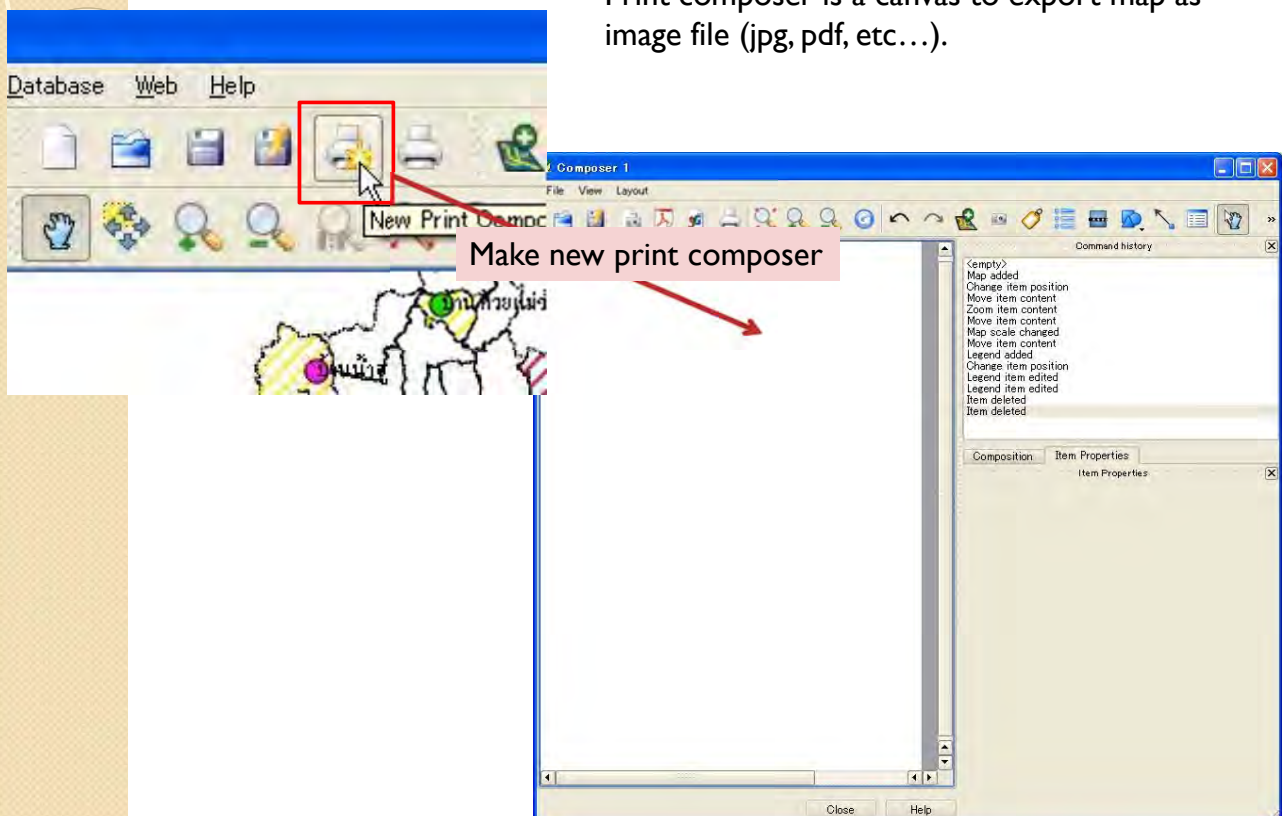


After you finish edit, re-click Edit button and save.

### 3. Making Inventory Maps

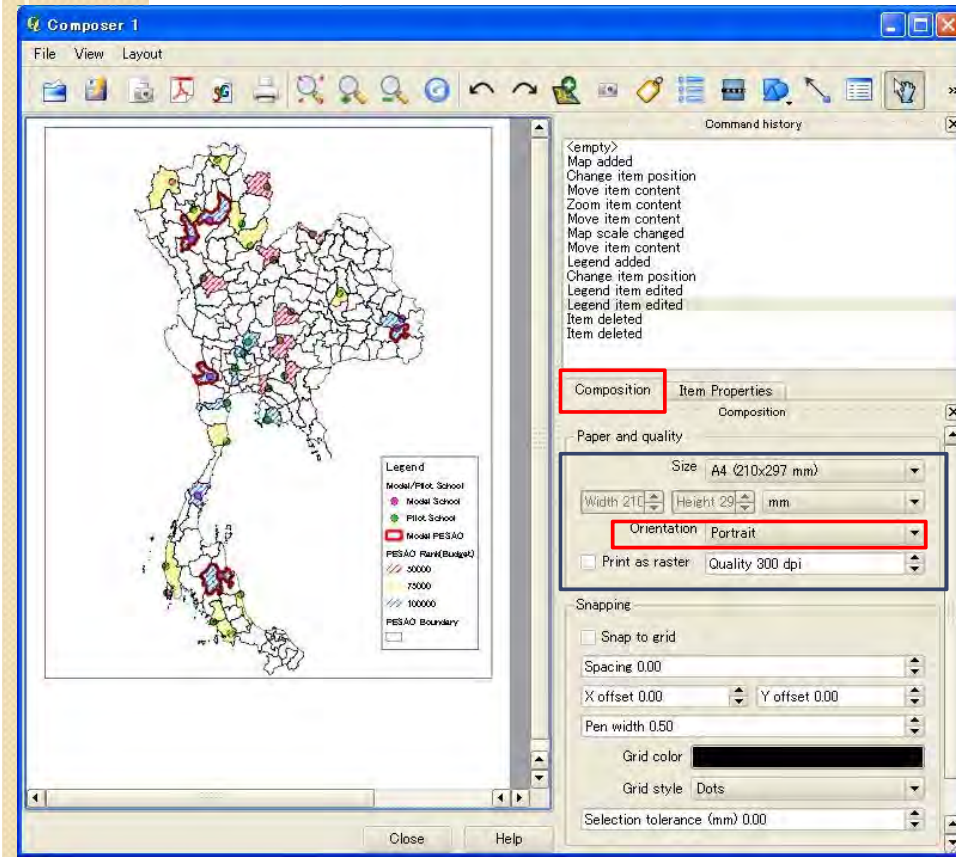
#### 3.2.3 Print composer

Print composer is a canvas to export map as image file (jpg, pdf, etc...).



### 3. Making Inventory Maps

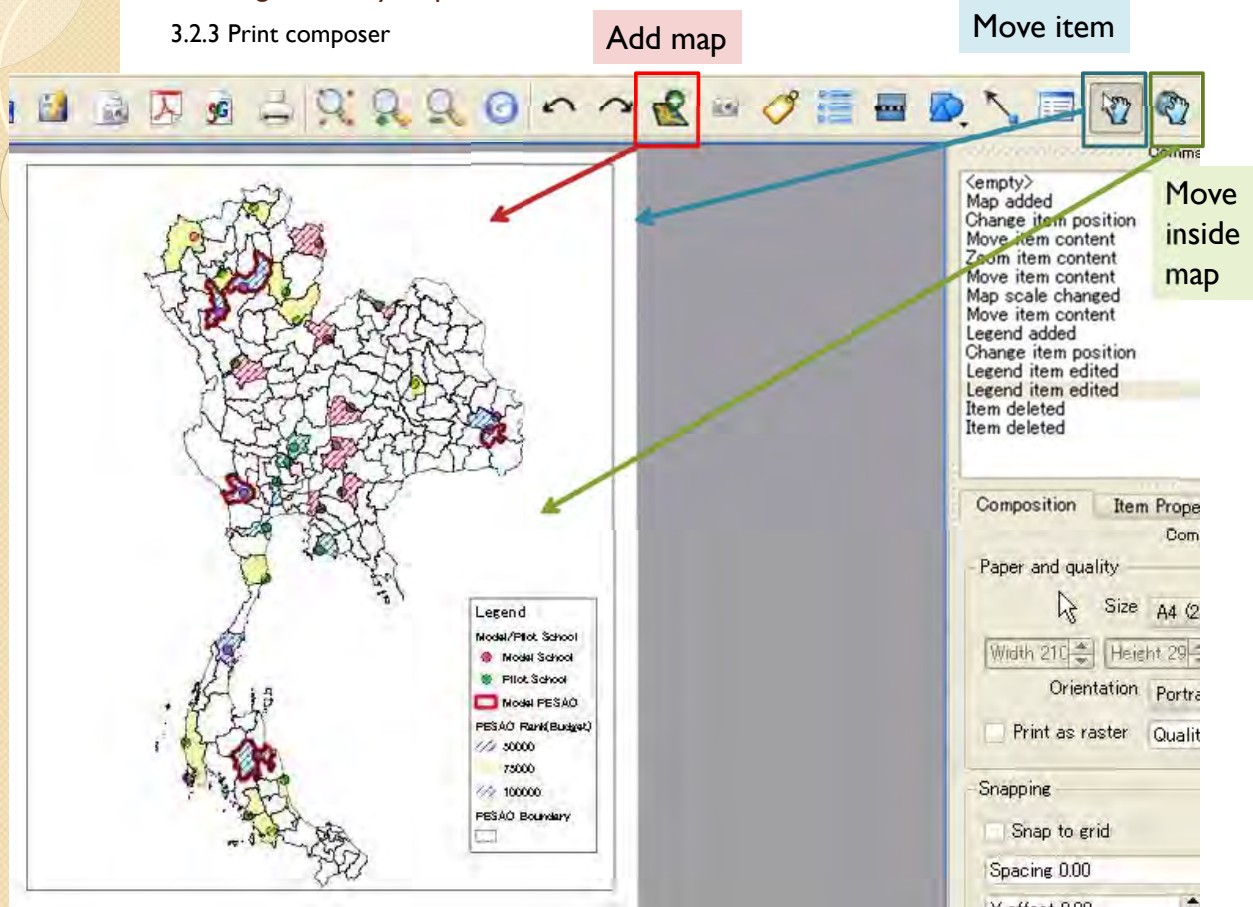
#### 3.2.3 Print composer



Lower right tabs are properties for the canvas.

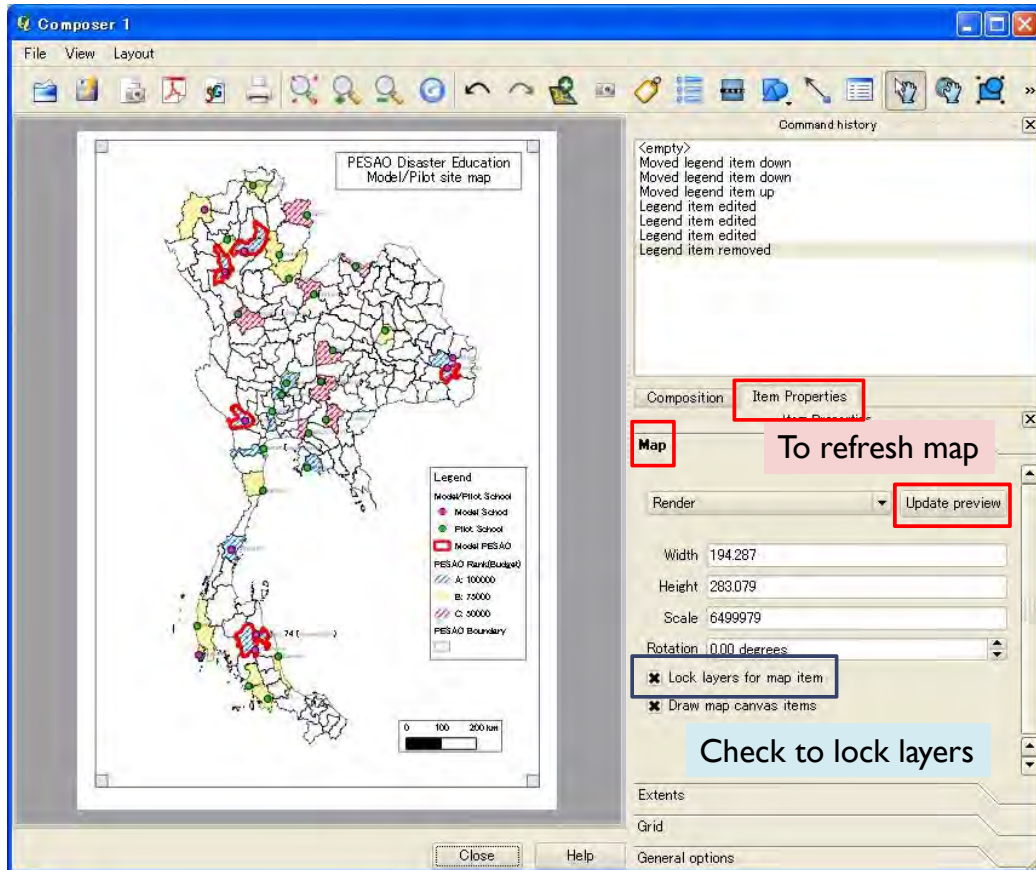
### 3. Making Inventory Maps

#### 3.2.3 Print composer



### 3. Making Inventory Maps

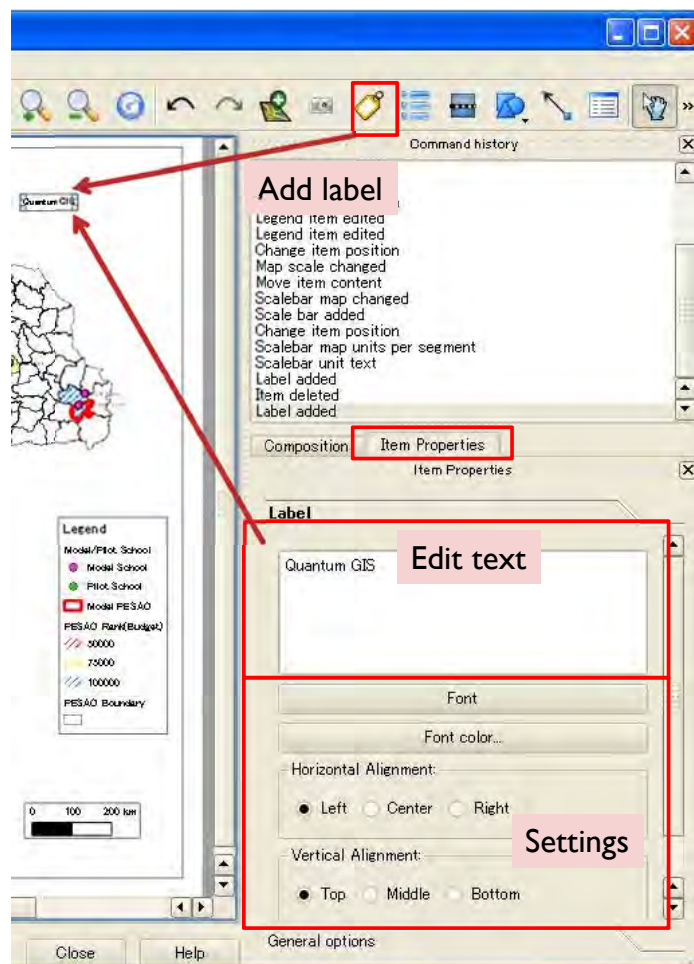
#### 3.2.3 Print composer



### 3. Making Inventory Maps

#### 3.2.3 Print composer

Add label

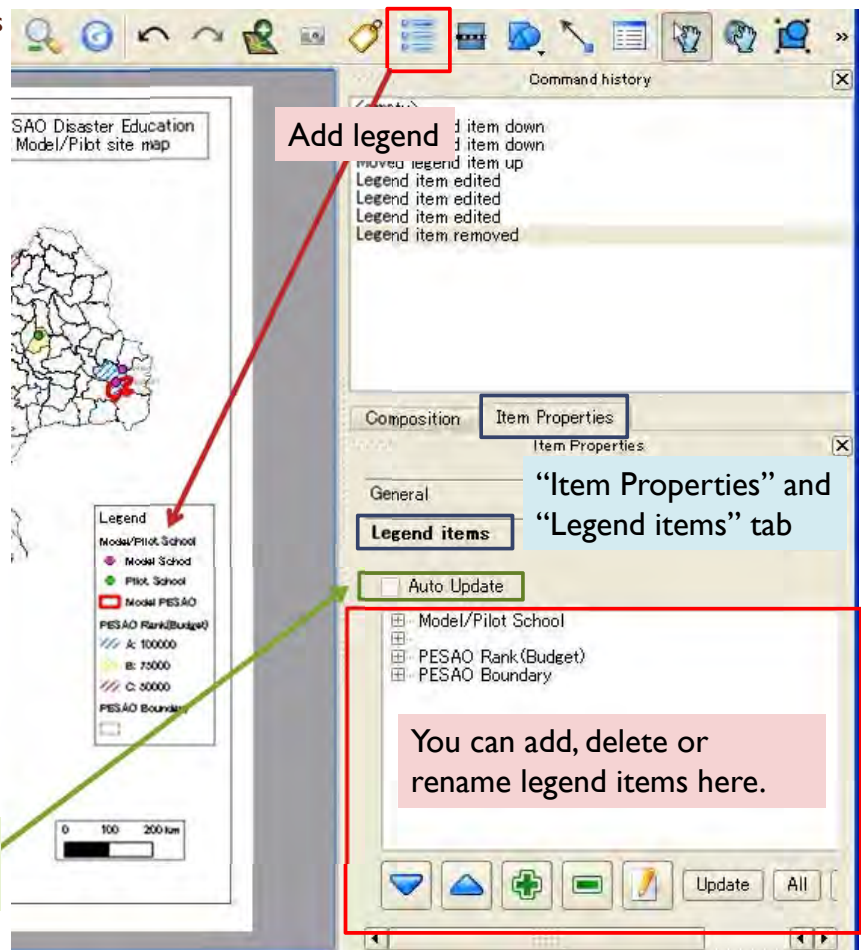


### 3. Making Inventory Maps

#### 3.2.3 Print composer

Add legend

Unselect "Auto Update" to fix the legend items.



### 3. Making Inventory Maps

#### 3.2.3 Print composer

It is able to export map to file.

Export as image file



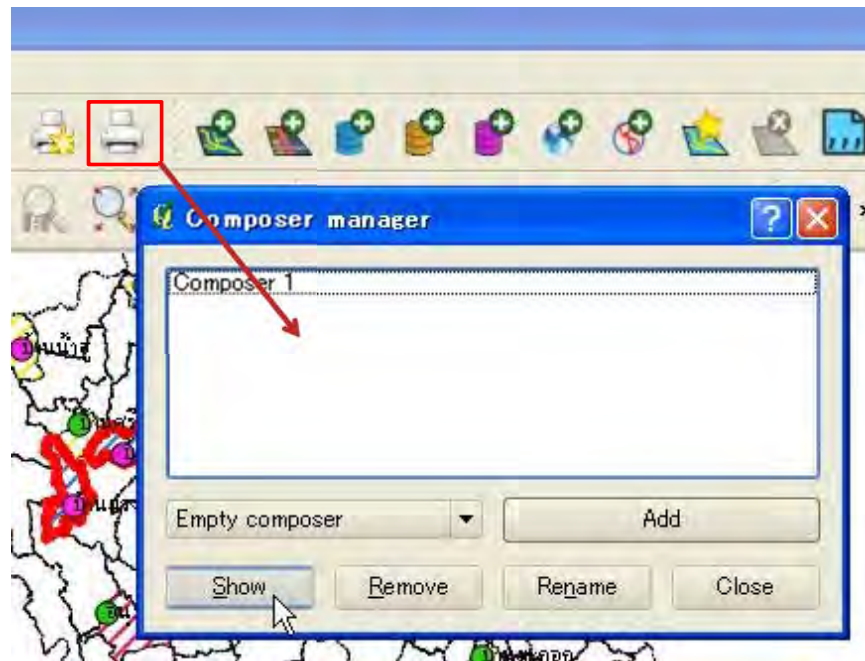
Export as pdf file

Print

### 3. Making Inventory Maps

#### 3.2.3 Print composer

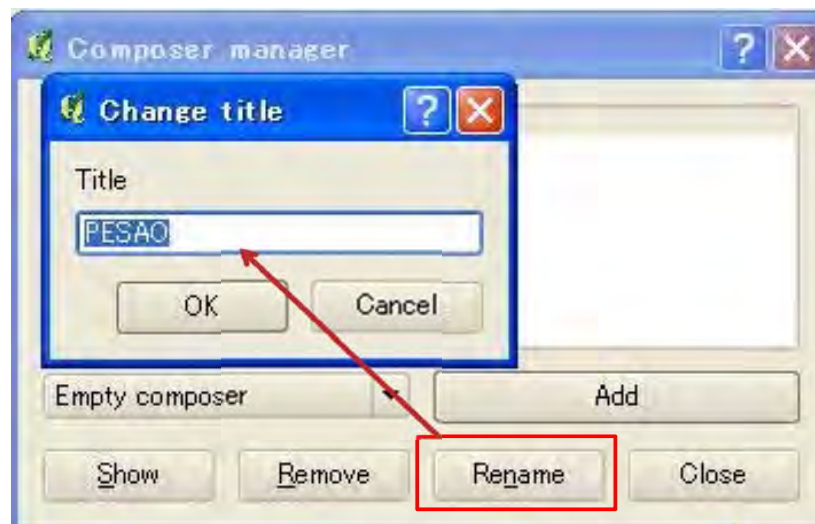
After you made composer once, you can recall the canvas from this button.



### 3. Making Inventory Maps

#### 3.2.3 Print composer

It is able to rename the canvas.  
Please rename the "Composer 1" to "PESAO".



### 3. Making Inventory Maps

#### 3.2.4 Save project

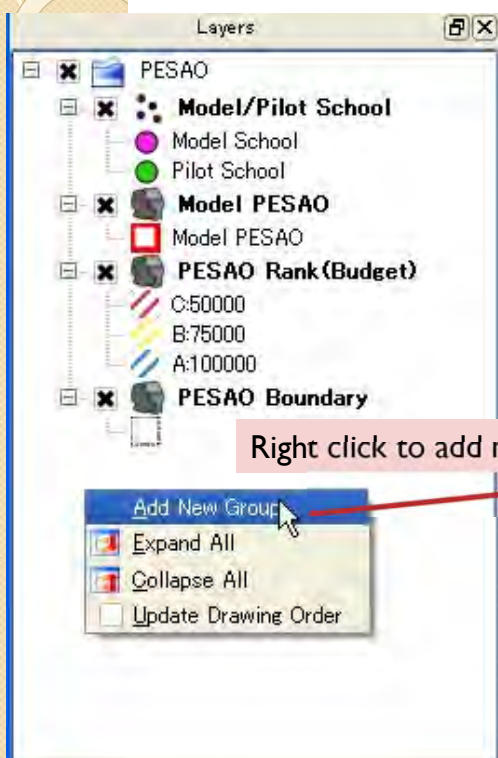


After you made map, please don't forget to save project.

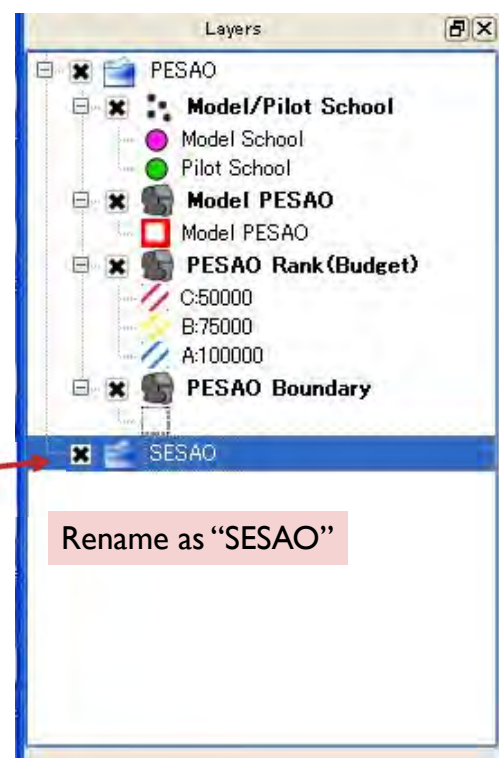
### 3. Making Inventory Maps

#### 3.3 SESAO map

##### 3.3.1 Import data



Right click to add new group



Rename as "SESAO"

### 3. Making Inventory Maps

#### 3.3.1 Import data

Drag and drop “MPSchool\_Scnd.shp” and “SESAO\_Join.shp” into “Layers” field.

After these files are imported, please move these features to under “SESAO” group.



### 3. Making Inventory Maps

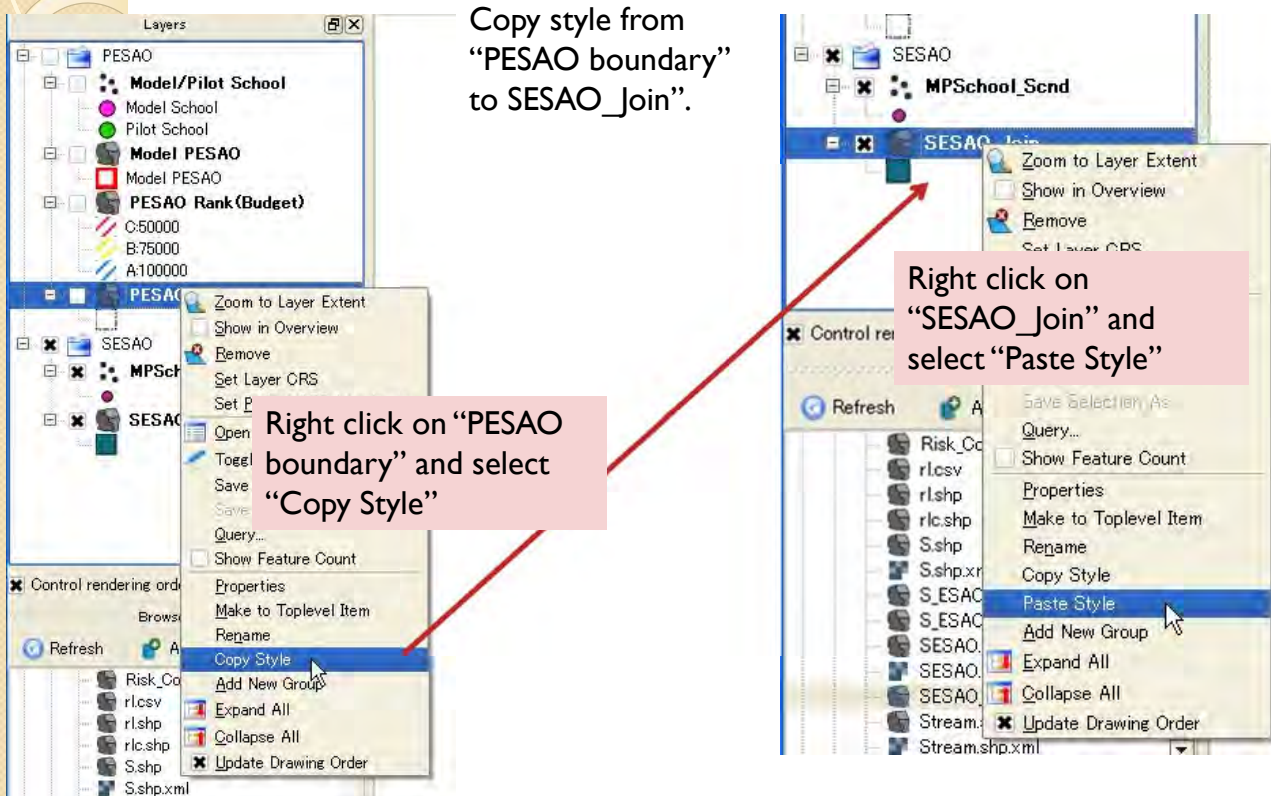
#### 3.3.2 Color settings

##### SESAO boundary

Copy style from “PESAO boundary” to SESAO\_Join”.

Right click on “PESAO boundary” and select “Copy Style”

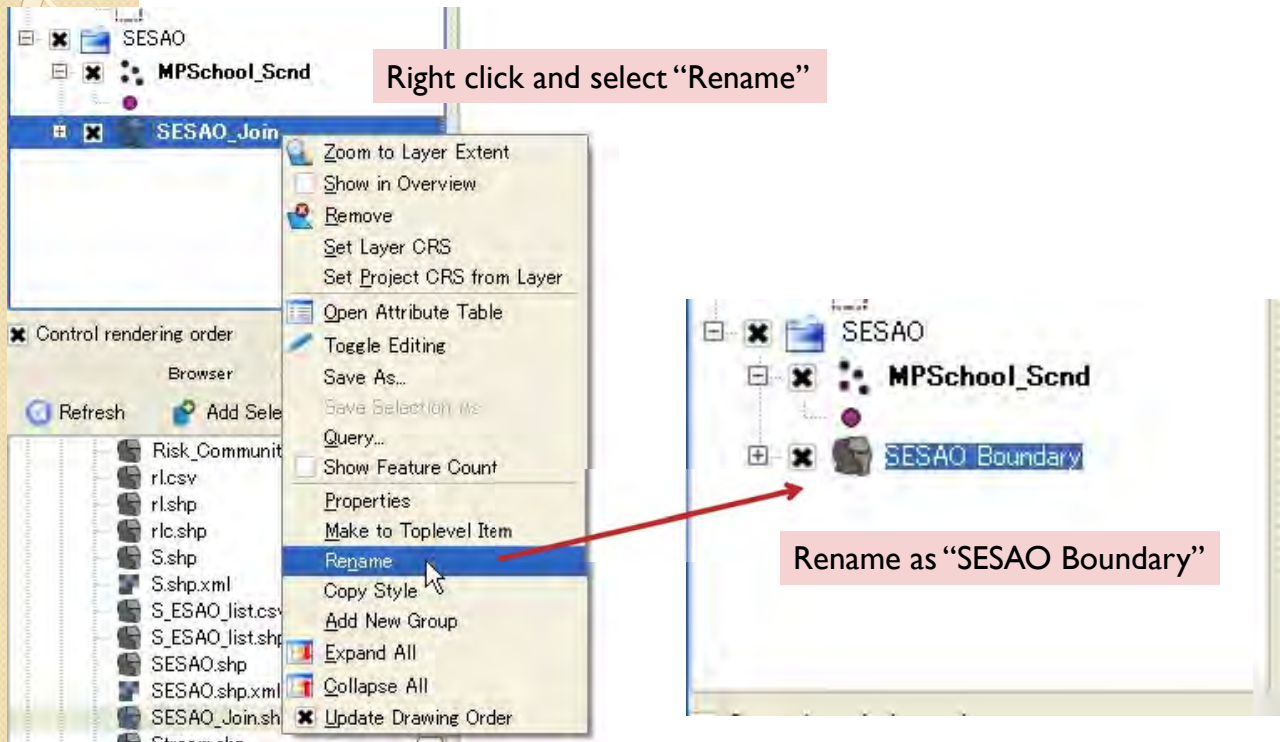
Right click on “SESAO\_Join” and select “Paste Style”



### 3. Making Inventory Maps

#### 3.3.2 Color settings

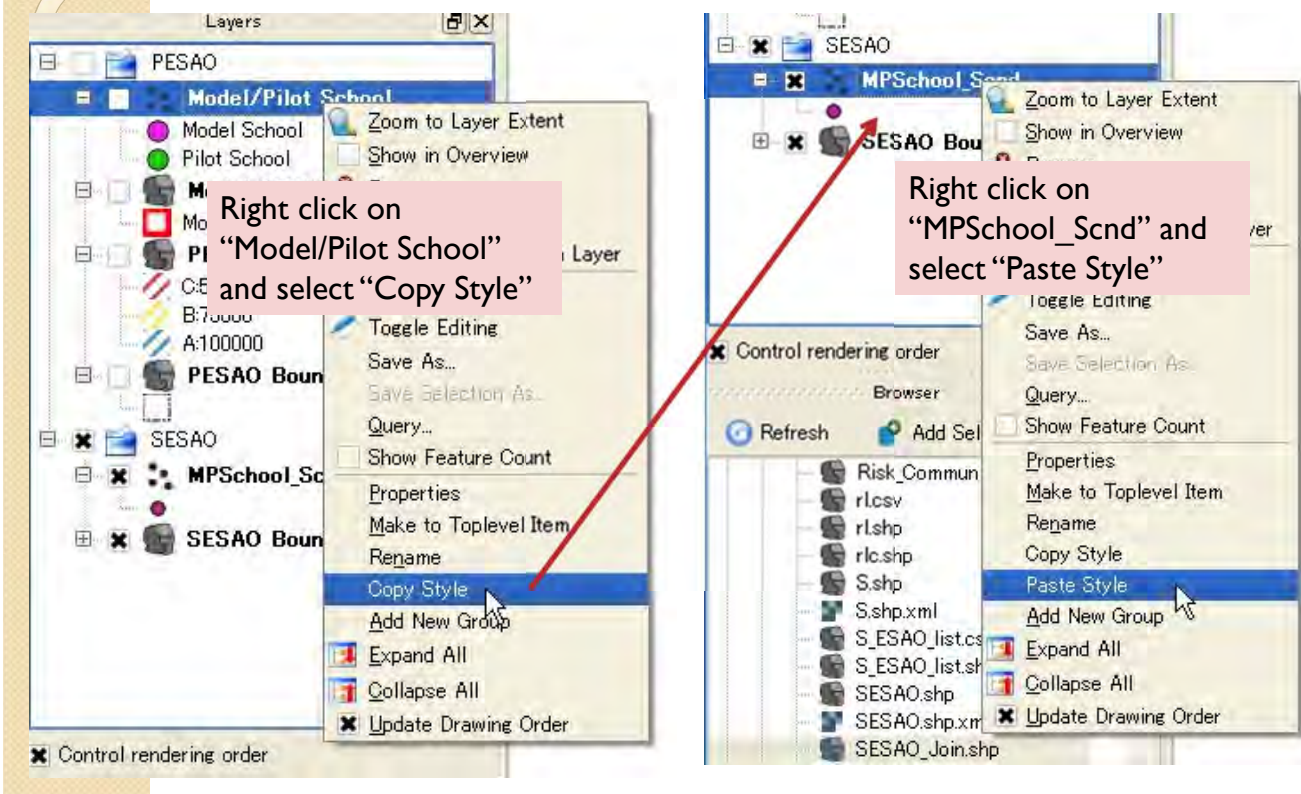
#### SESAO boundary



### 3. Making Inventory Maps

#### 3.3.2 Color settings

#### Model/Pilot schools



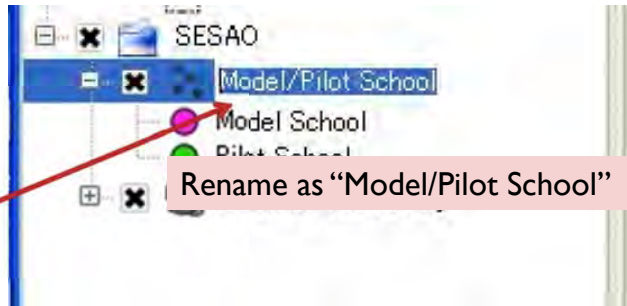
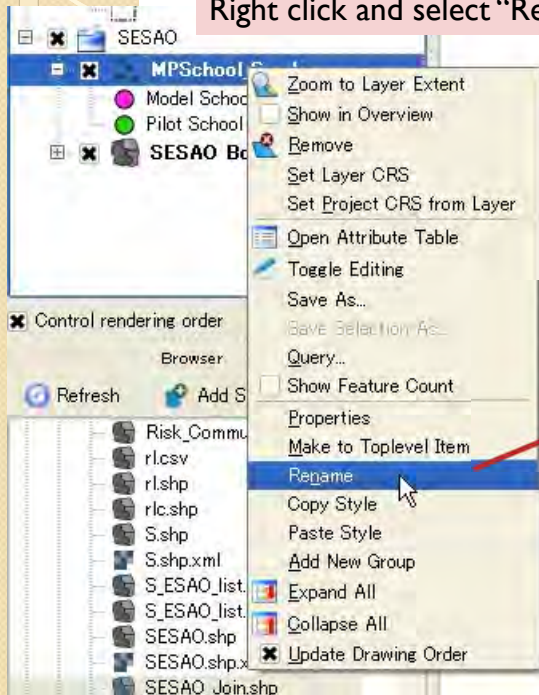


### 3. Making Inventory Maps

#### 3.3.2 Color settings

#### Model/Pilot schools

Right click and select "Rename"



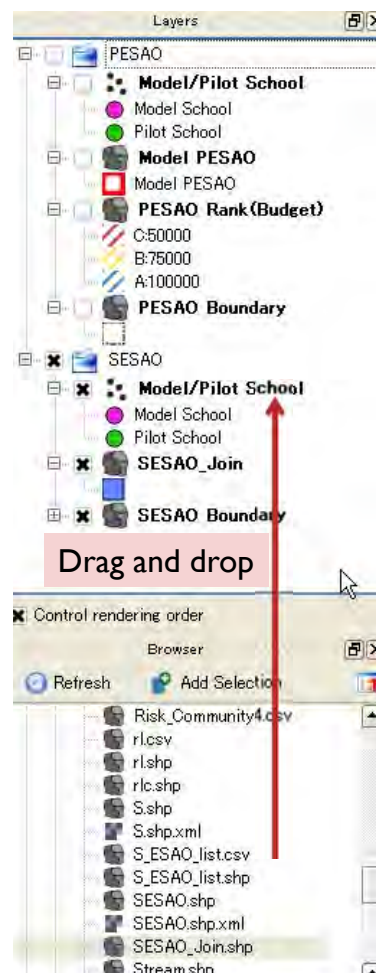
### 3. Making Inventory Maps

#### 3.3.2 Color settings

#### Model/Pilot school rank (budget)

Drag and drop "SESAO\_Join.shp" into "Layers field again.

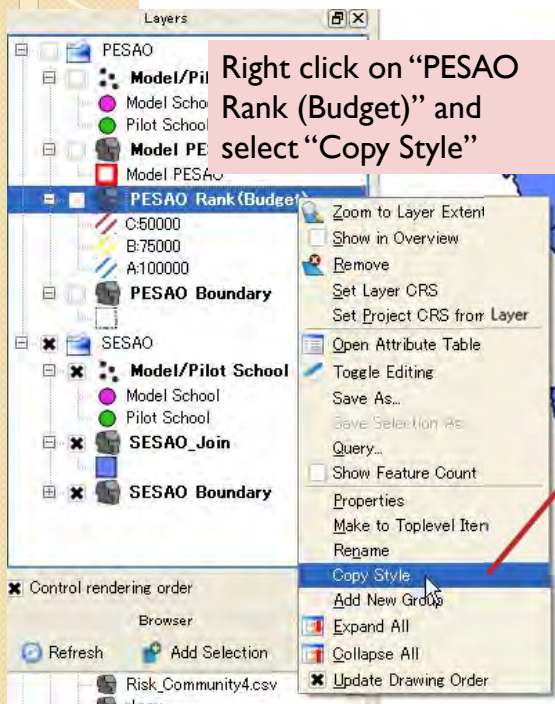
After these file is imported, please move these features to under "SESAO" group.



### 3. Making Inventory Maps

#### 3.3.2 Color settings

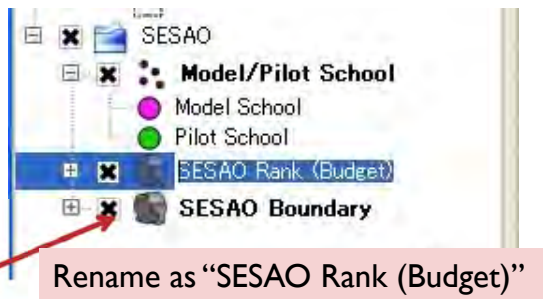
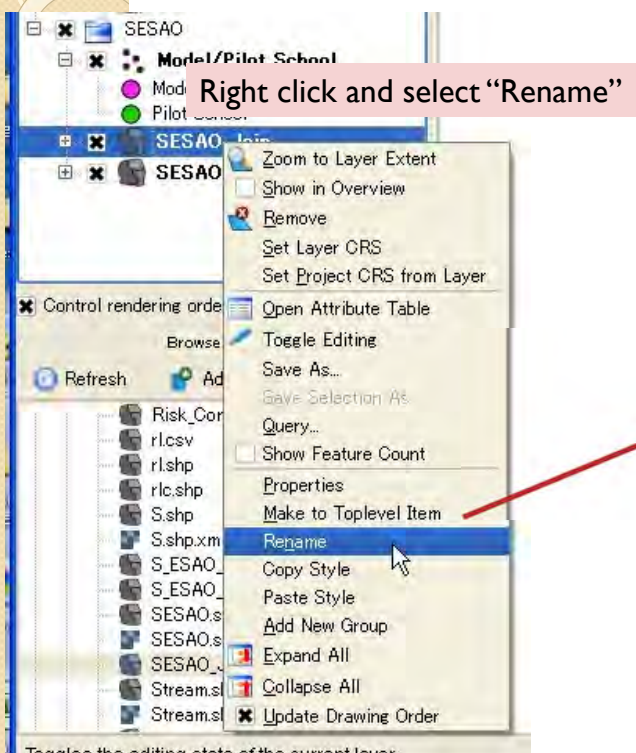
#### Model/Pilot school rank (budget)



### 3. Making Inventory Maps

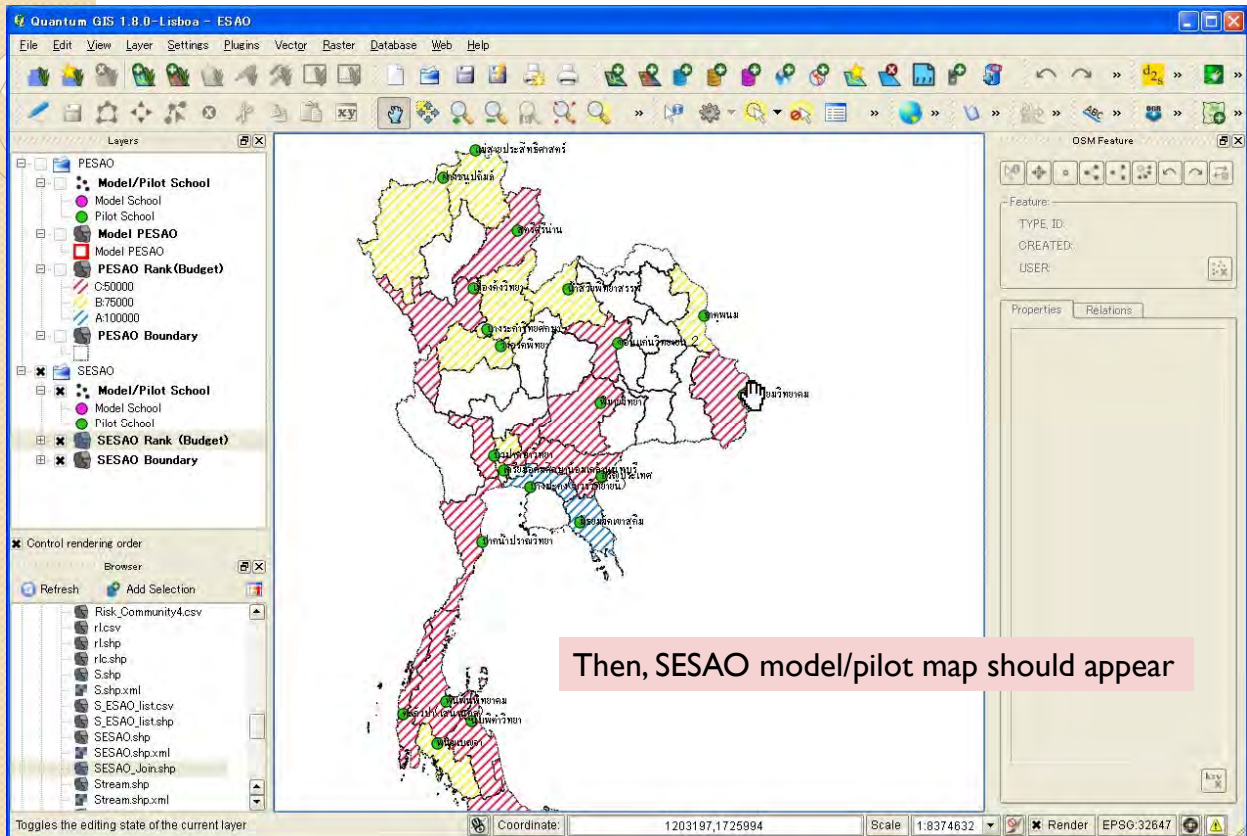
#### 3.3.2 Color settings

#### Model/Pilot school rank (budget)



### 3. Making Inventory Maps

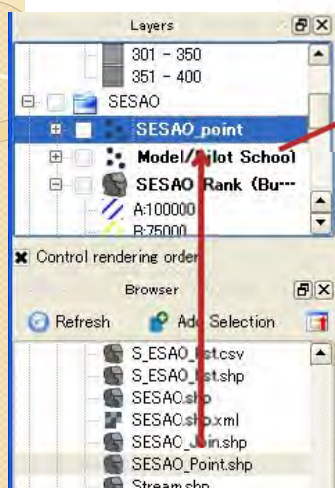
#### 3.3.2 Color settings



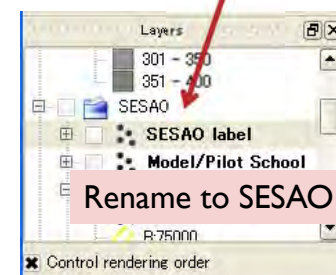
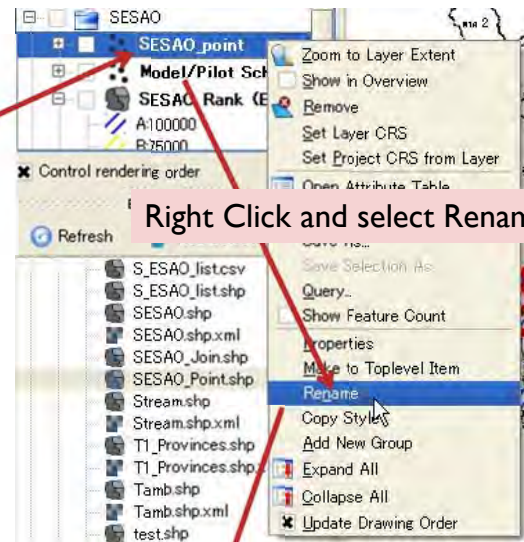
### 3. Making Inventory Maps

#### 3.3.2 Color setting

Labeling for ESAO



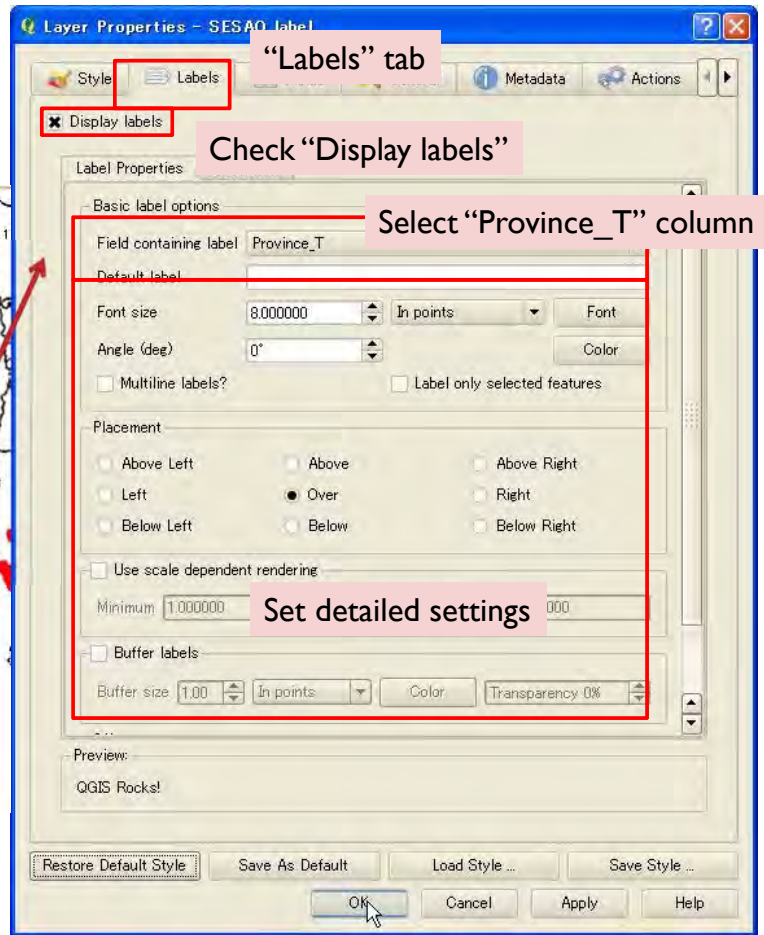
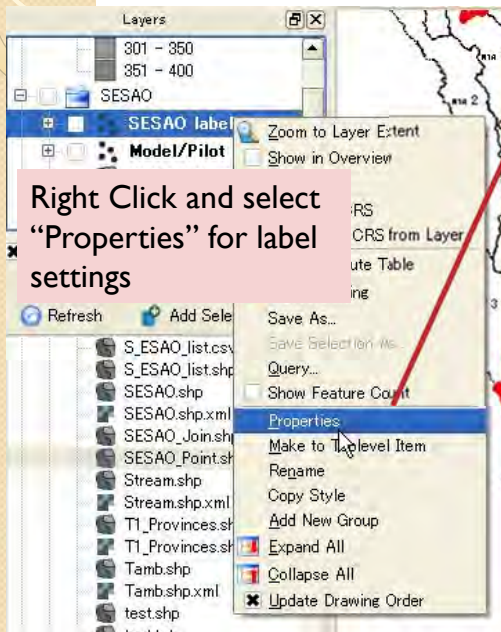
Drag and drop "SESAO\_Point.shp" for ESAO label



### 3. Making Inventory Maps

#### 3.3.2 Color setting

#### Labeling for ESAO

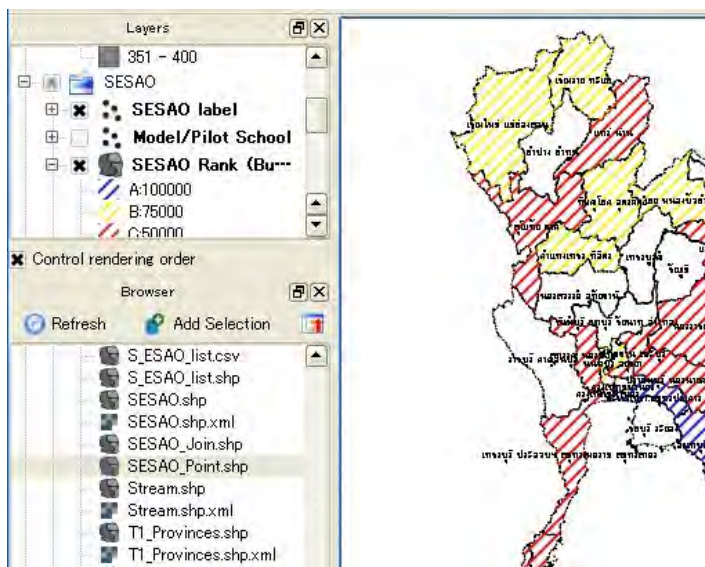


### 3. Making Inventory Maps

#### 3.3.2 Color setting

#### Labeling for ESAO

Then, you can see labels for ESAO.

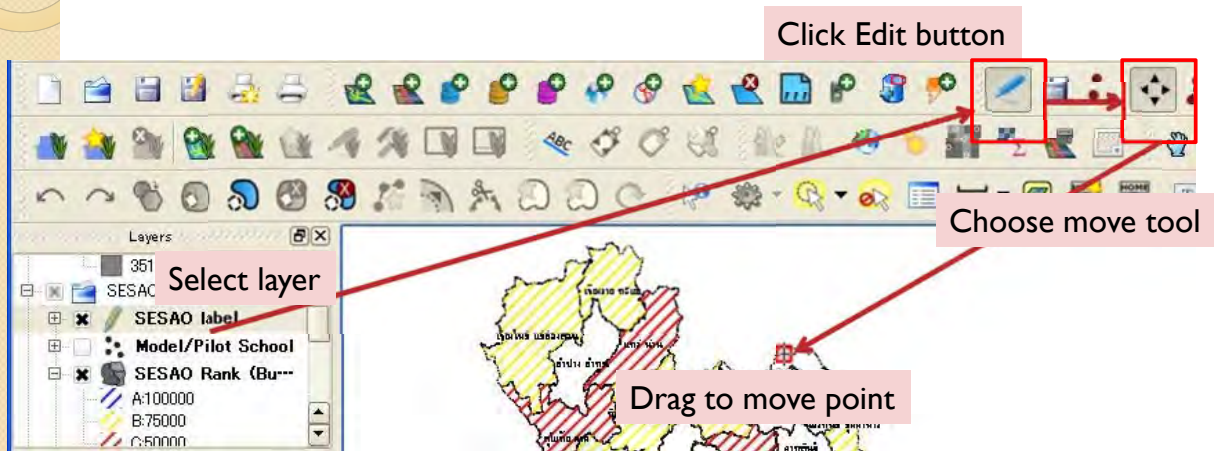


### 3. Making Inventory Maps

#### 3.2.2 Color setting

#### Labeling for ESAO

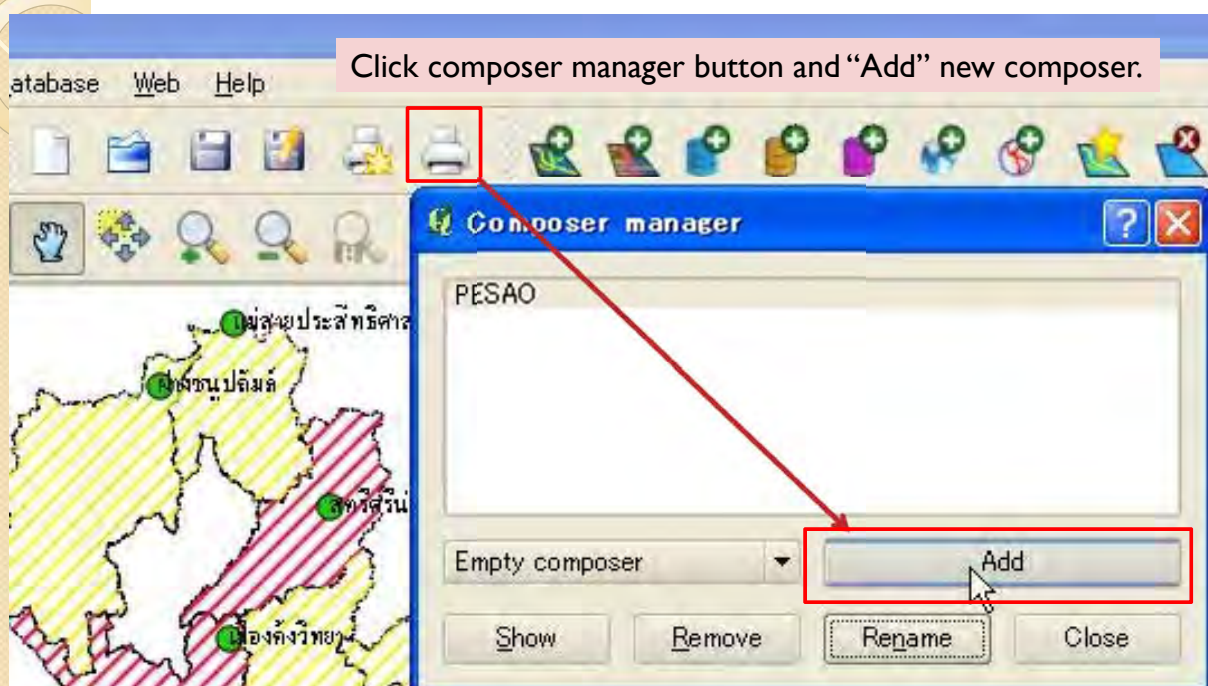
If there are some overlaps of the labels, you can move the points.



After you finish edit, re-click Edit button and save.

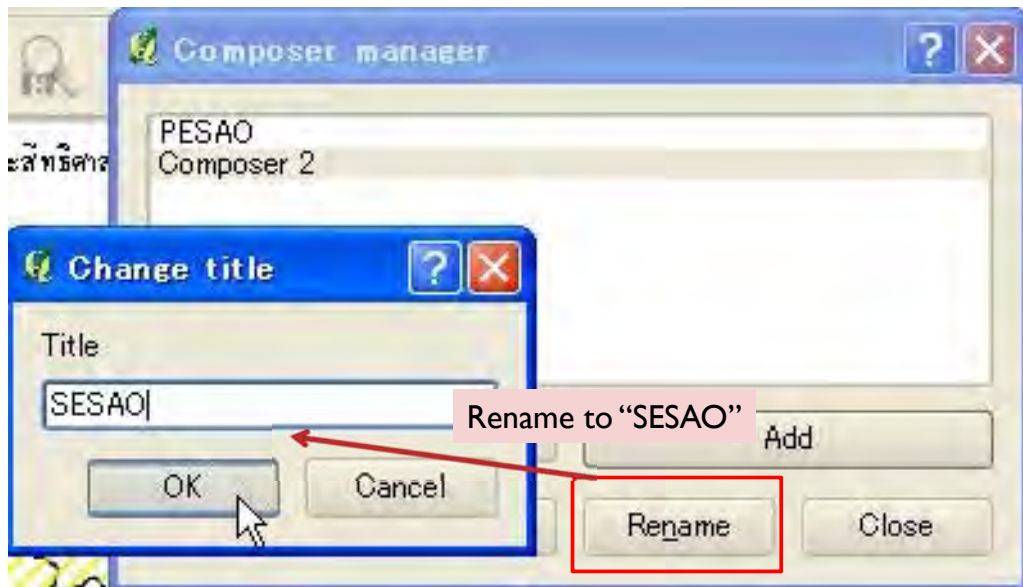
### 3. Making Inventory Maps

#### 3.3.3 Print composer



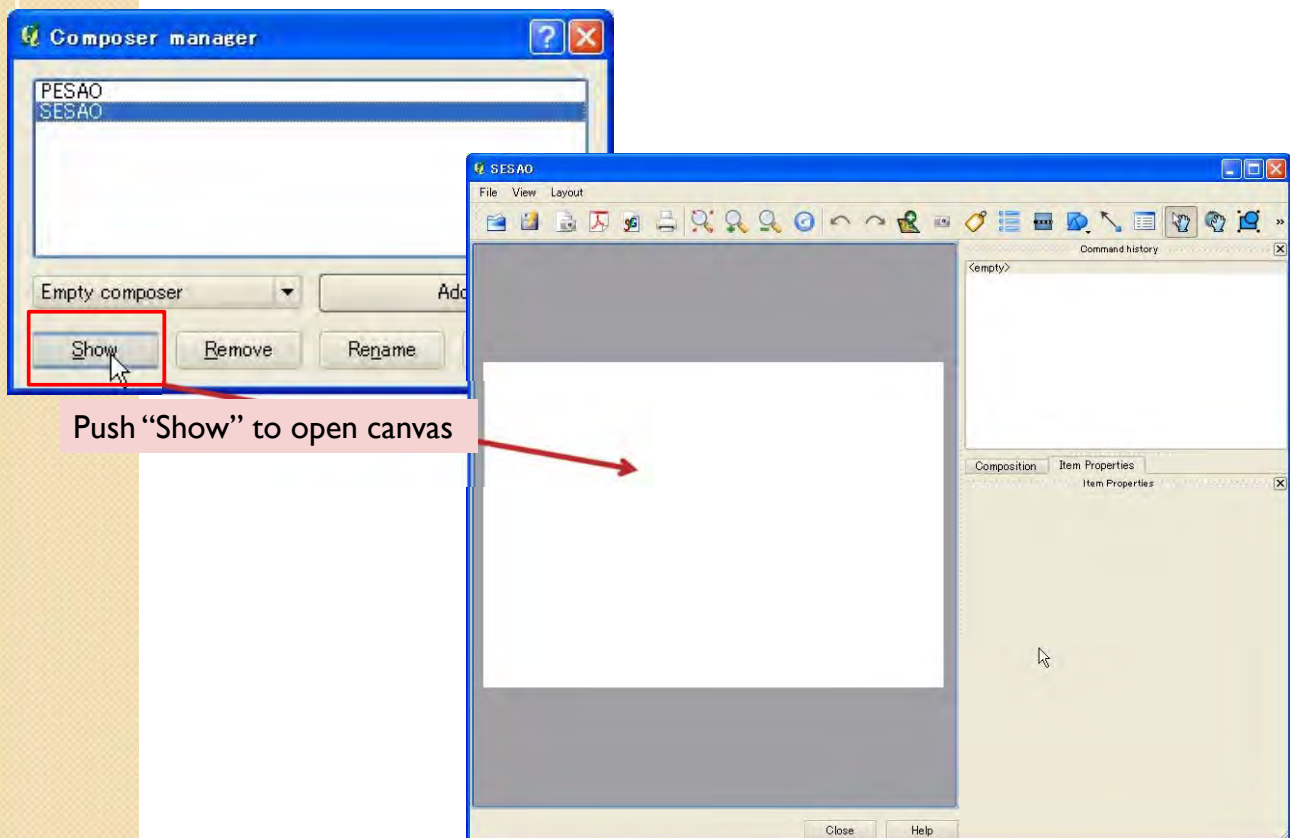
### 3. Making Inventory Maps

#### 3.3.3 Print composer



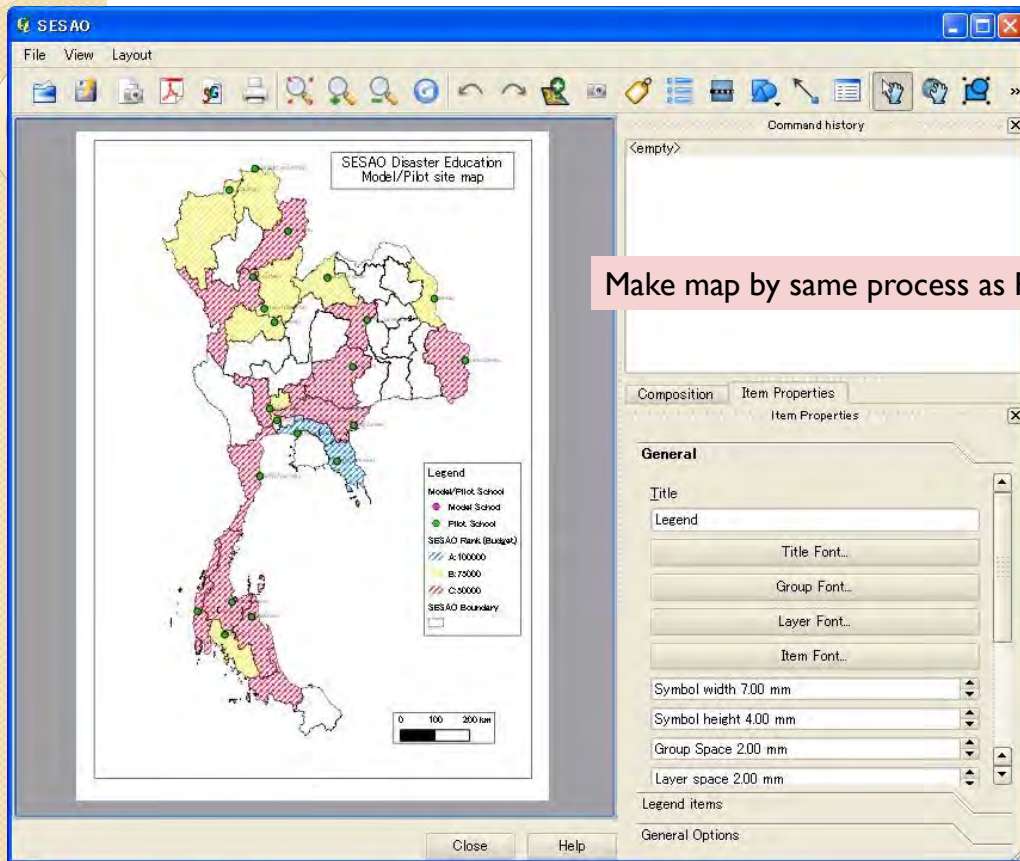
### 3. Making Inventory Maps

#### 3.3.3 Print composer



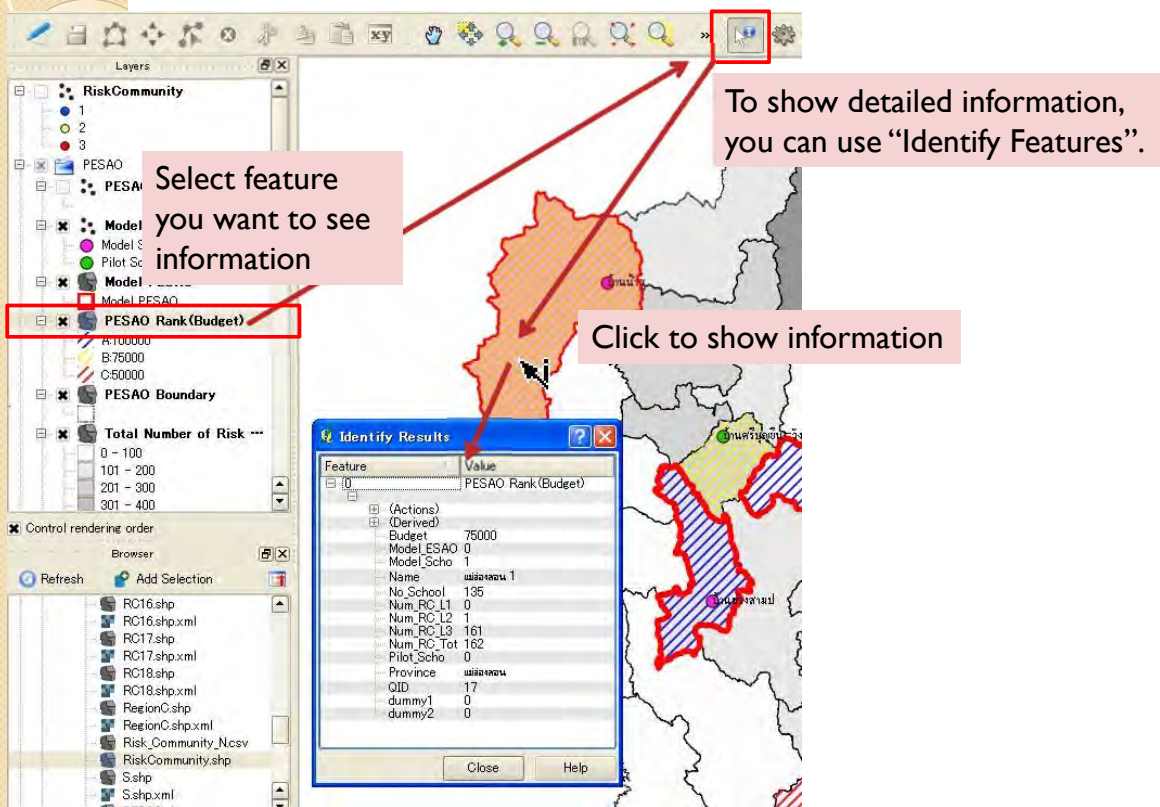
### 3. Making Inventory Maps

#### 3.3.3 Print composer



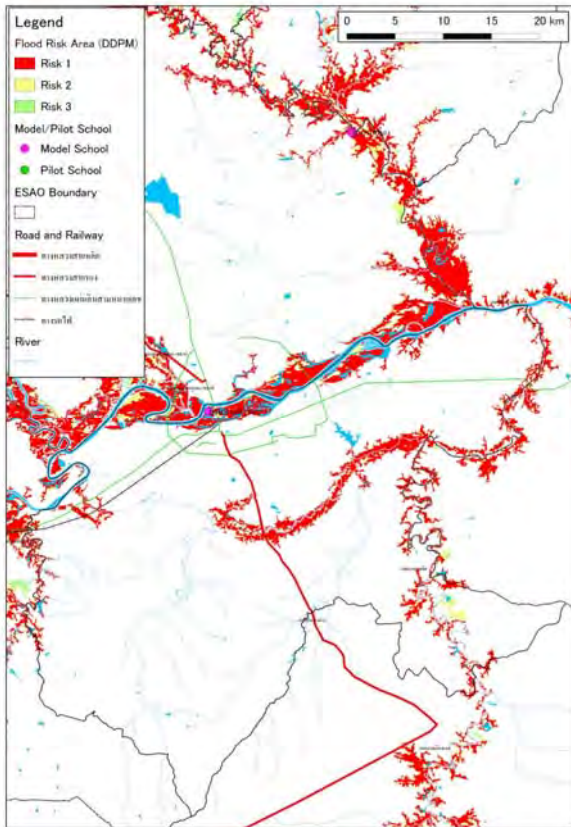
### 3. Making Inventory Maps

#### 3.4 Indicate detailed information



### 3. Making Inventory Maps

#### 3.5 Making risk area with ESAO map



Risk area information shown with ESAO and pilot/model school location is helpful to understand relation between risk area and school or residence location.

In addition, this type of map will be able to be used to select pilot/model schools and to make action plans.

### 3. Making Inventory Maps

#### 3.5.1 Total numbers of Risk community in ESAO

The ESAO file (PESAO\_Join.shp or SESAO\_Join.shp) contain data of total risk community numbers in each ESAO.

Explanation for the columns of attribution table of PESAO\_Join.shp or SESAO\_Join.shp.

- “No\_R1Vill” : numbers of risk level 1 communities
- “No\_R2Vill” : numbers of risk level 2 communities
- “No\_R3Vill” : numbers of risk level 3 communities (highest)
- “No\_TotRVill” : total (level 1-3) numbers of risk communities

This total numbers of risk communities can be shown with ESAO map you made above.

You can compare the risk community and model/pilot ESAO.

dummy1	dummy2	Num_PC_1	Num_PC_2	Num_PC_3	Num_PC_Tot
0	0	0	114	12	27
1	0	1	40	27	27
2	0	0	0	0	0
3	0	0	7	11	1
4	0	0	124	38	30
5	0	2	78	45	125
6	0	0	39	165	204
7	0	0	165	0	165
8	0	0	21	25	4
9	0	0	11	79	9
10	0	0	0	340	24
11	0	0	19	30	109
12	0	0	14	102	11
13	0	0	0	66	6
14	0	0	0	121	13
15	0	0	90	198	20
16	0	0	24	0	5
17	0	0	74	0	8
18	0	0	1	103	19
19	0	0	0	360	39
20	0	0	52	191	24
21	0	0	100	211	21
22	0	0	31	192	19



### 3. Making Inventory Maps

#### 3.5.1 Total numbers of Risk community in ESAO

Open "Style" tab

Select "Graduated" and "Num\_RC\_Tot" column

Rename as you like

You can import one more P/SESAO\_Join.shp file to indicate risk community number map.

Set color ramp, classes and mode

Double click to edit colors, ranges and labels

"Classify" or "Add class" to make color categories

Symbol	Range	Label
	0.0000 - 200.0000	0 - 200
	200.1000 - 400.0000	201 - 400
	400.1000 - 600.0000	401 - 600
	600.1000 - 800.0000	601 - 800
	800.1000 - 1000.0000	801 - 1000
	1000.1000 - 1200.0000	1001 - 1200
	1200.1000 - 1400.0000	1201 - 1400
	1400.1000 - 1600.0000	1401 - 1600
	1600.1000 - 1800.0000	1601 - 1800
	1800.1000 - 1999.0000	1801 - 1900

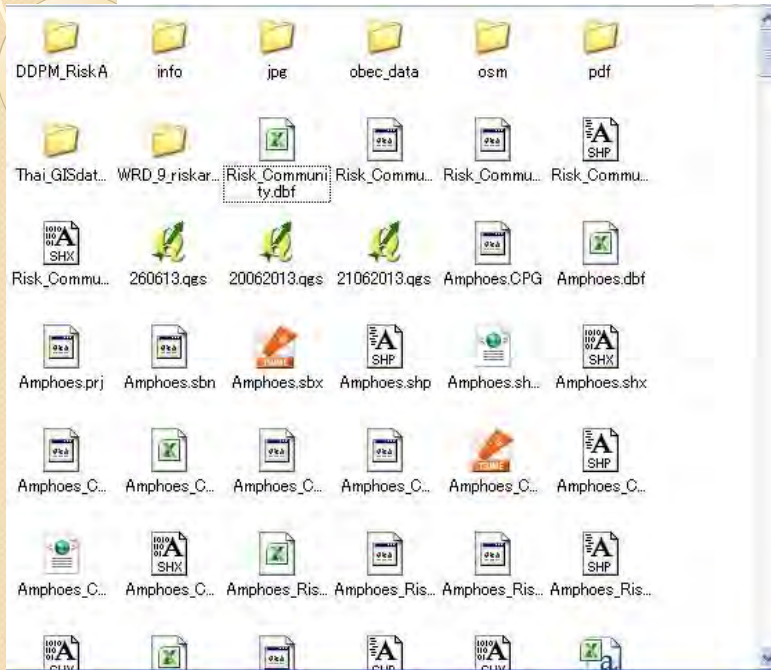
### 3. Making Inventory Maps

#### 3.5.1 Total numbers of Risk community in ESAO

Then, you can show risk community numbers map with ESAO map.

### 3. Making Inventory Maps

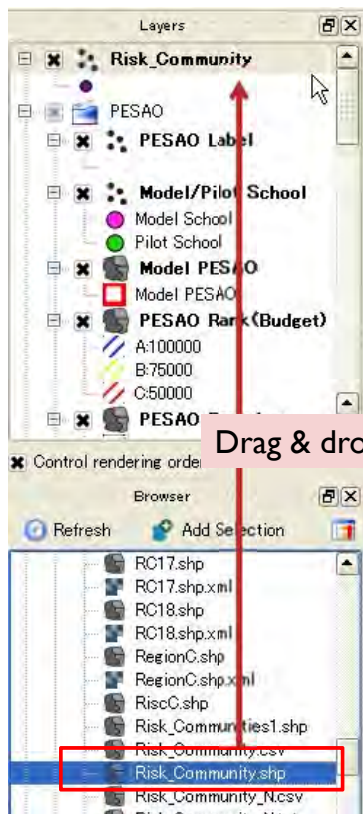
#### 3.5.2 Other Risk area information



- Risk community  
“Risk\_Community” shapefile  
(data from DDPM)
- Flood risk area  
“DDPM\_RiskA” folder  
(data from DDPM)
- Sediment disaster risk area  
“WRD\_9\_riskarea” folder  
(data from WRD)

### 3. Making Inventory Maps

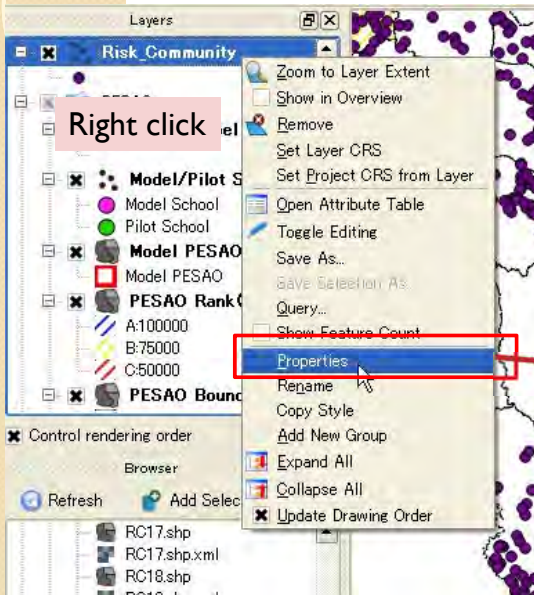
#### 3.5.3 Risk community map



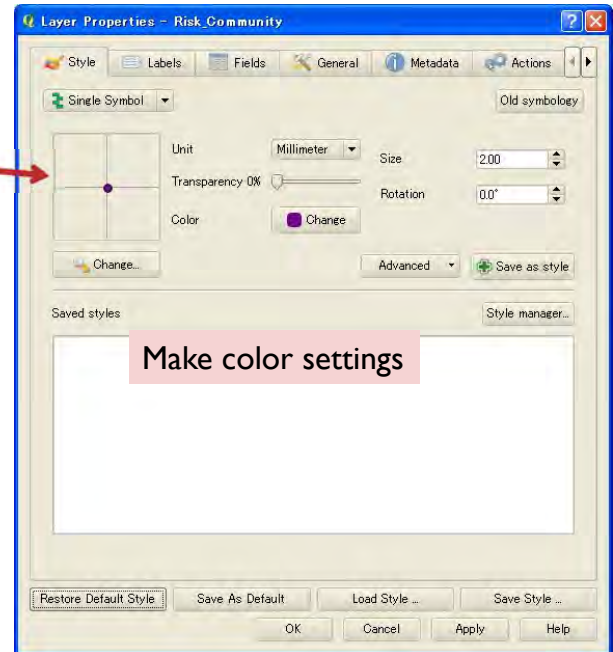
Import “Risk\_Community” shape file from browser field.

### 3. Making Inventory Maps

#### 3.5.3 Risk community map

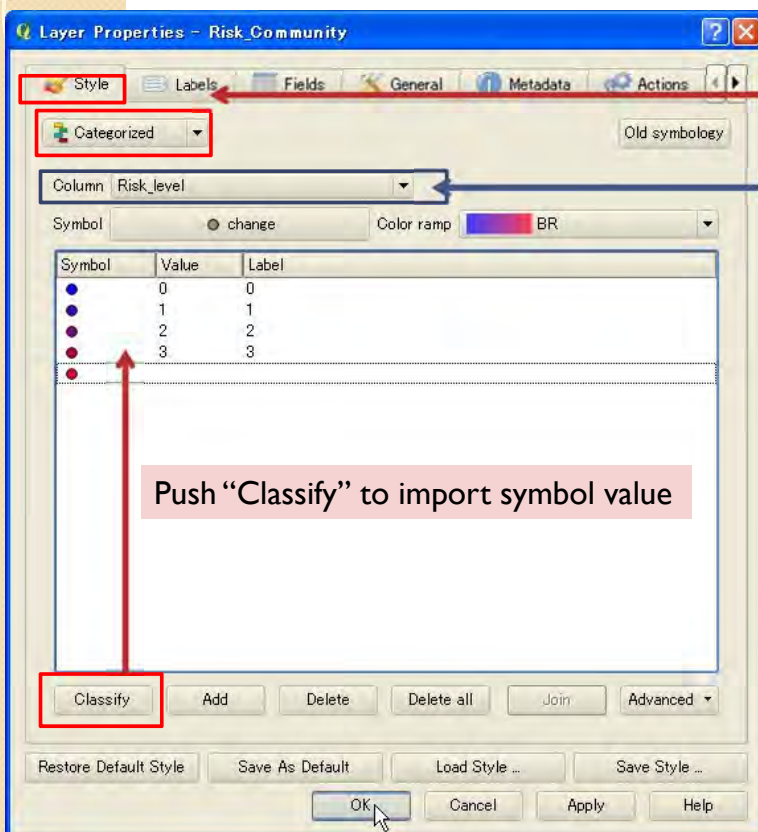


Right click and select "Properties"



### 3. Making Inventory Maps

#### 3.5.3 Risk community map

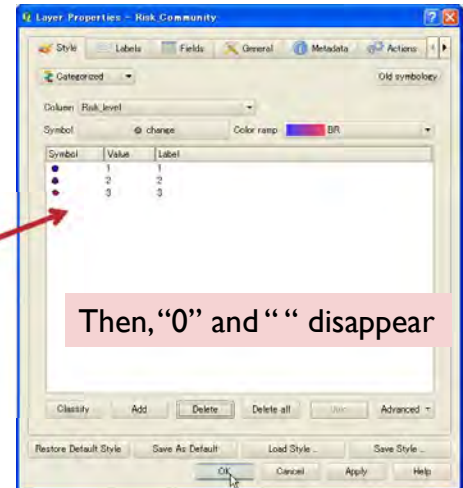
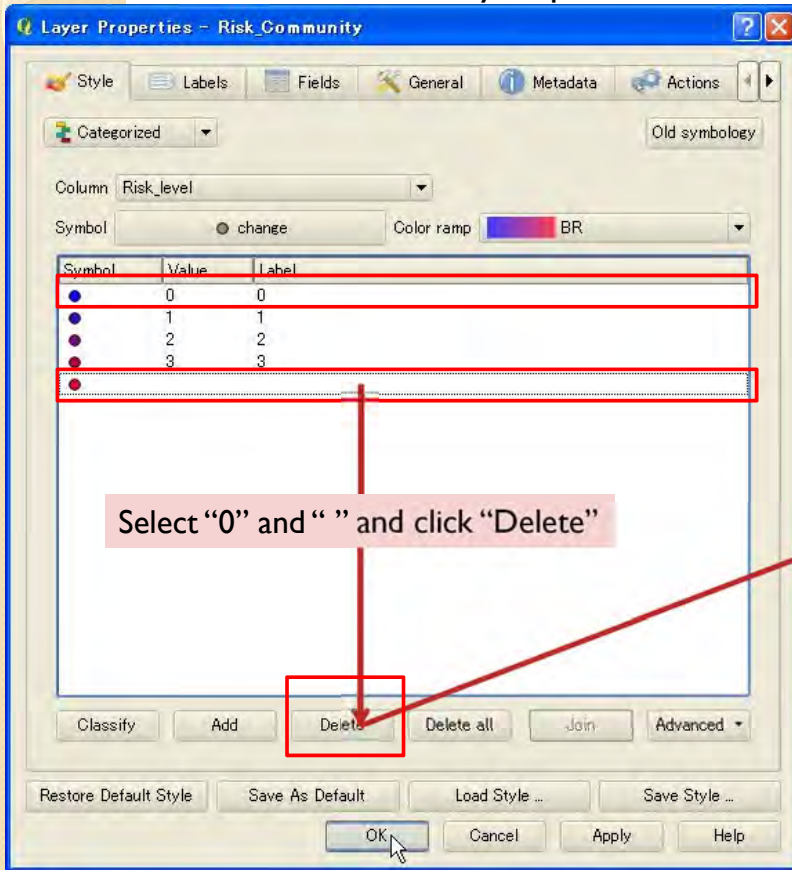


Select "Style" tab and "Categorized"

Target column is "Risk\_level"

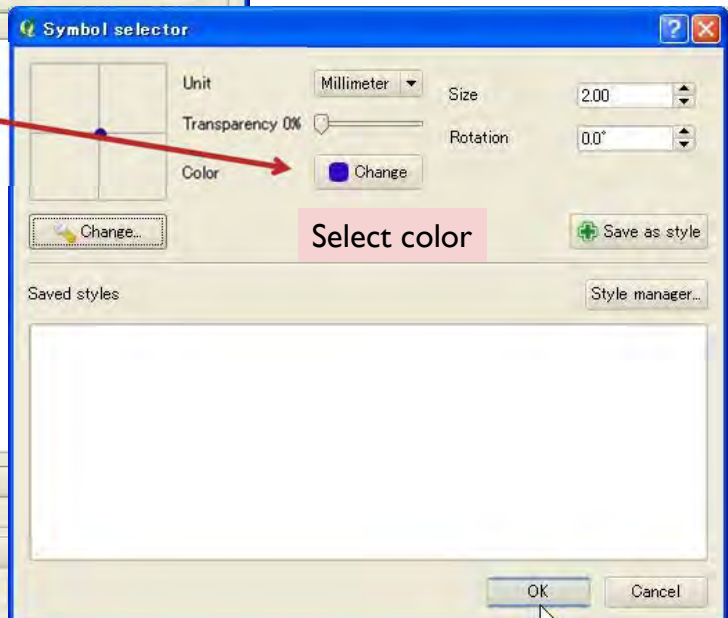
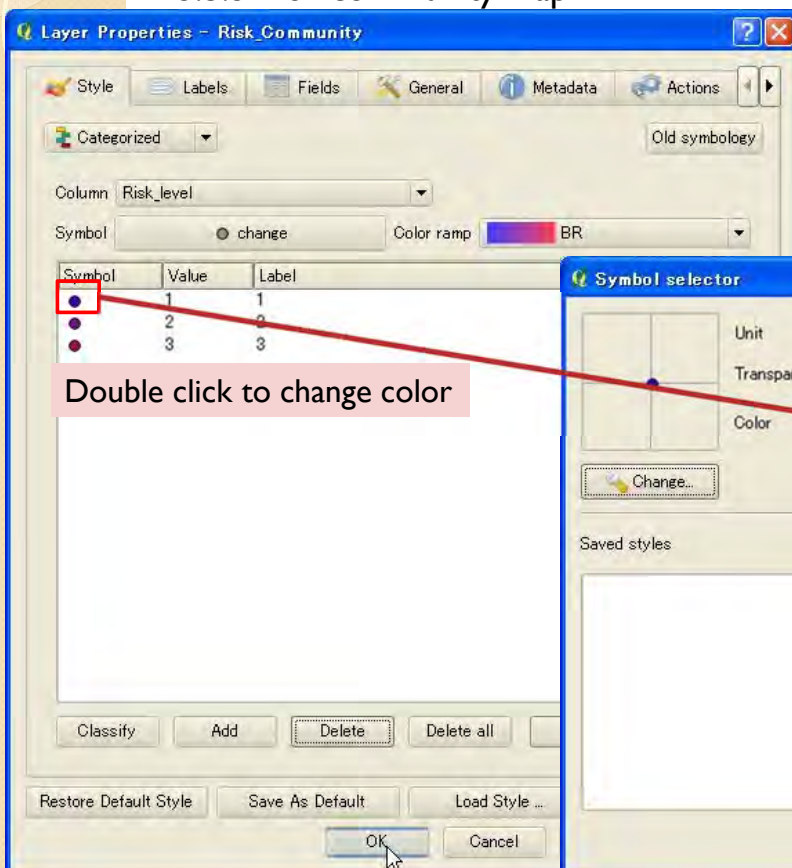
### 3. Making Inventory Maps

#### 3.5.3 Risk community map



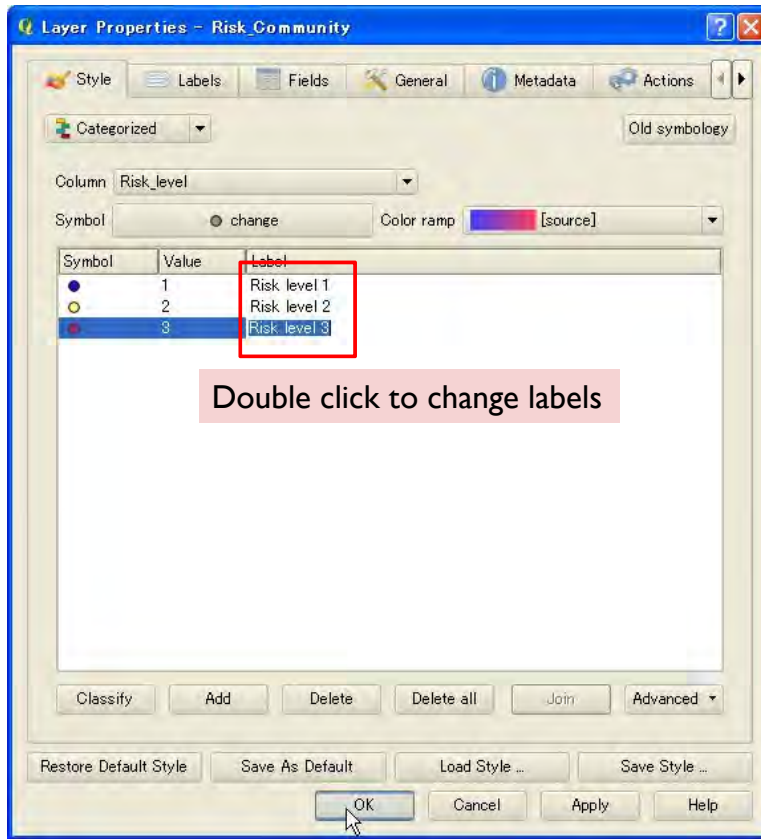
### 3. Making Inventory Maps

#### 3.5.3 Risk community map



### 3. Making Inventory Maps

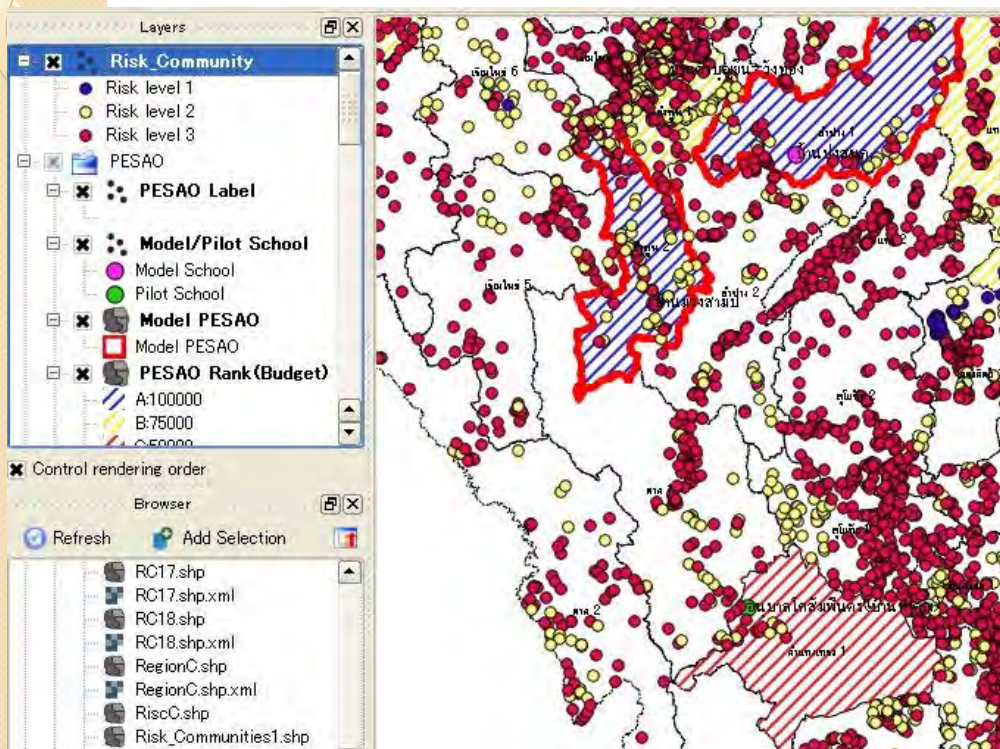
#### 3.5.3 Risk community map



### 3. Making Inventory Maps

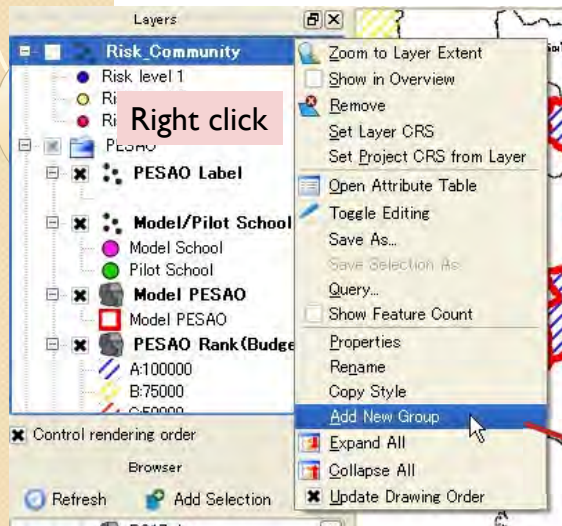
#### 3.5.3 Risk community map

Then, you can see risk community locations.



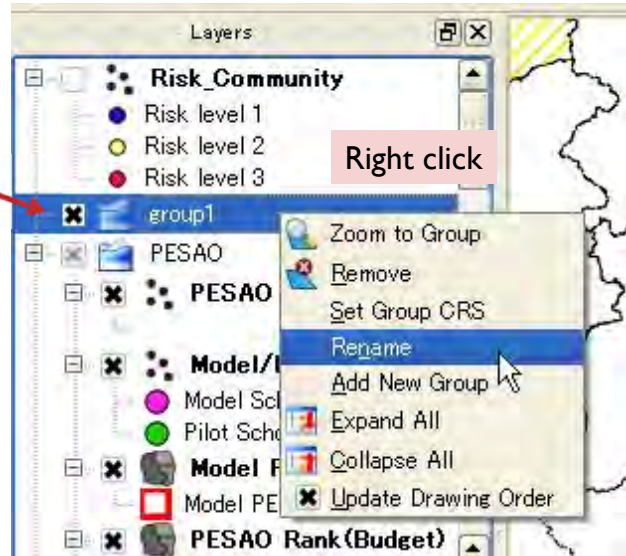
### 3. Making Inventory Maps

#### 3.5.4 Flood risk area map



Right click and select “Add New Group”.

And, right click and select “Rename” to Flood risk area.



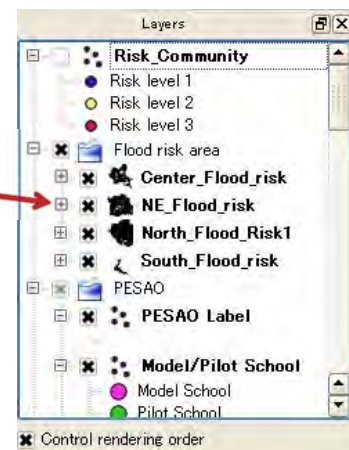
### 3. Making Inventory Maps

#### 3.5.4 Flood risk area map



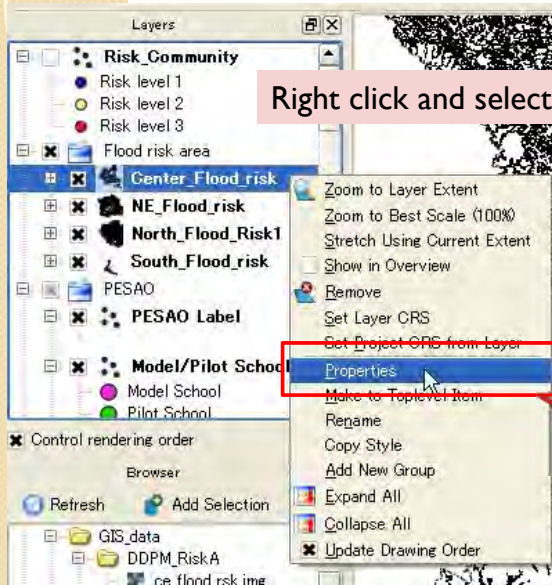
Move under the “Flood risk area” folder

South\_Flood\_Risk  
North\_Flood\_Risk  
NE\_Flood\_Risk  
Center\_Flood\_Risk

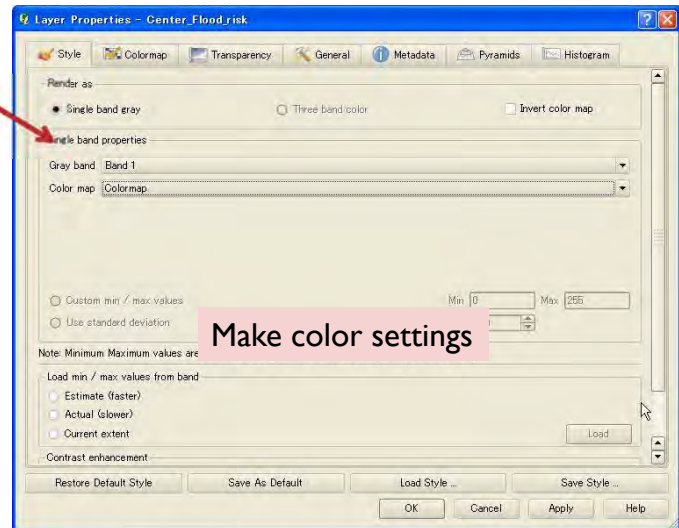


### 3. Making Inventory Maps

#### 3.5.4 Flood risk area map



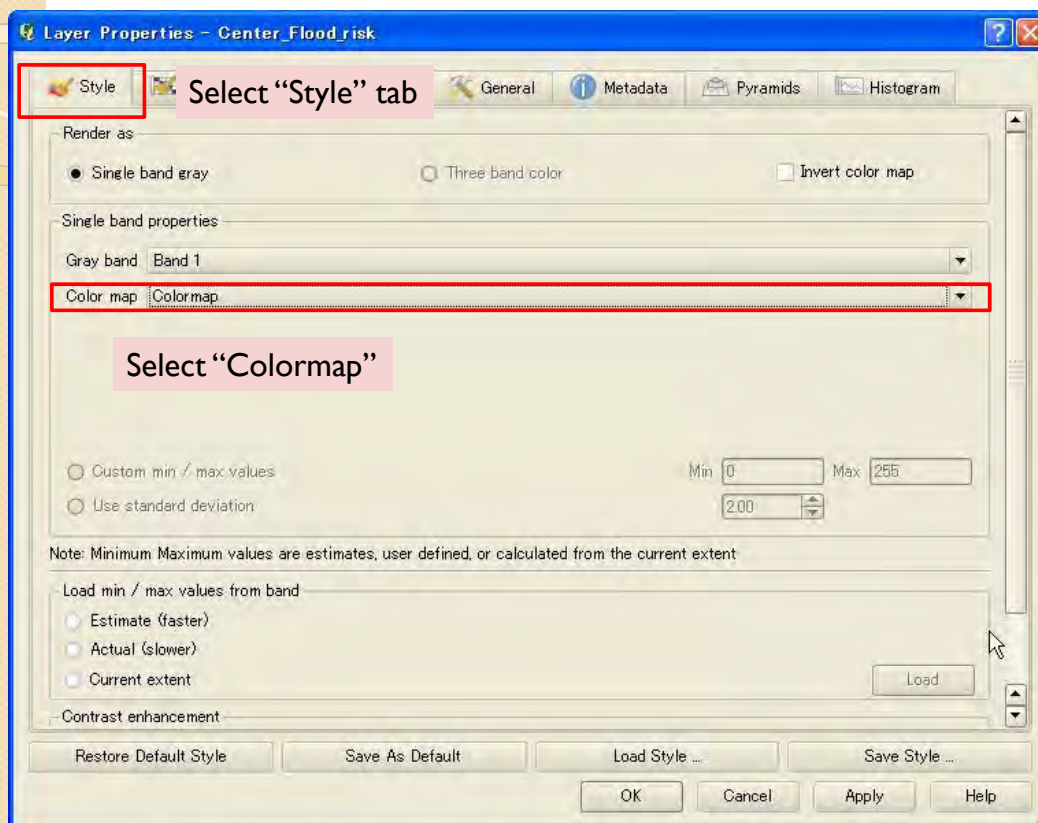
Right click and select "Properties"



Make color settings

### 3. Making Inventory Maps

#### 3.5.4 Flood risk area map

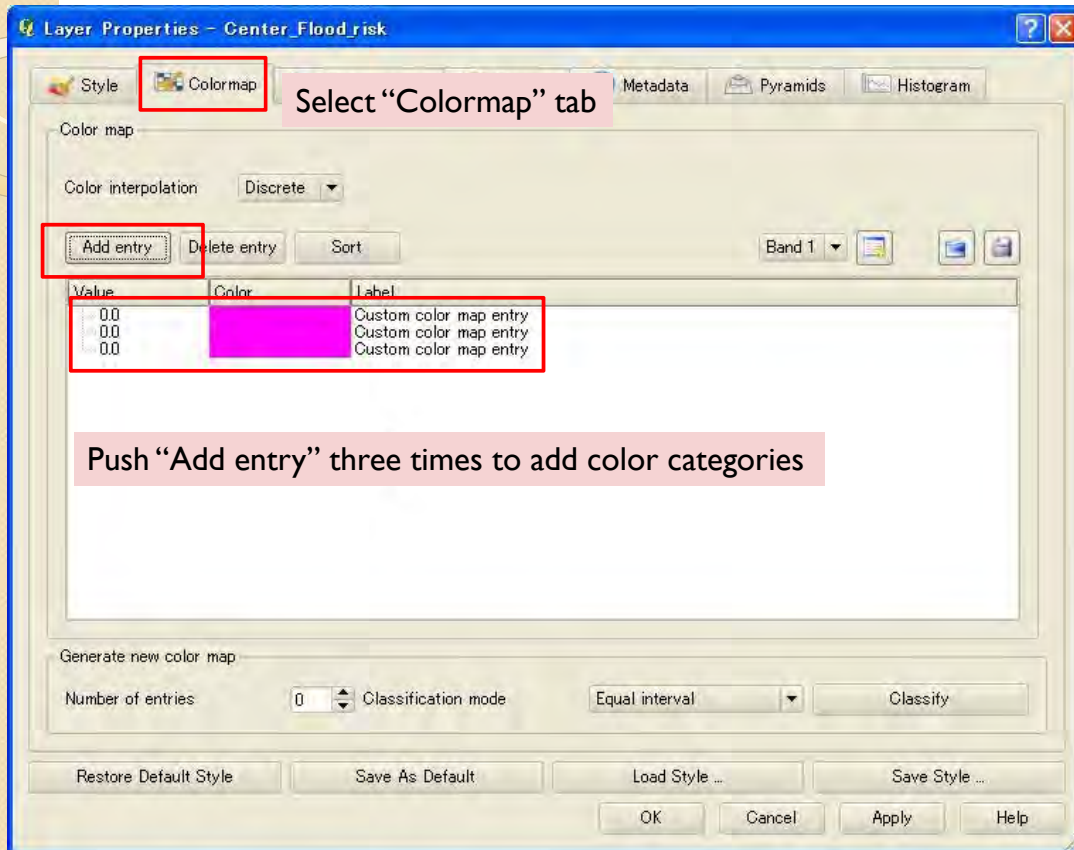


Select "Style" tab

Select "Colormap"

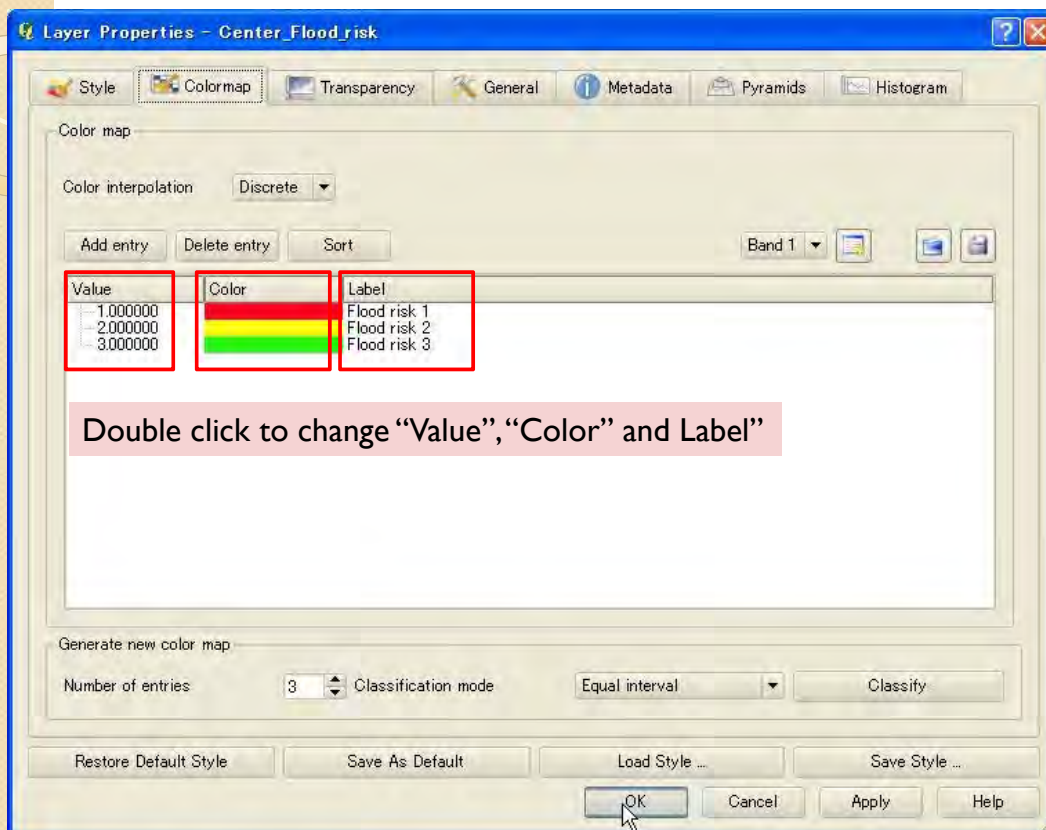
### 3. Making Inventory Maps

#### 3.5.4 Flood risk area map



### 3. Making Inventory Maps

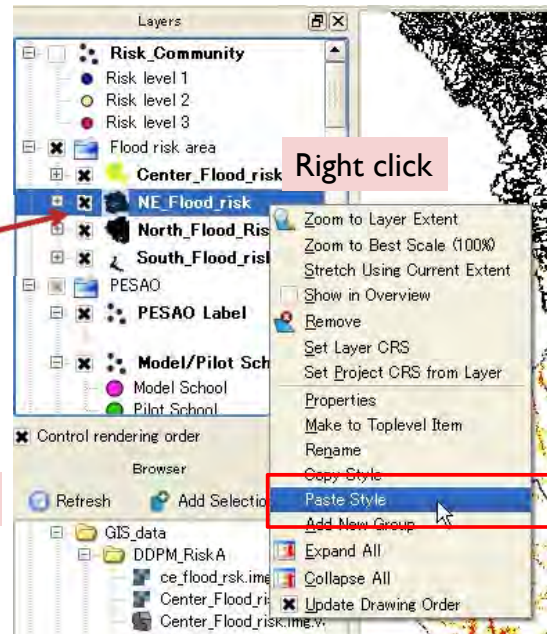
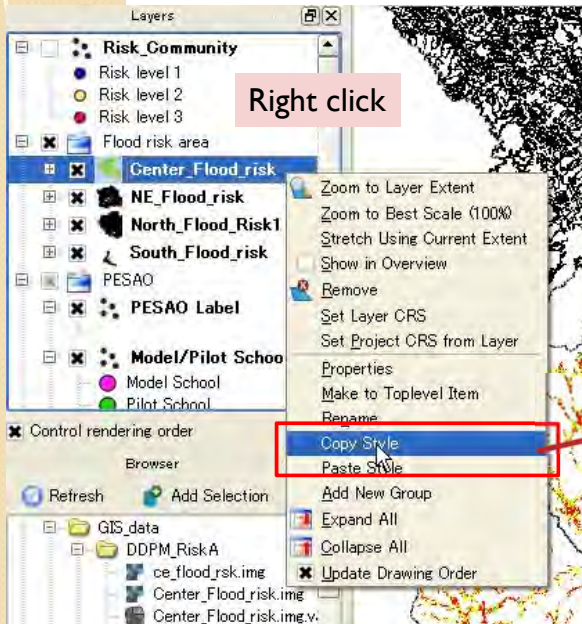
#### 3.5.4 Flood risk area map





### 3. Making Inventory Maps

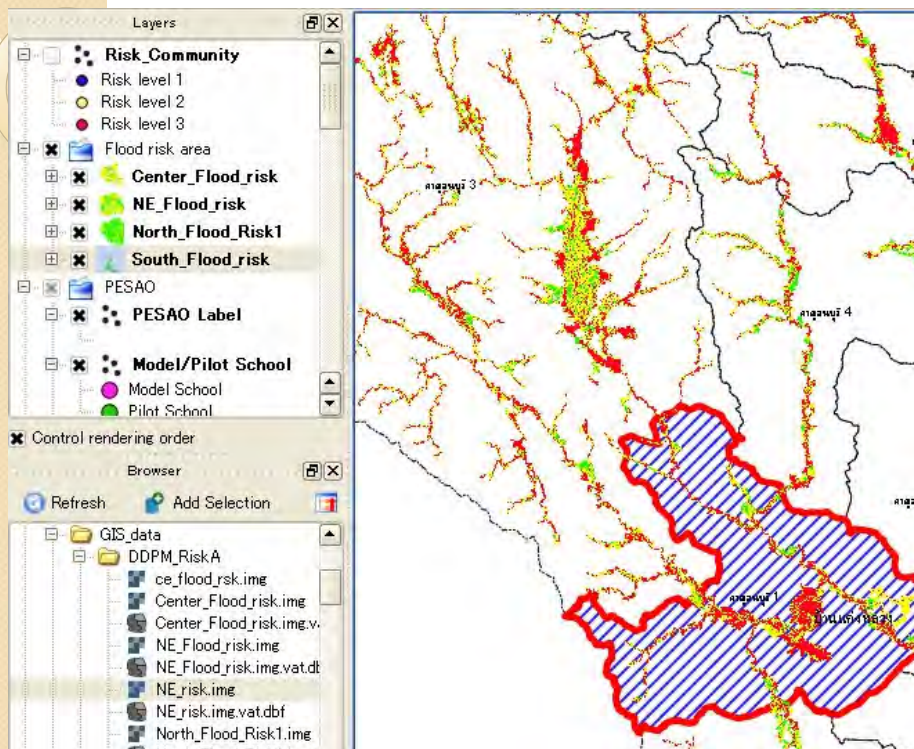
#### 3.5.4 Flood risk area map



Copy and paste style to the others

### 3. Making Inventory Maps

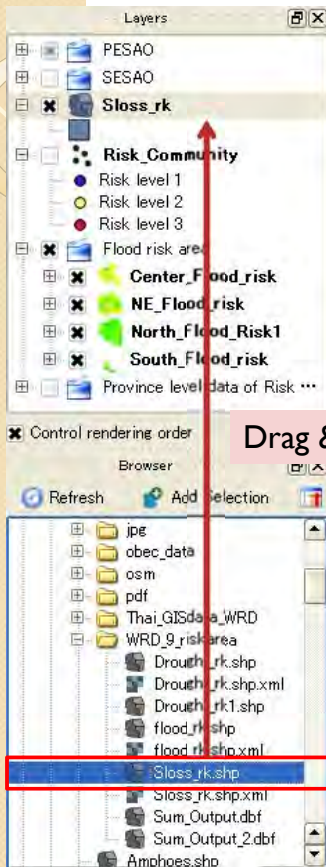
#### 3.5.4 Flood risk area map



Then, you can see flood risk area

### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map

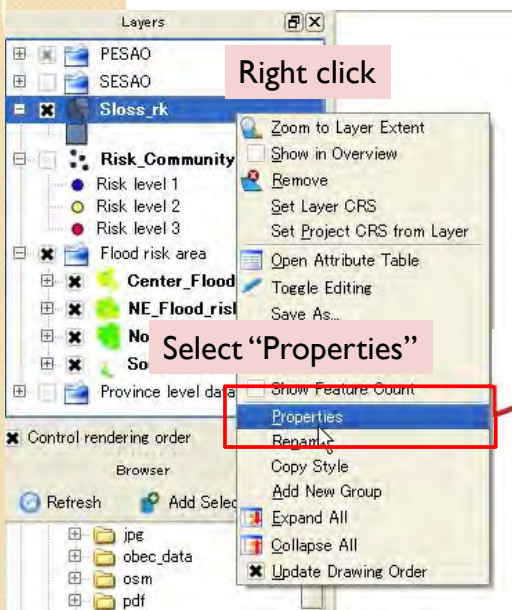


At first, import "Sloss\_rk.shp"

Drag & drop

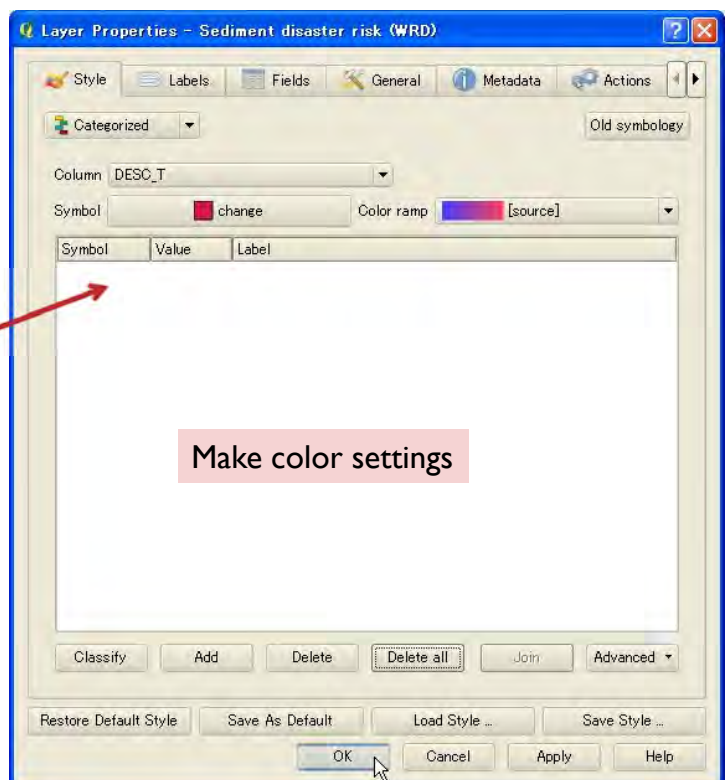
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



Right click

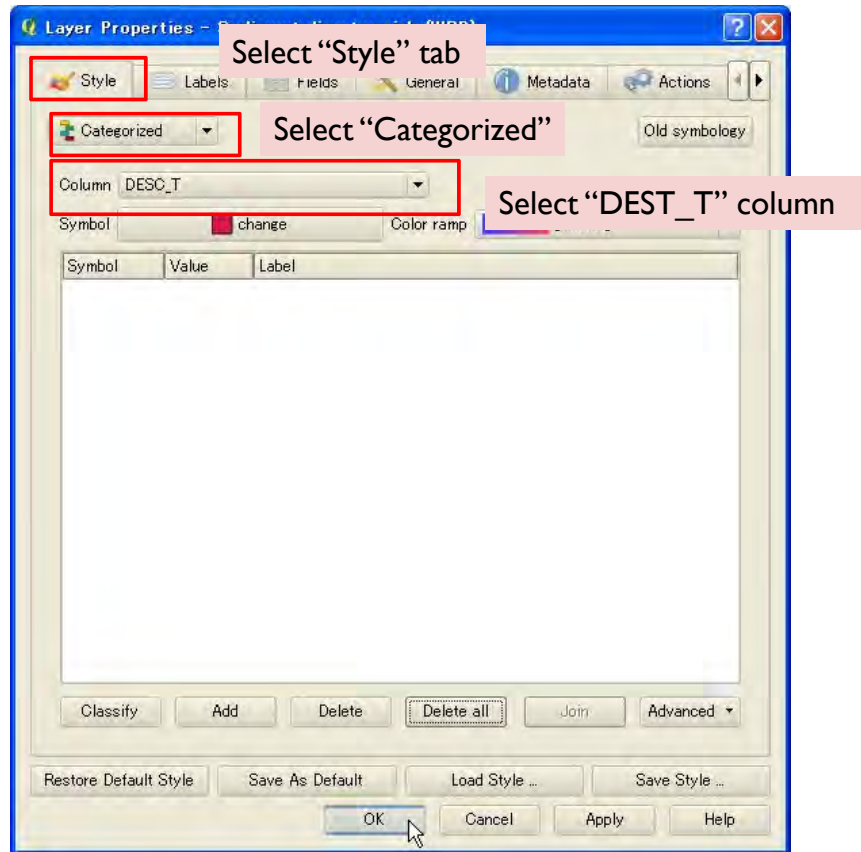
Select "Properties"



Make color settings

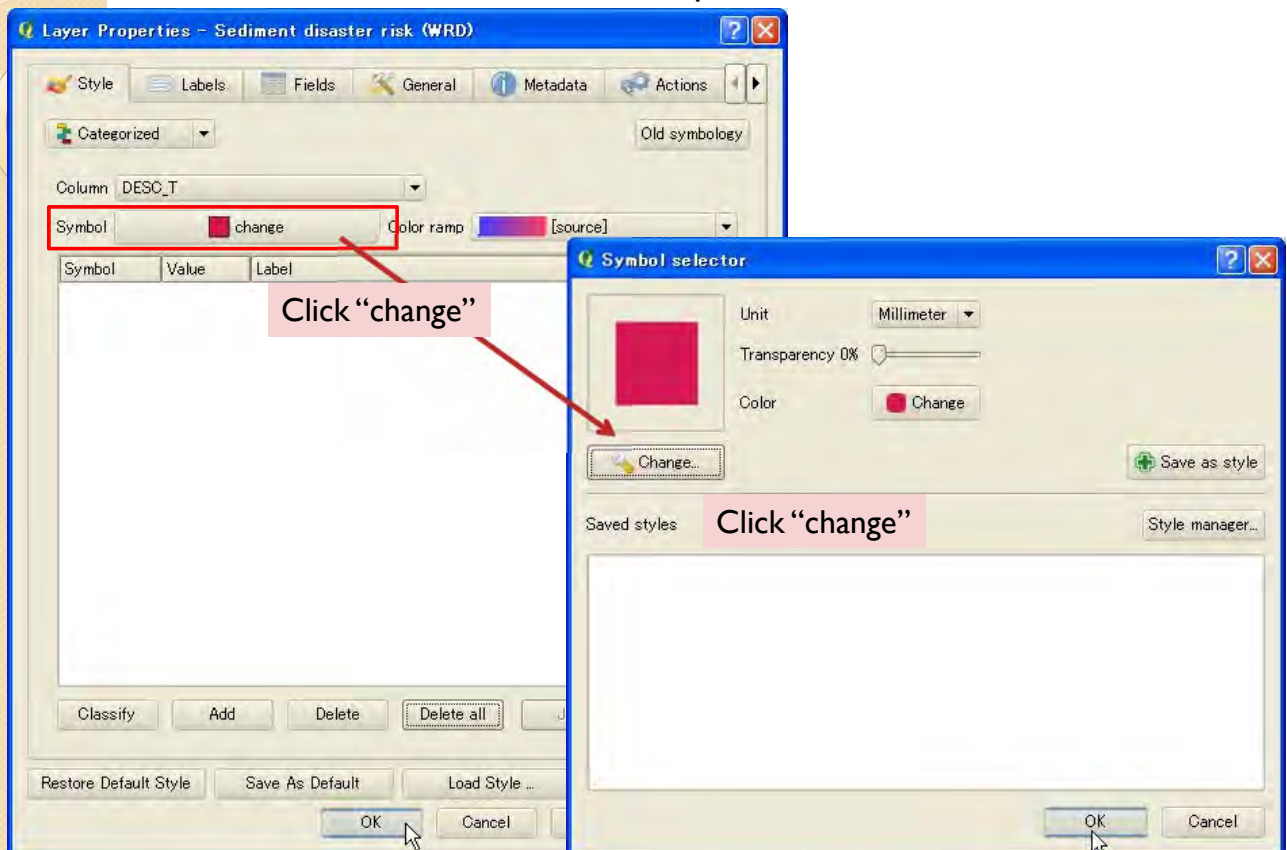
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



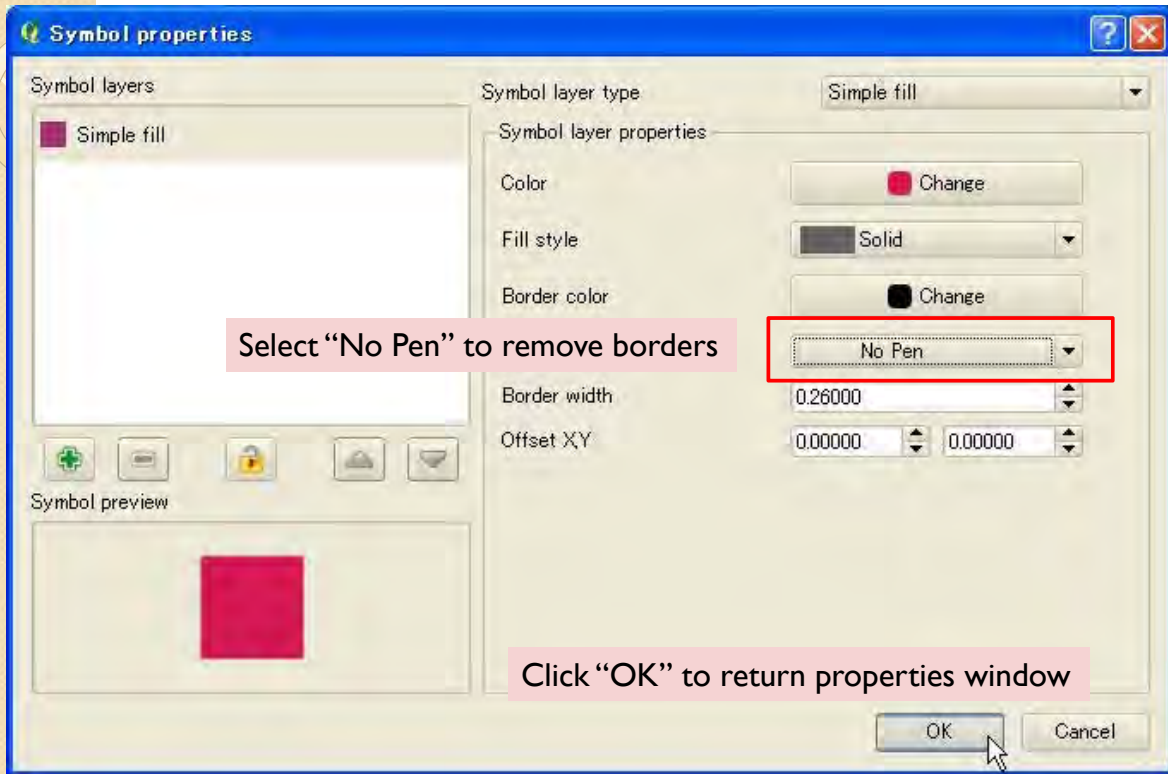
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



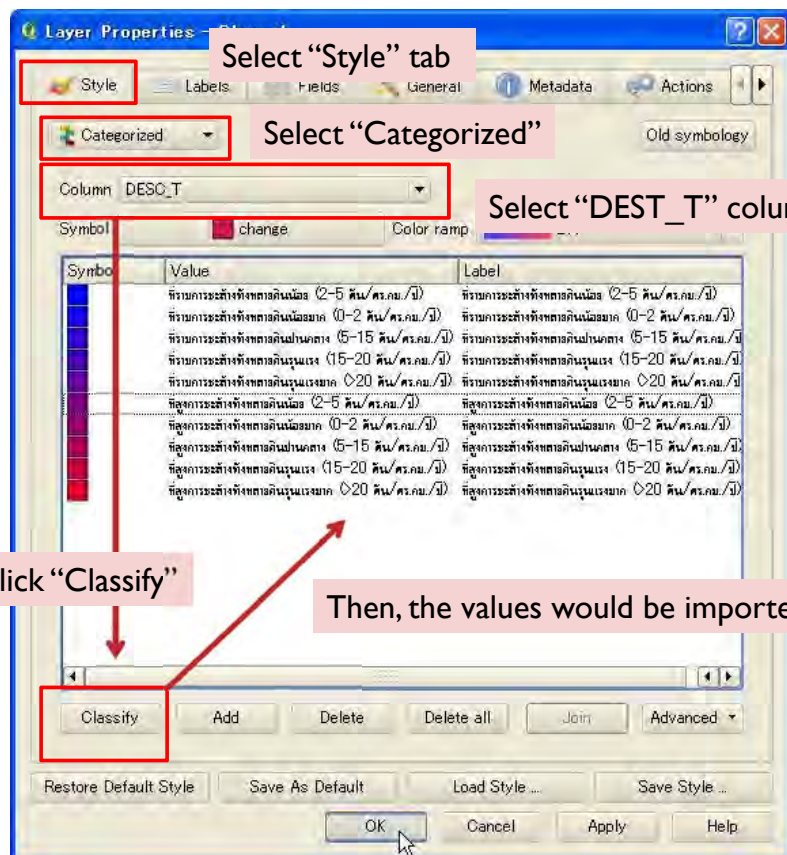
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



### 3. Making Inventory Maps

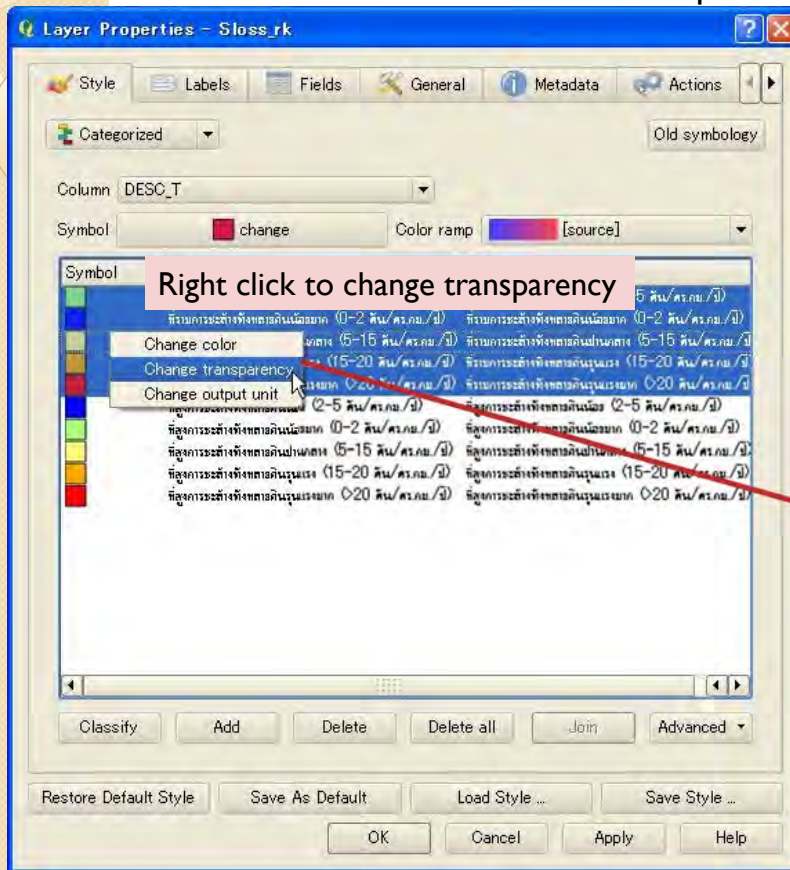
#### 3.5.5 Sediment disaster risk area map





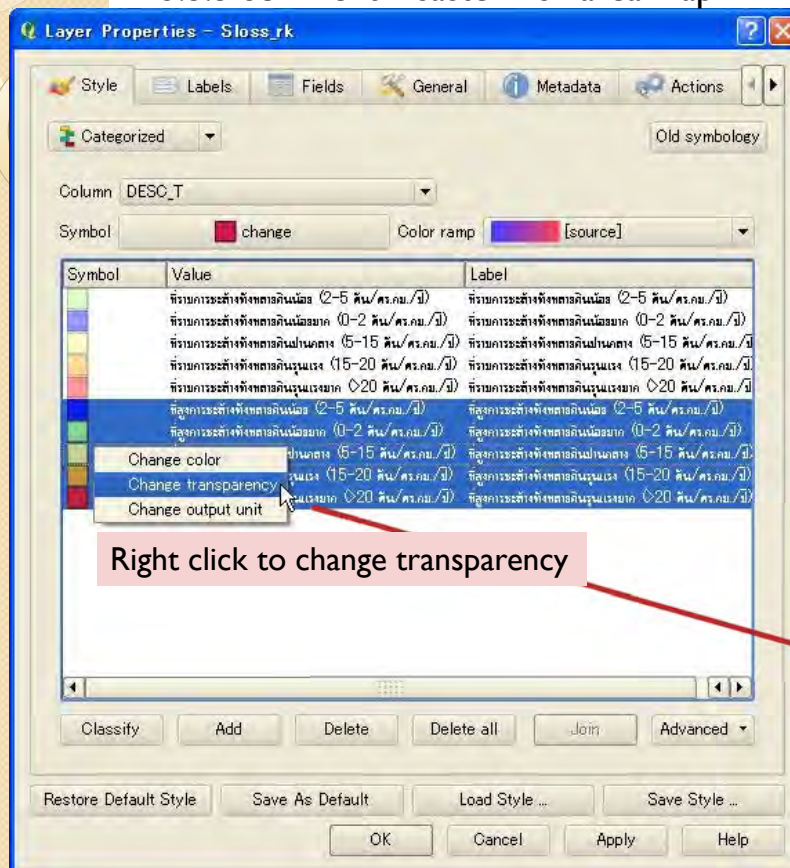
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



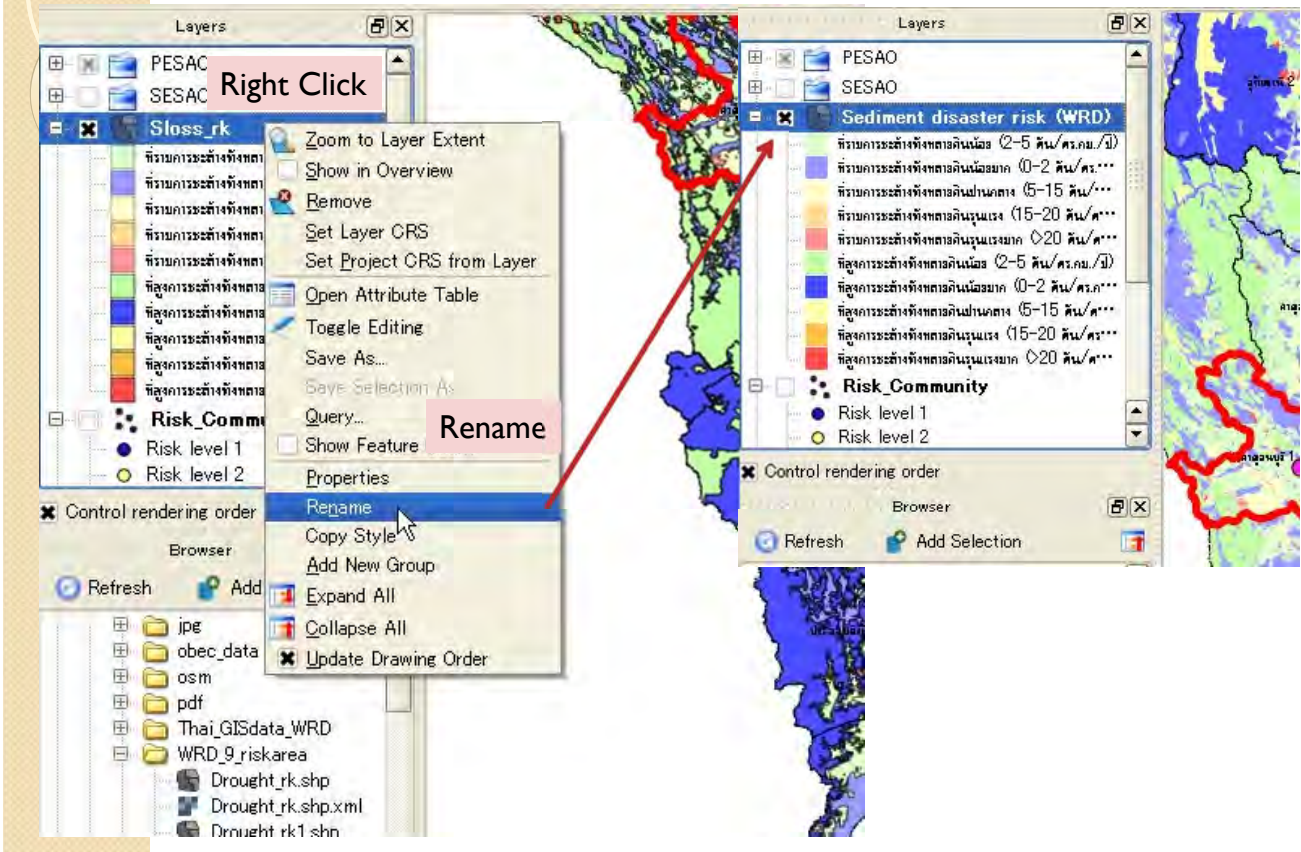
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



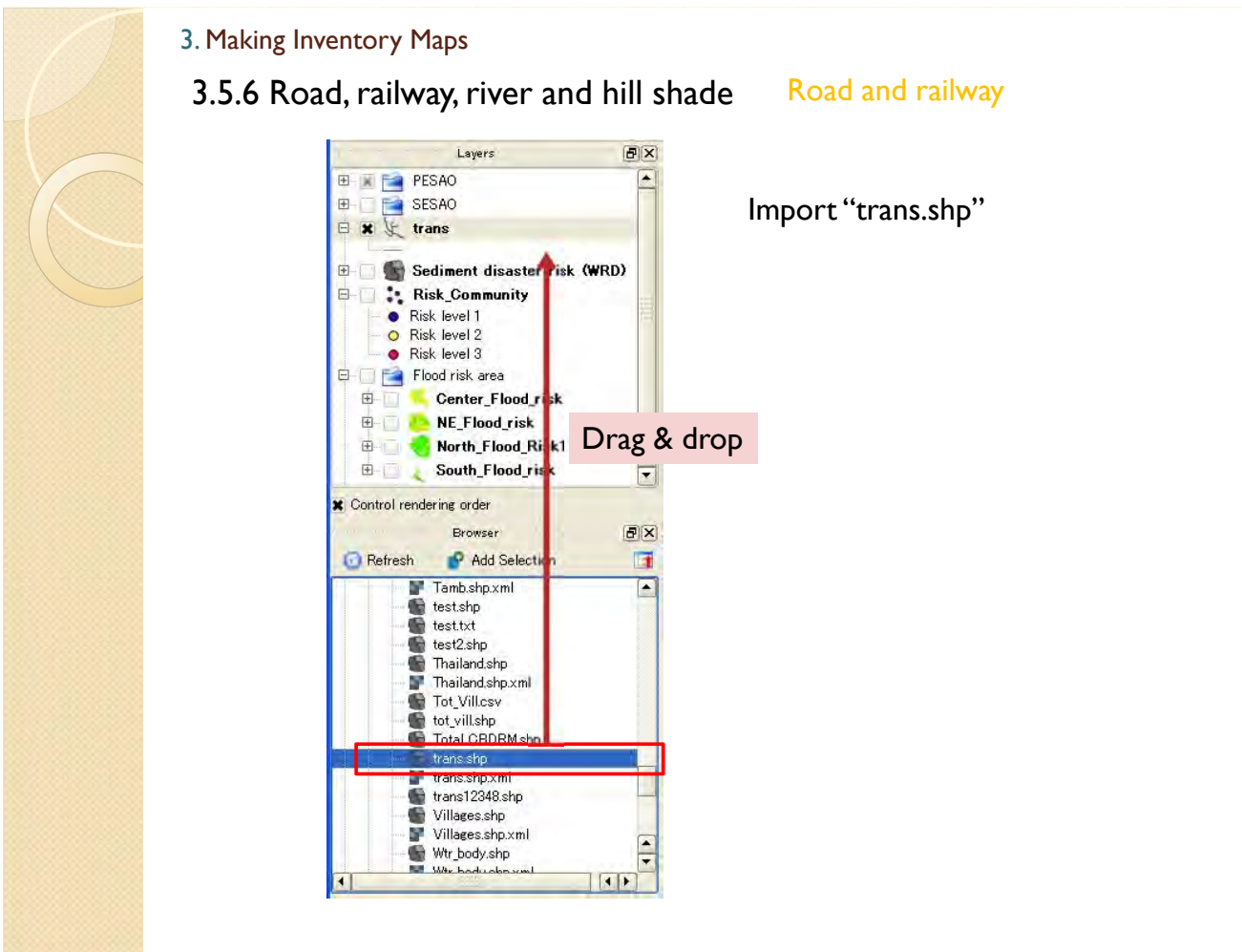
### 3. Making Inventory Maps

#### 3.5.5 Sediment disaster risk area map



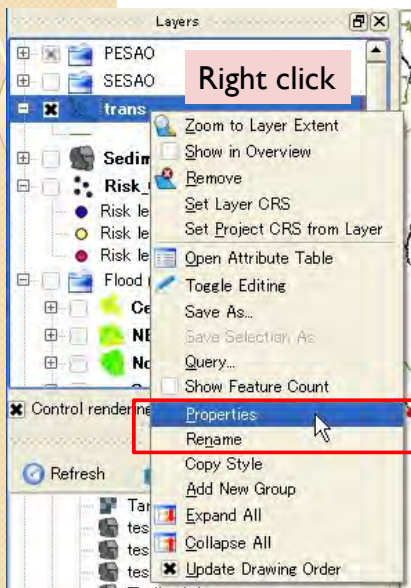
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Road and railway

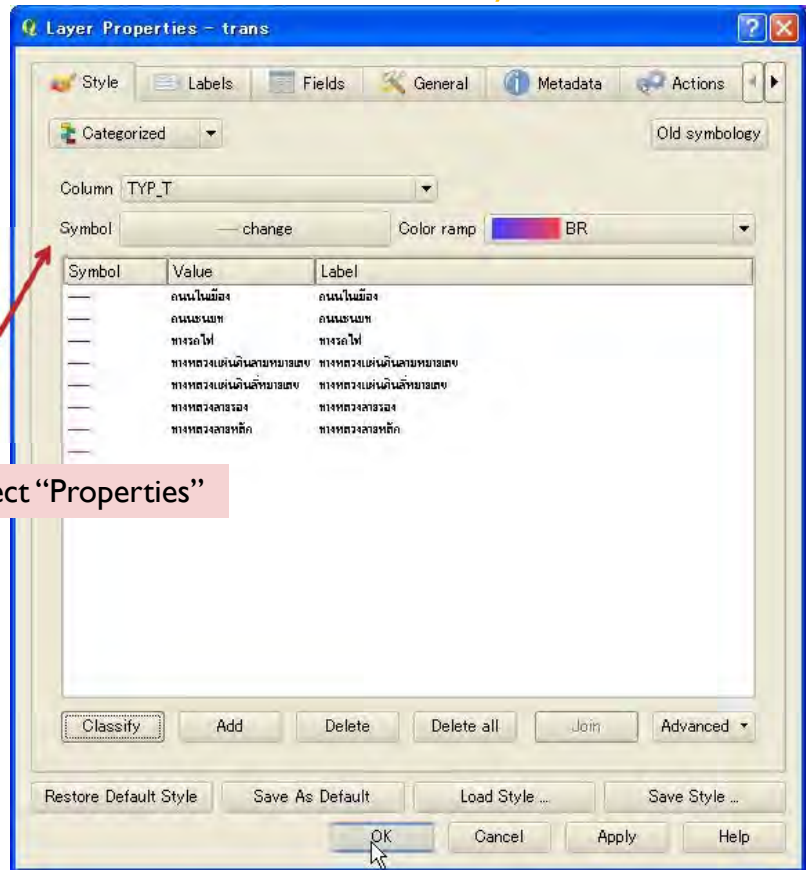


### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Road and railway



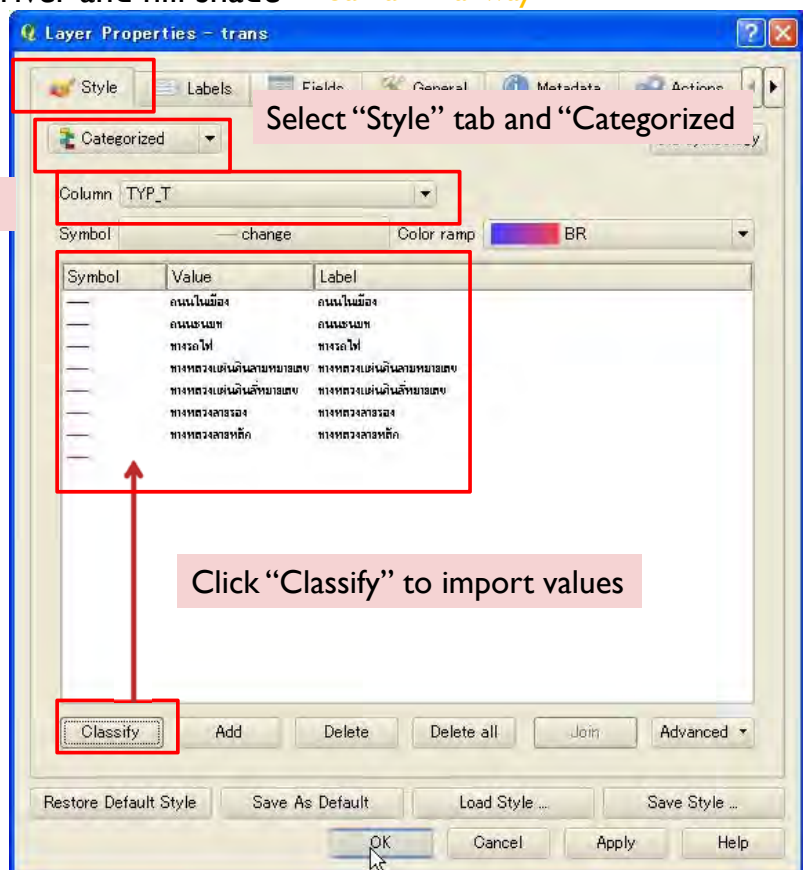
Select "Properties"



### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Road and railway

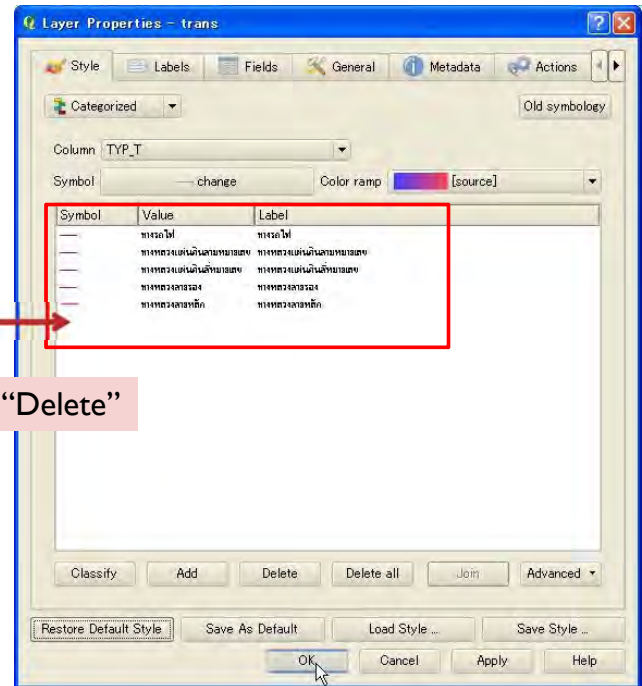
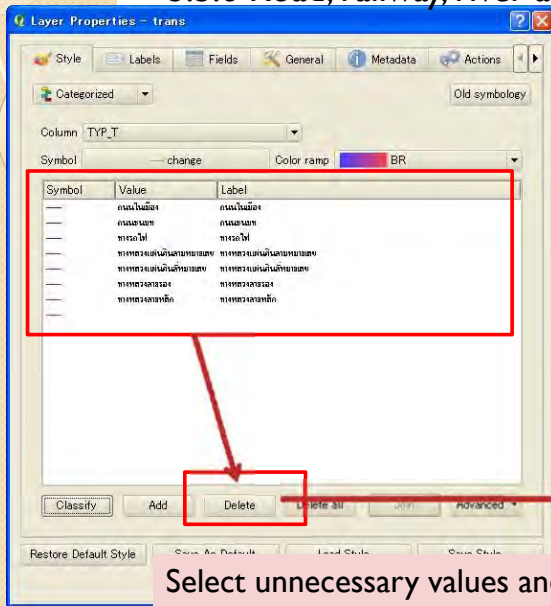
Select "TYP\_T" column





### 3. Making Inventory Maps

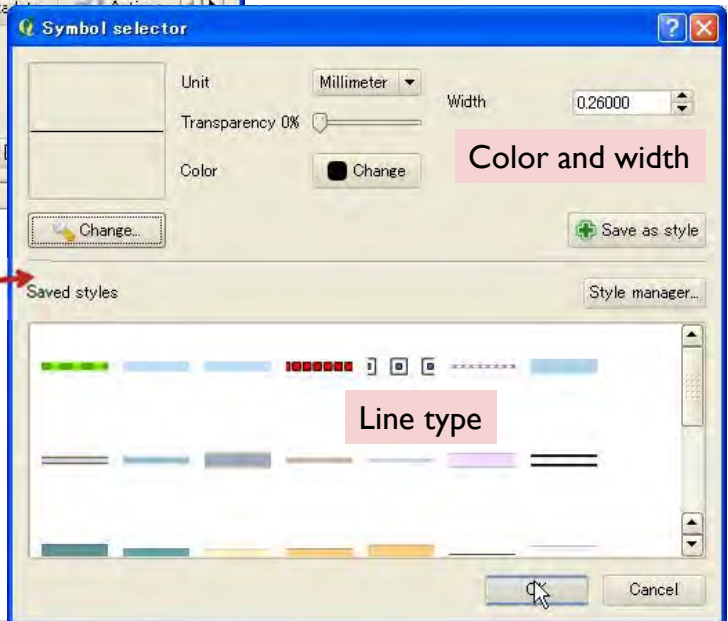
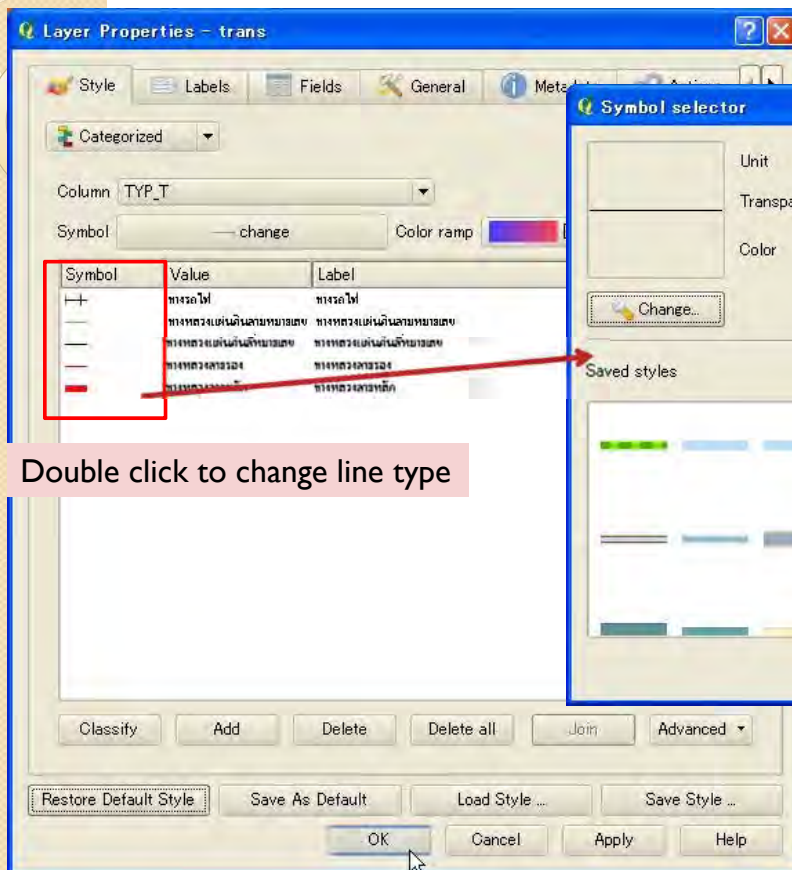
#### 3.5.6 Road, railway, river and hill shade Road and railway



Select unnecessary values and click "Delete"

### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Road and railway

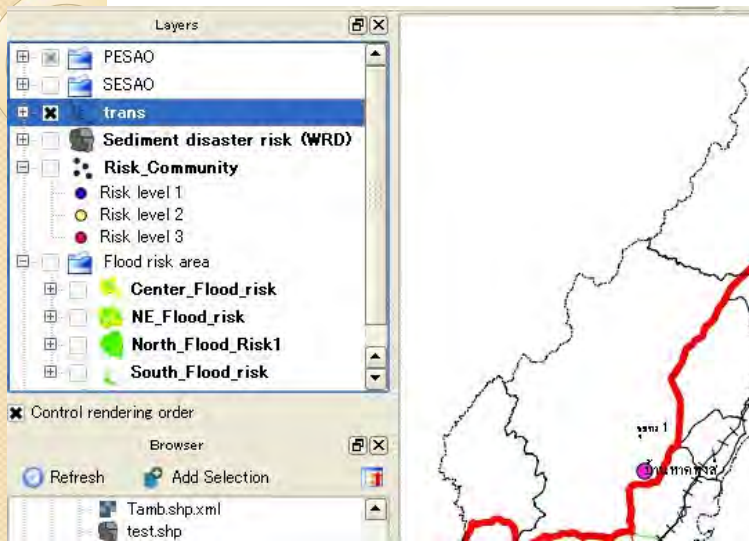


Double click to change line type

Line type

### 3. Making Inventory Maps

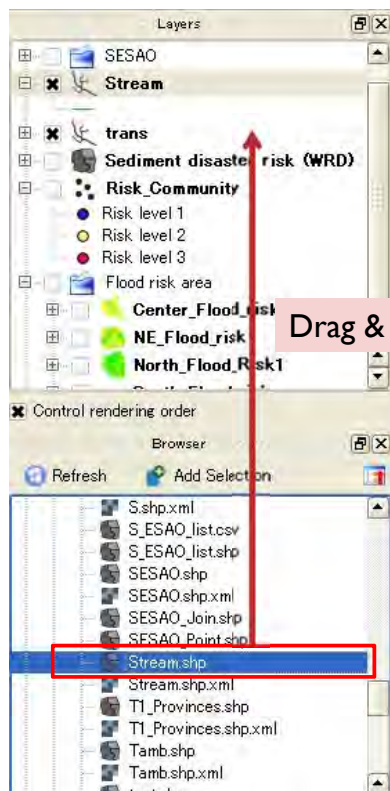
#### 3.5.6 Road, railway, river and hill shade **Road and railway**



Then, you can see transportation map

### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade **River**

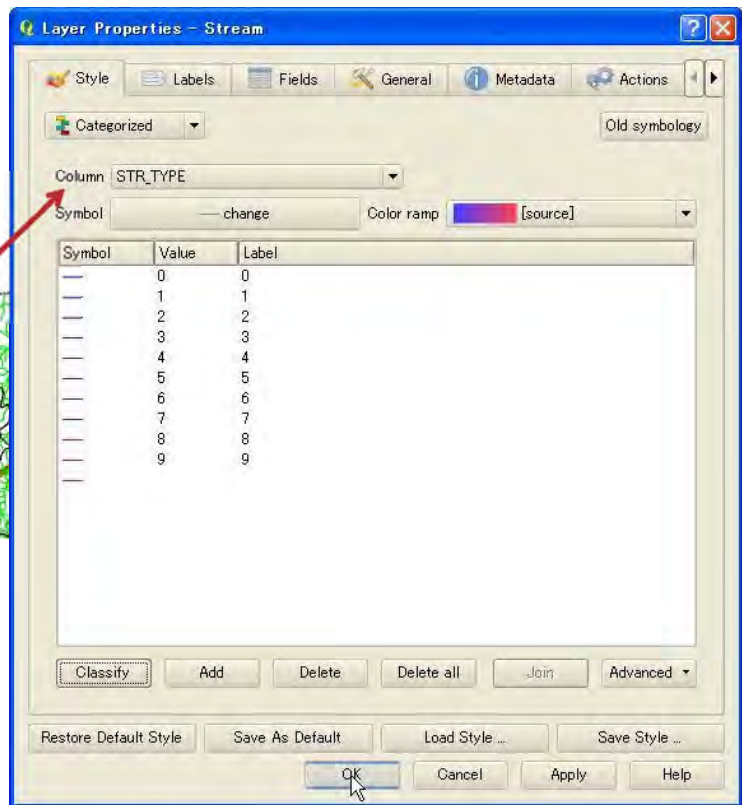
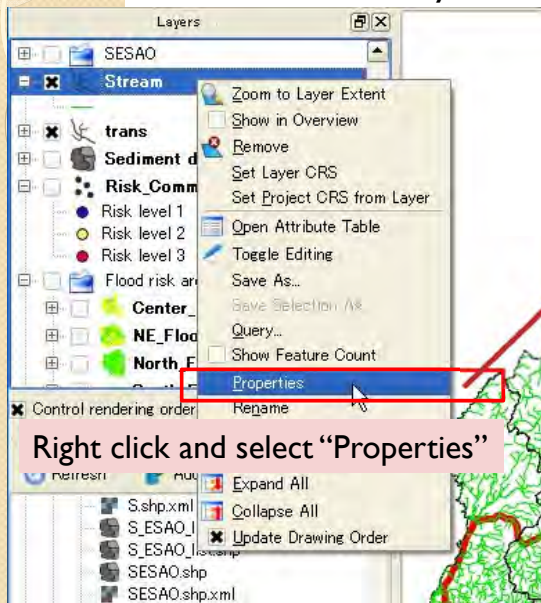


Import "Stream.shp"

Drag & drop

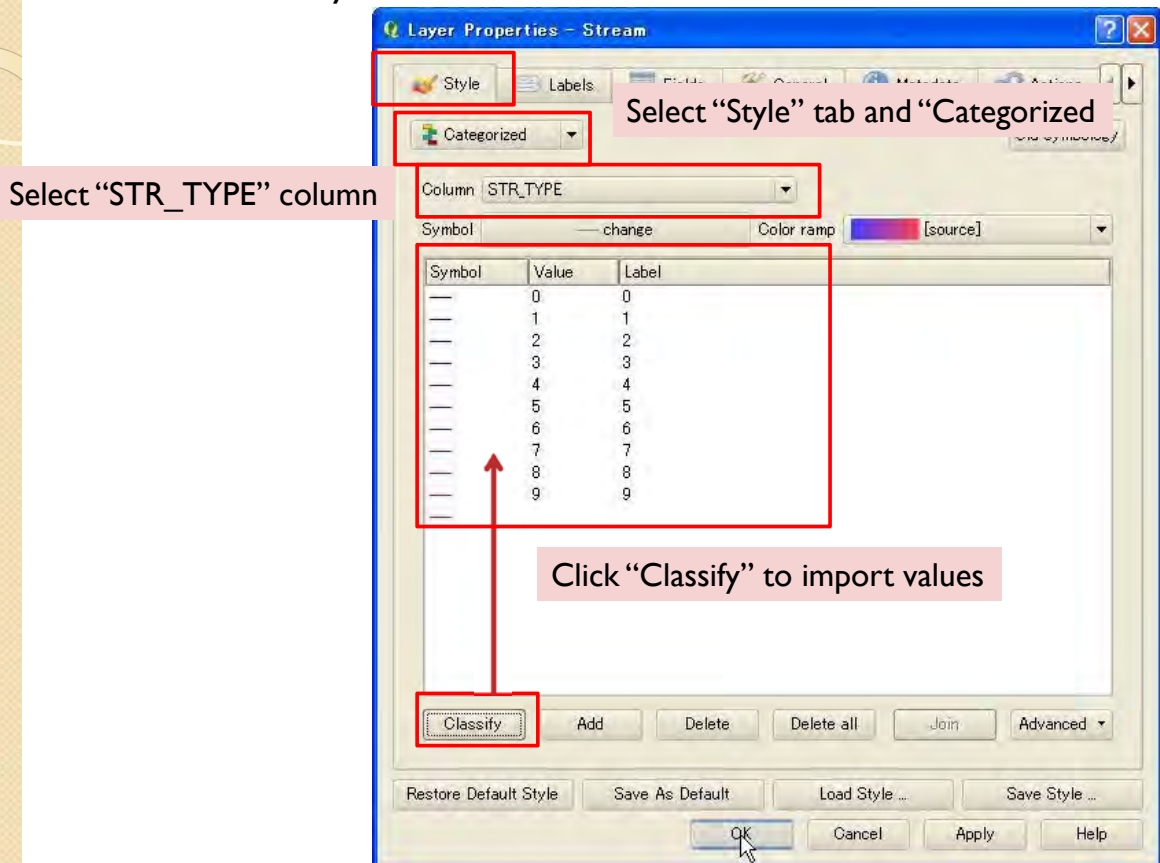
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade River



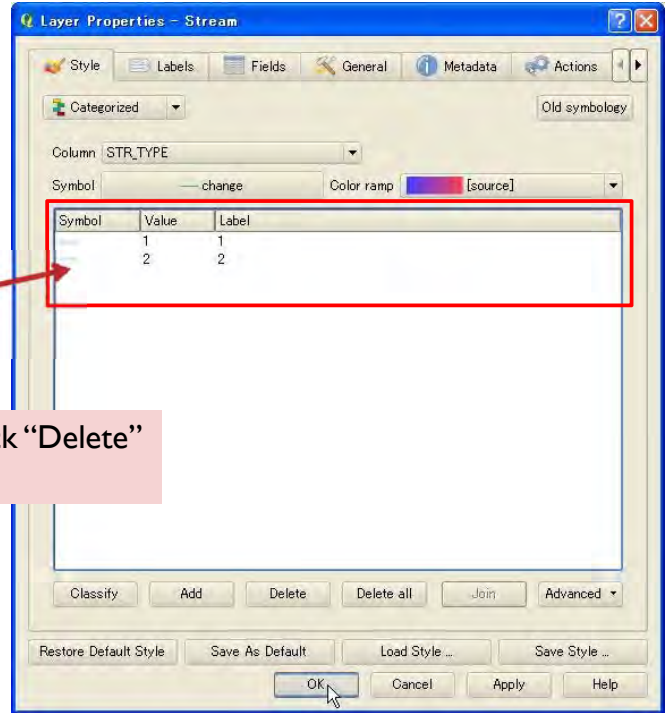
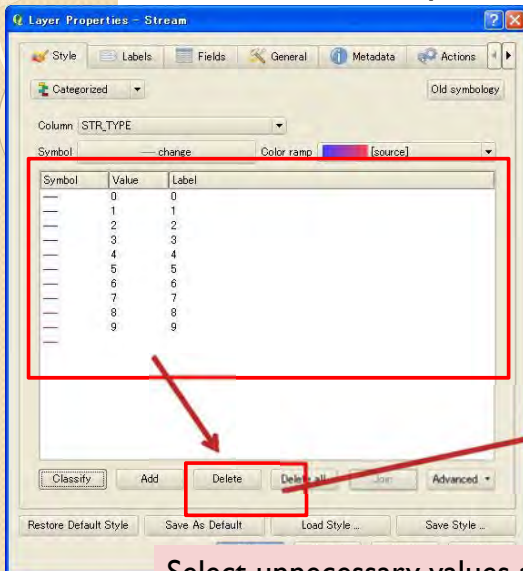
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade River



### 3. Making Inventory Maps

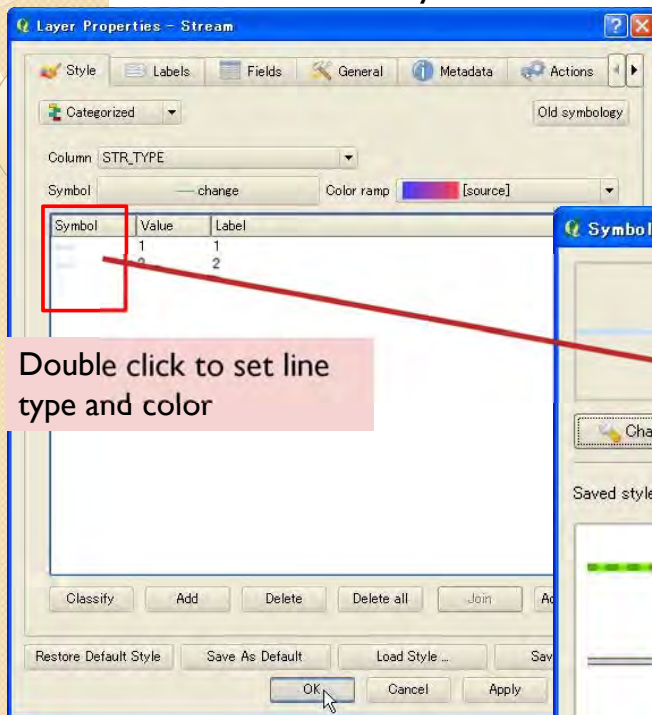
#### 3.5.6 Road, railway, river and hill shade River



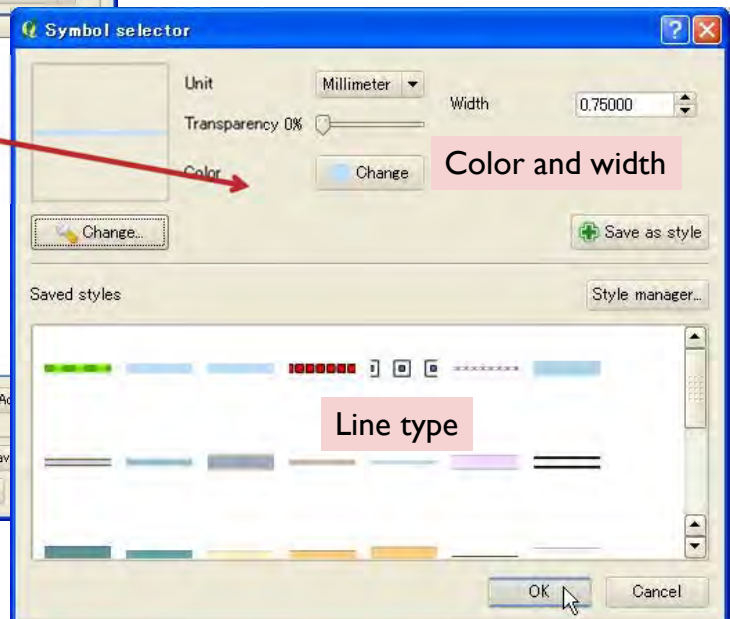
Select unnecessary values and click "Delete"  
("1" and "2" are major rivers)

### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade River

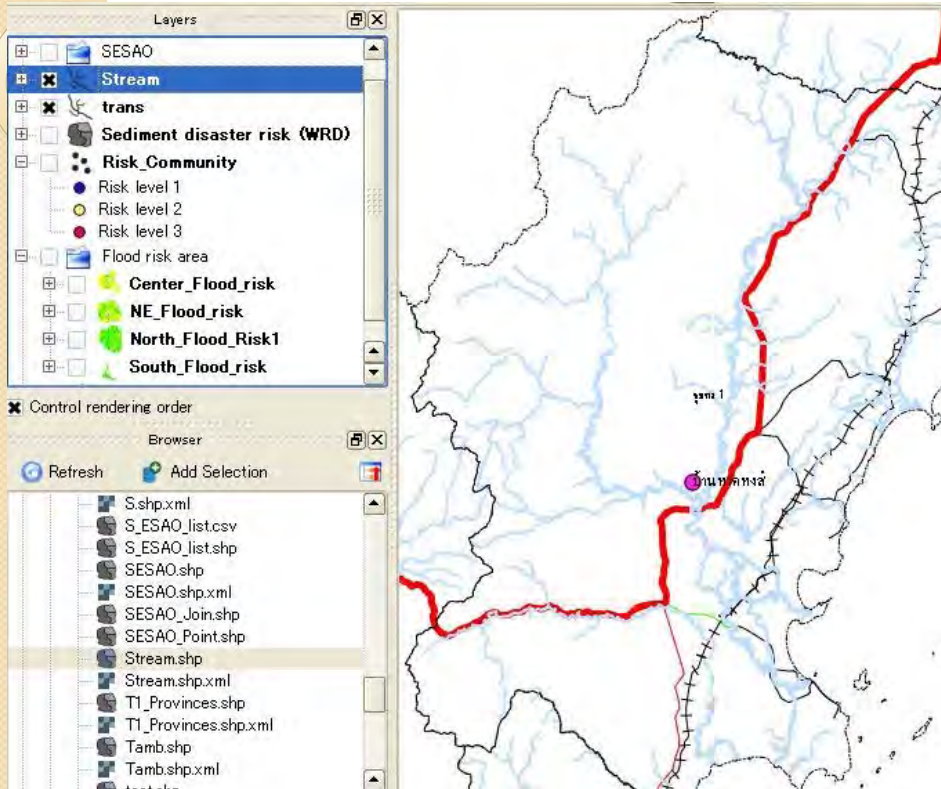


Double click to set line  
type and color



### 3. Making Inventory Maps

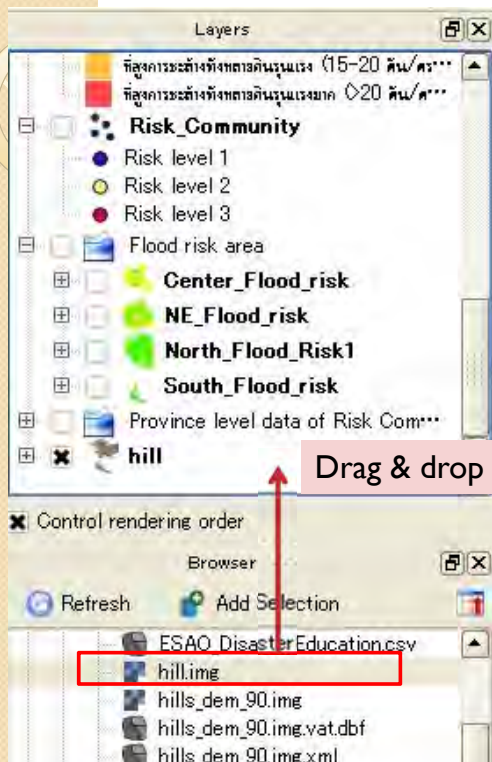
#### 3.5.6 Road, railway, river and hill shade **River**



Then, river map is displayed.

### 3. Making Inventory Maps

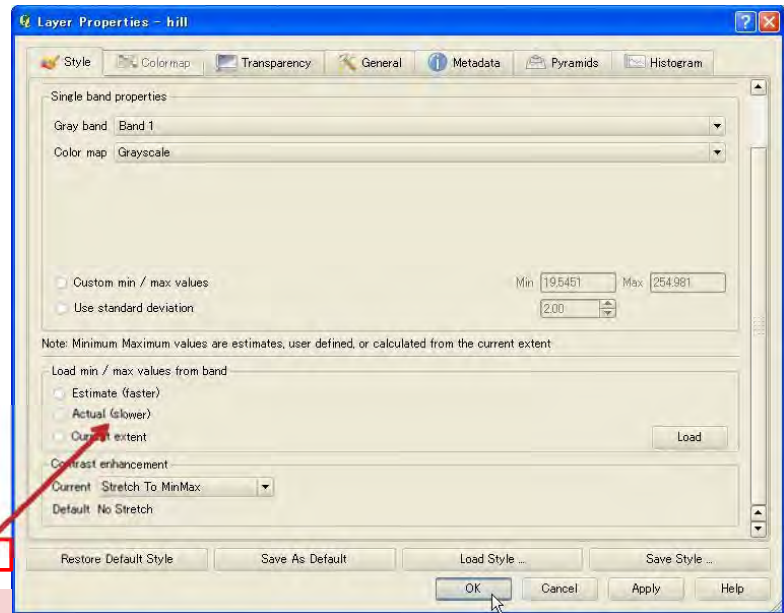
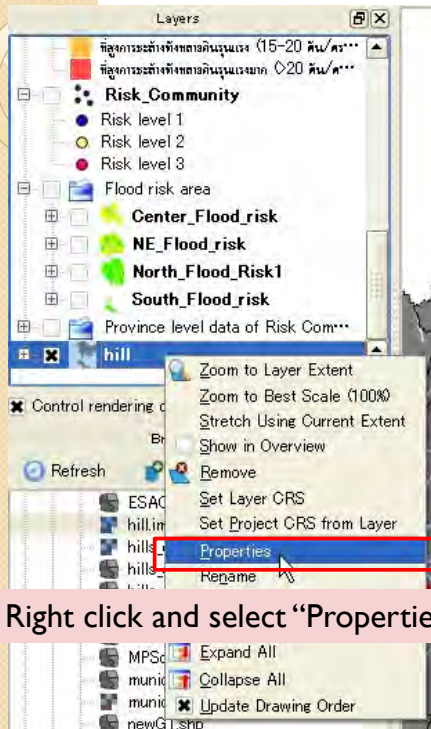
#### 3.5.6 Road, railway, river and hill shade **Hill shade**



Import "hill.img"

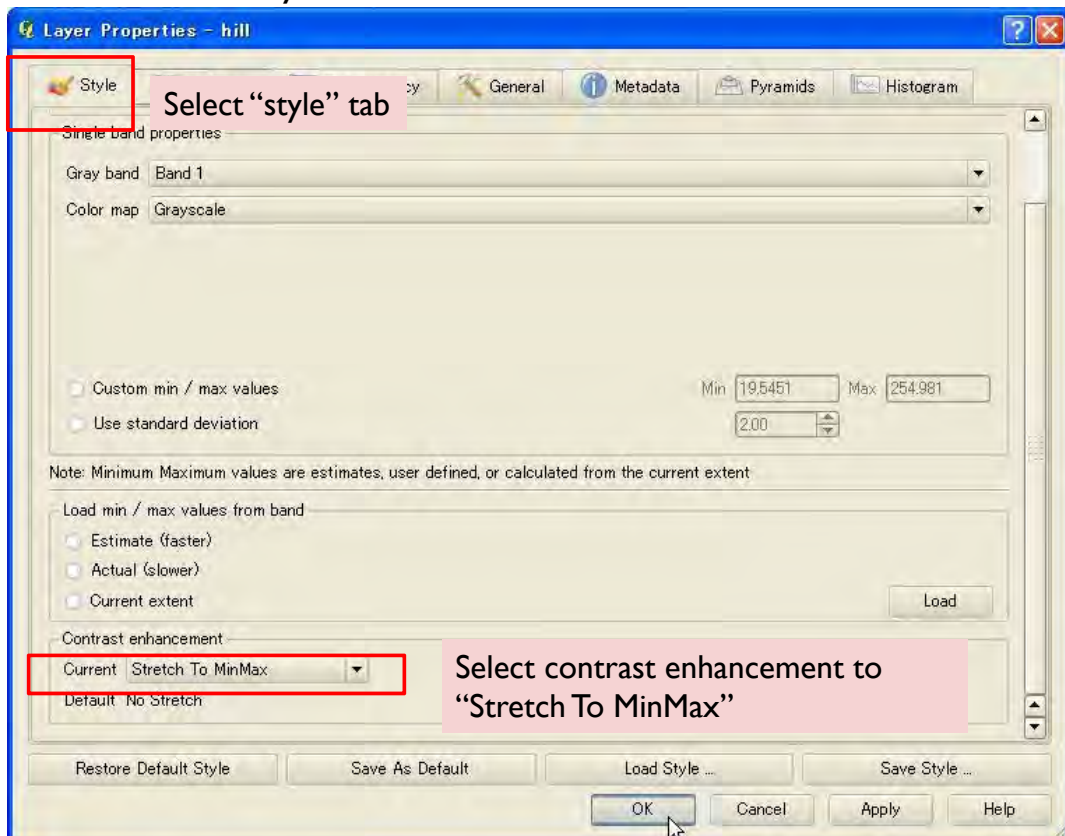
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Hill shade



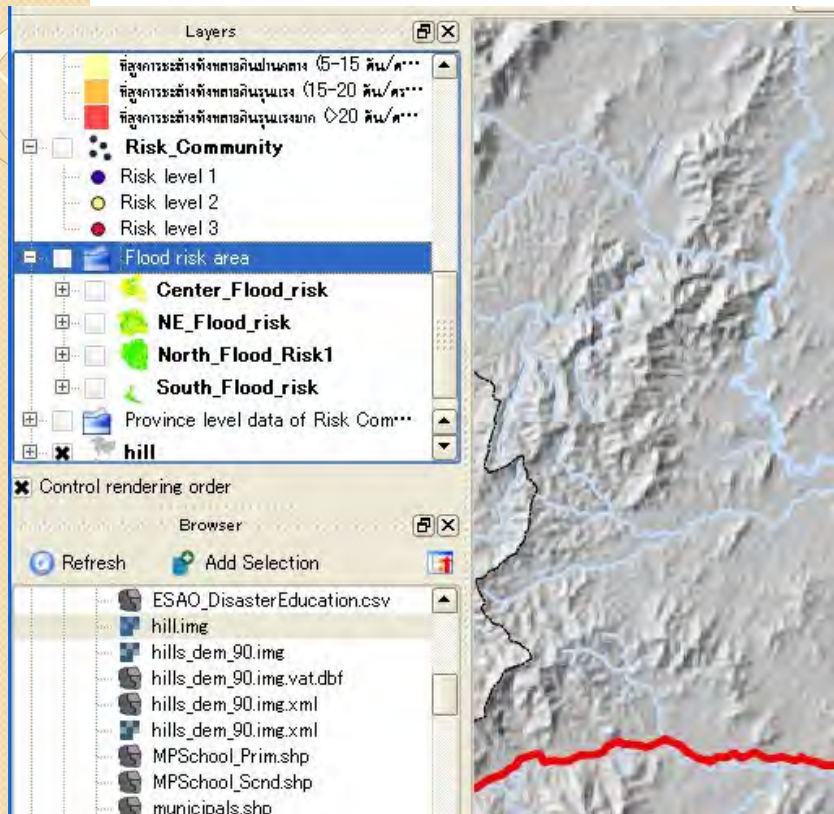
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade Hill shade



### 3. Making Inventory Maps

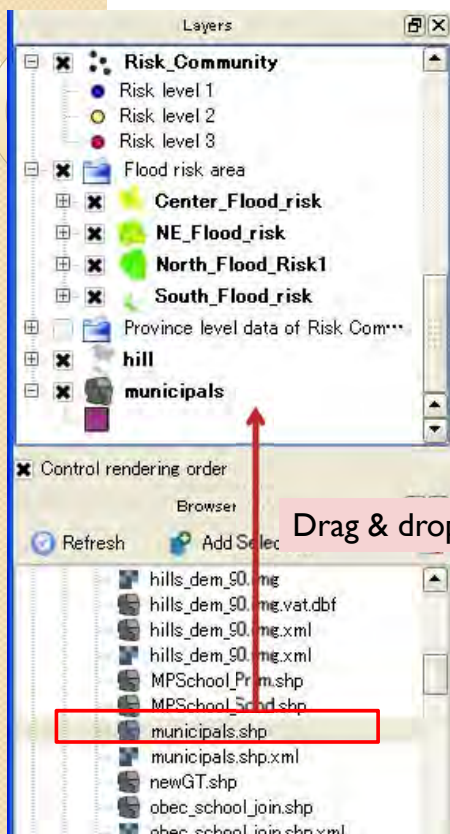
#### 3.5.6 Road, railway, river and hill shade Hill shade



Then, you can display hill shade.

### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade City labels

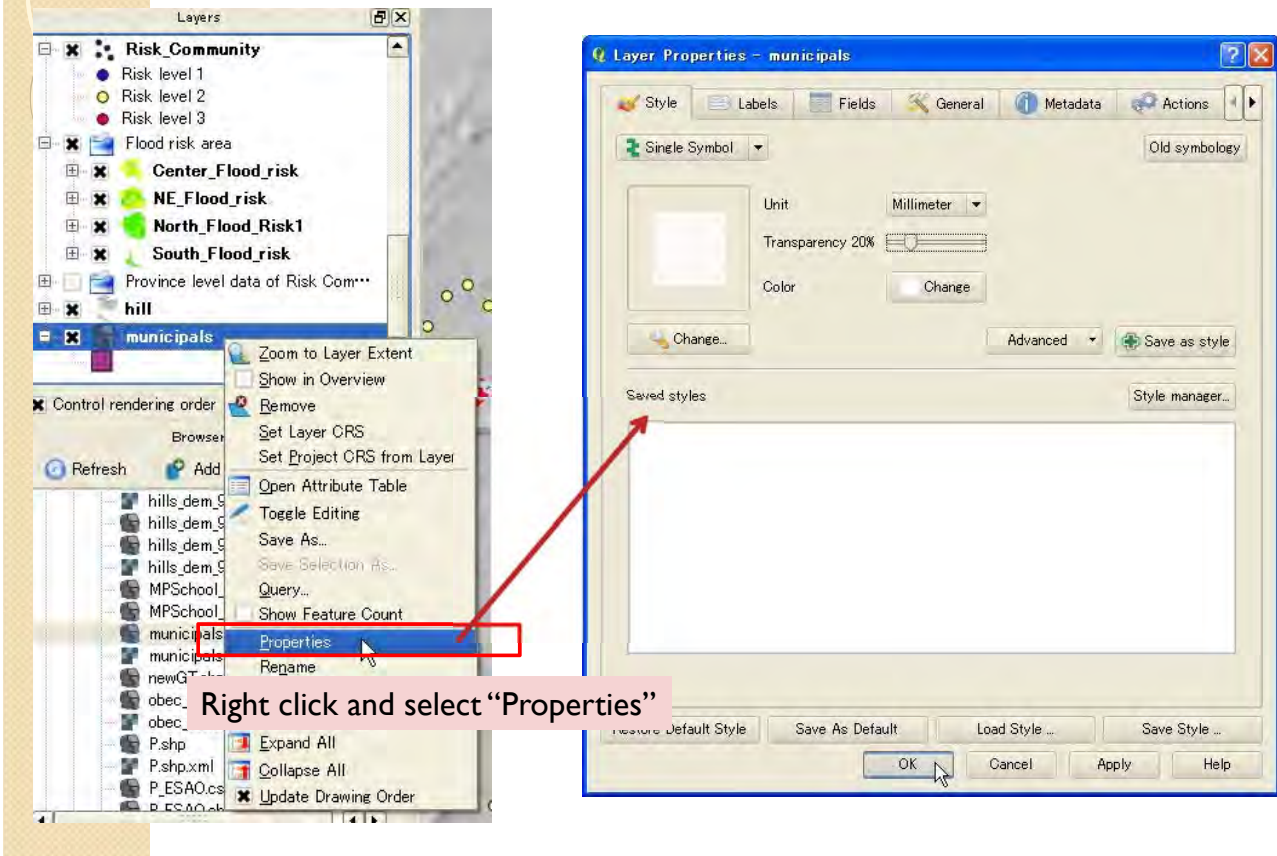


Import "municipals.shp"

Drag & drop

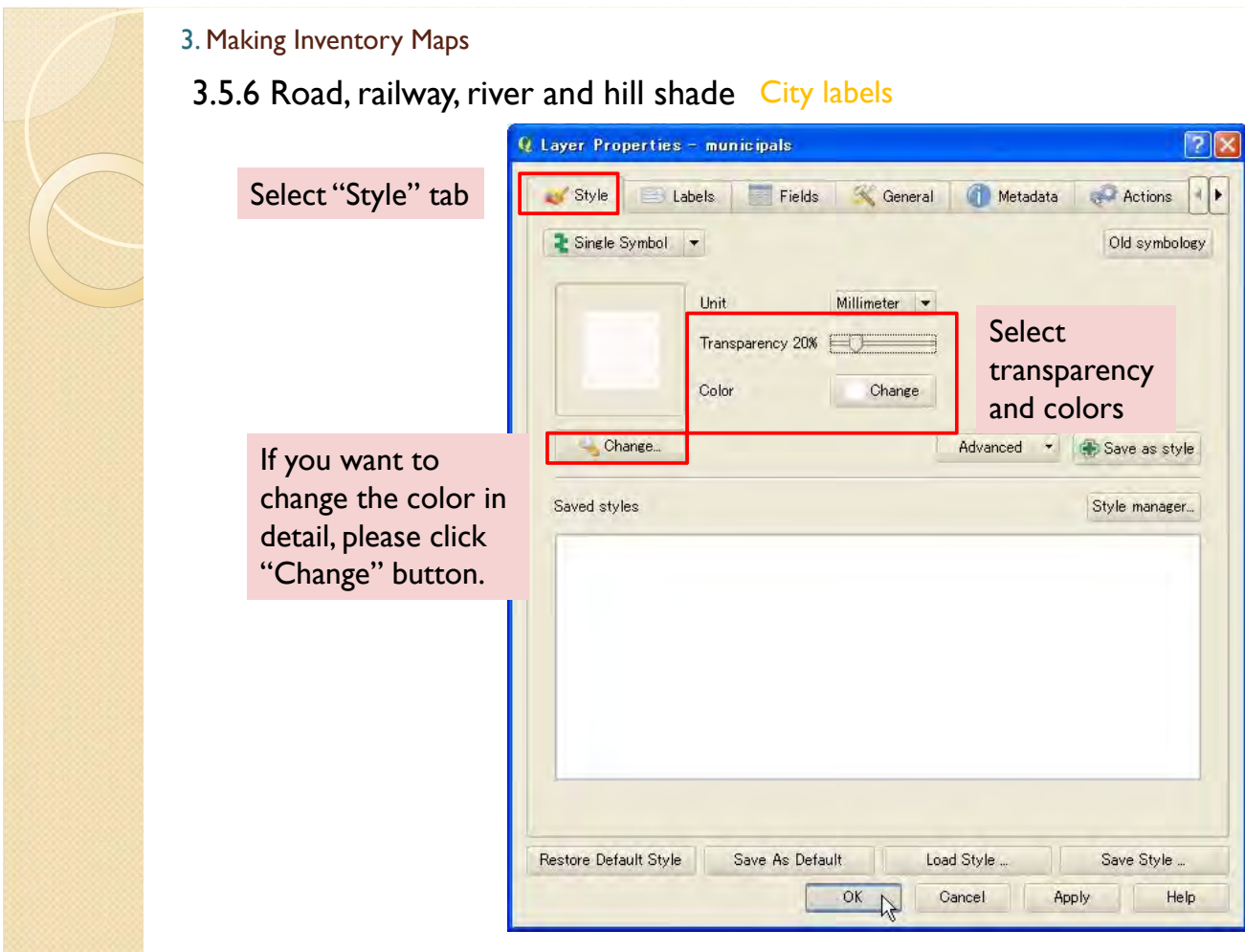
### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade City labels



### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade City labels



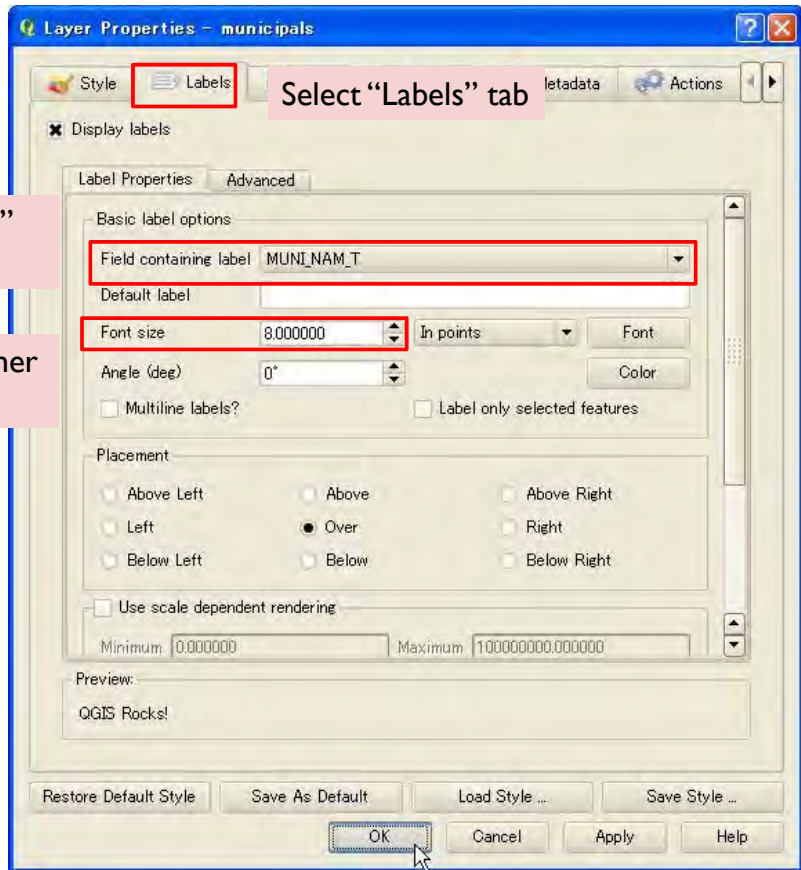


### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade City labels

Select "MUNI\_NAM\_T"  
column to display

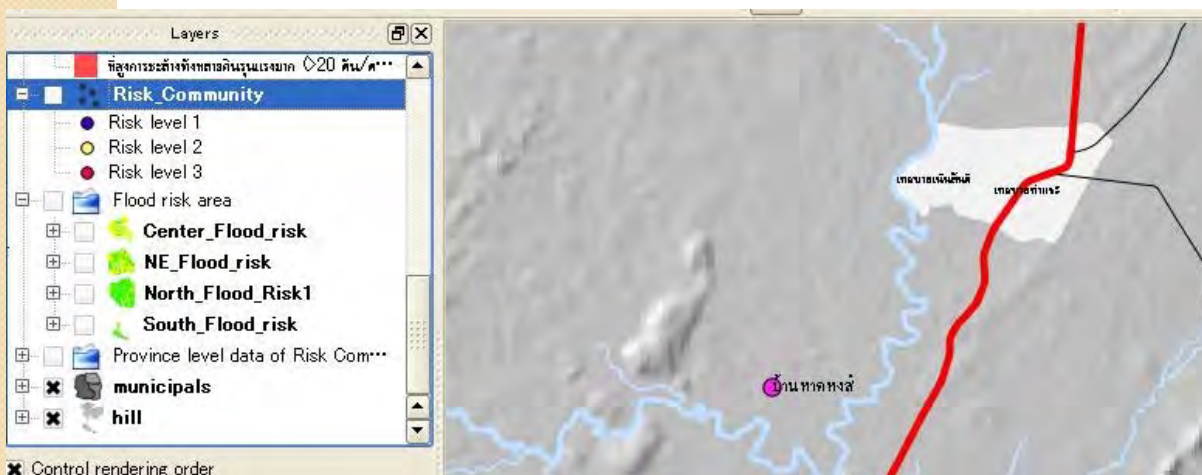
Font size and other  
settings here



### 3. Making Inventory Maps

#### 3.5.6 Road, railway, river and hill shade City labels

Then you can see cities.

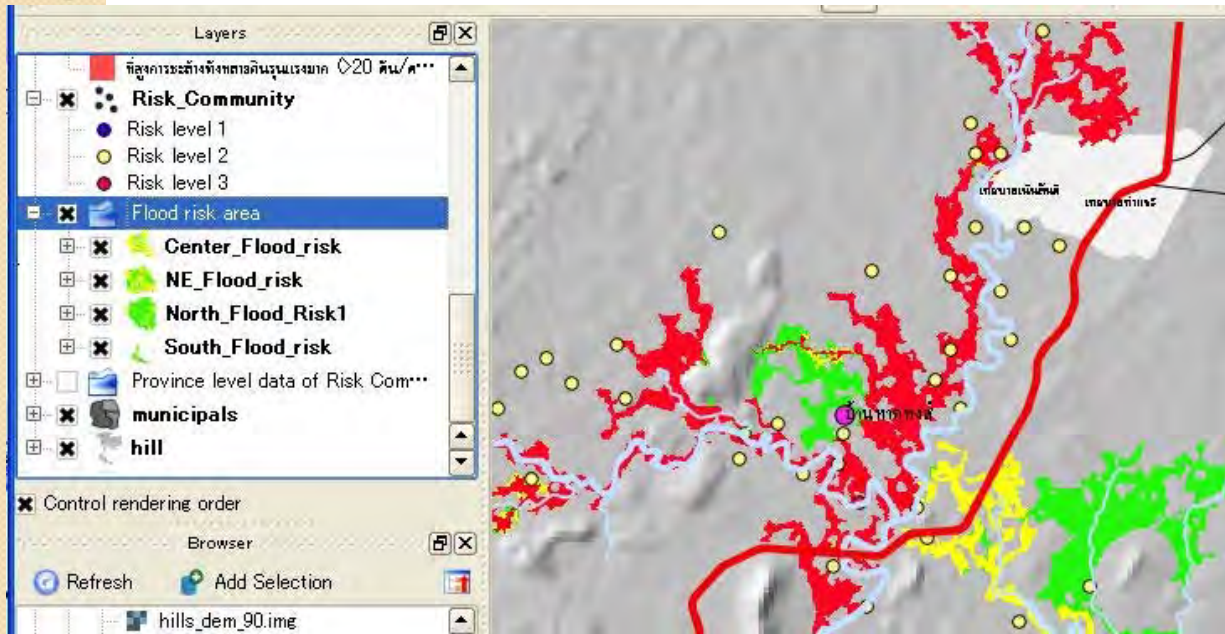


### 3. Making Inventory Maps

#### 3.5.7 Change order and display

You can change display order and layers.

The following example shows risk communities and flood risk area with pilot school. Such information is useful to understand risk area distribution and to make decision about disaster education action plan and pilot/model site.

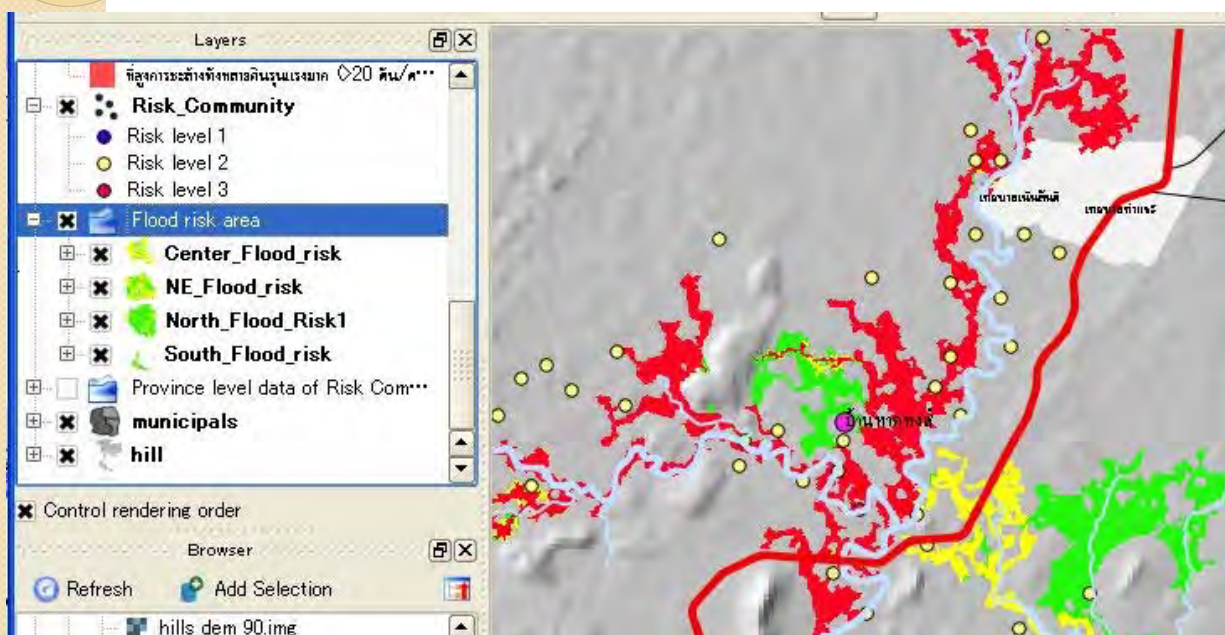


### 3. Making Inventory Maps

#### 3.5.7 Change order and display

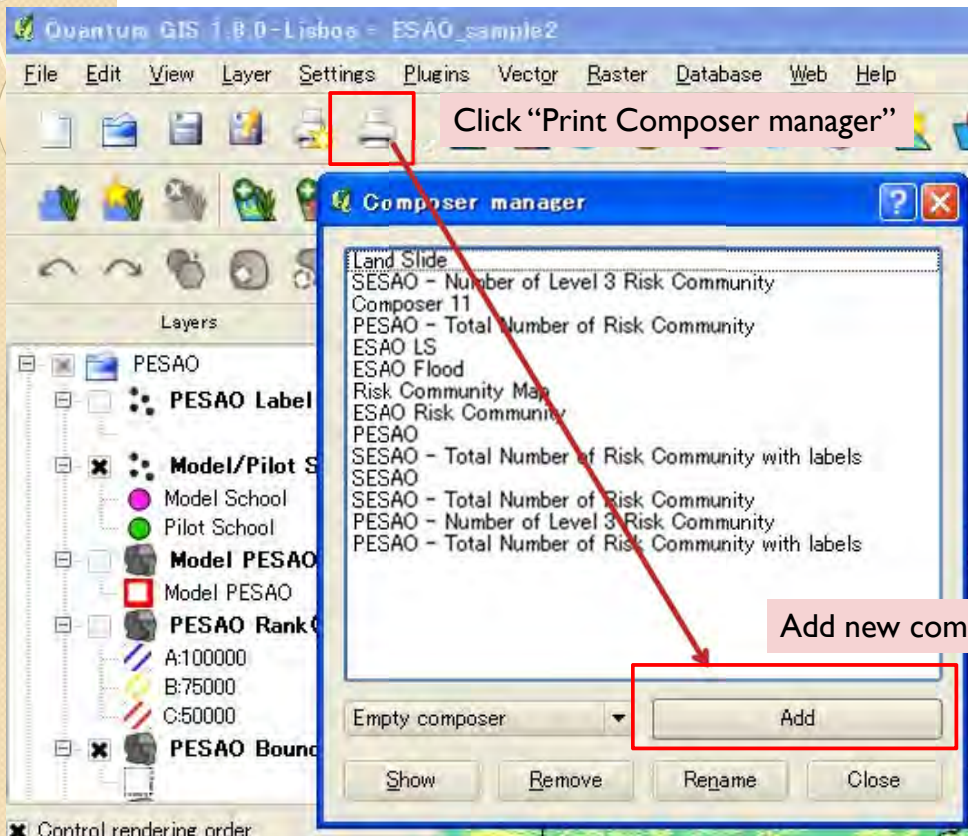
Note: These information is one of indicators for disaster risk. Out of the indicated risk area do not mean actual no risk area.

The data of risk community still contains any wrong and missing locations.



### 3. Making Inventory Maps

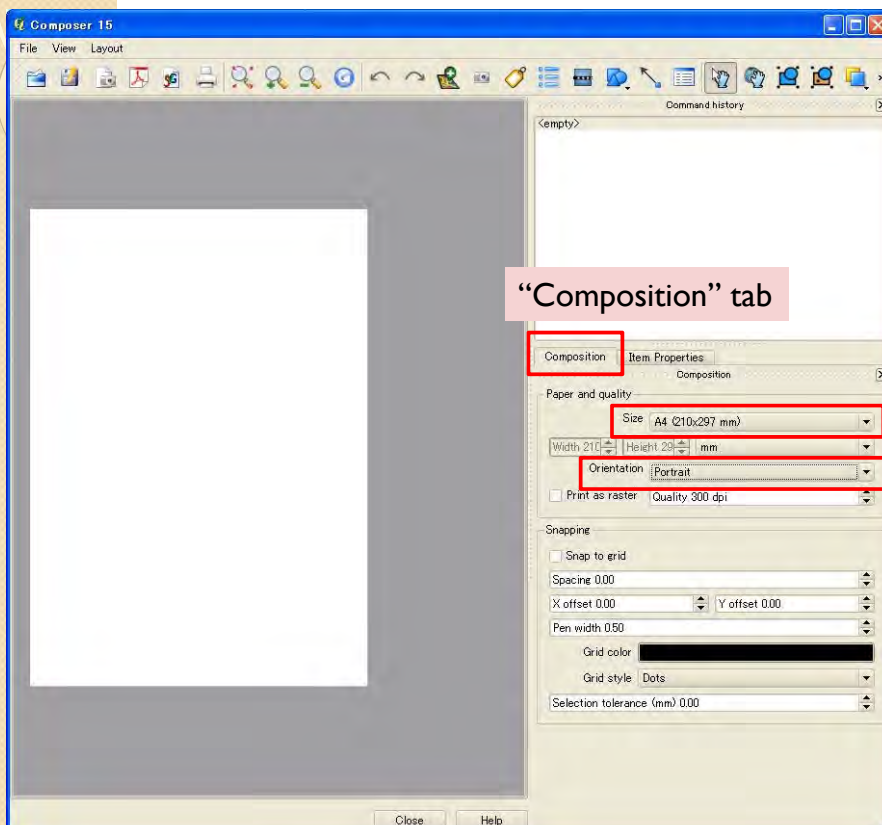
#### 3.6 Print Composer



To make image file or print map, please make "print composer".

### 3. Making Inventory Maps

#### 3.6 Print Composer



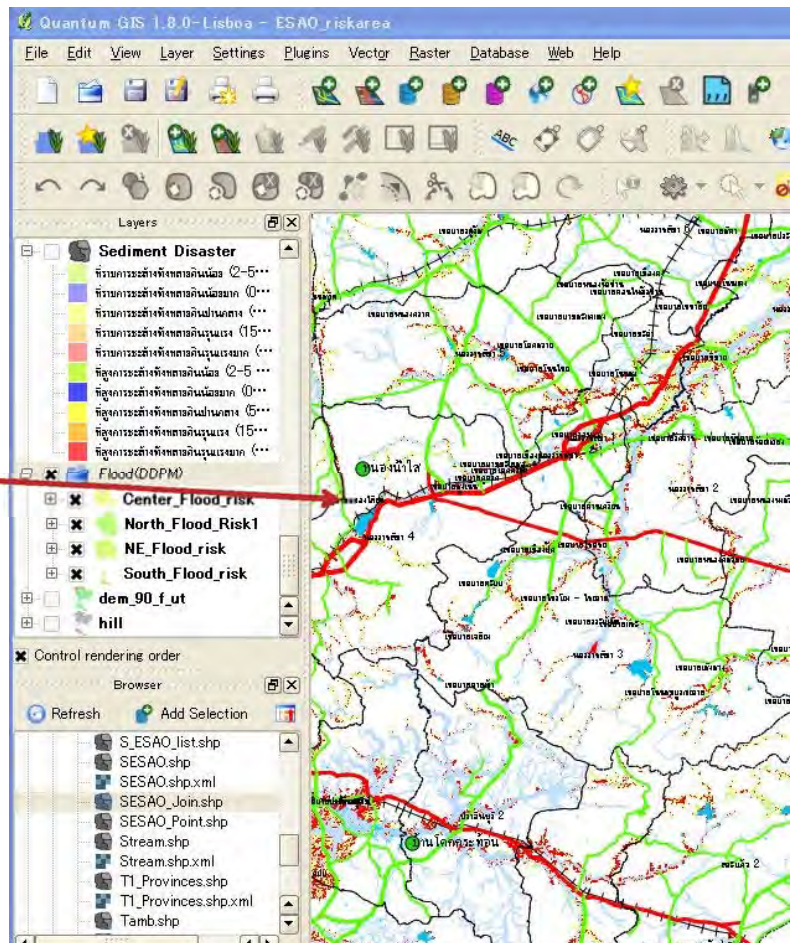
You can select size, orientation and other settings here.

### 3. Making Inventory Maps

#### 3.6 Print Composer

Before make map at print composer, you need to select layers to show in the map at main window.

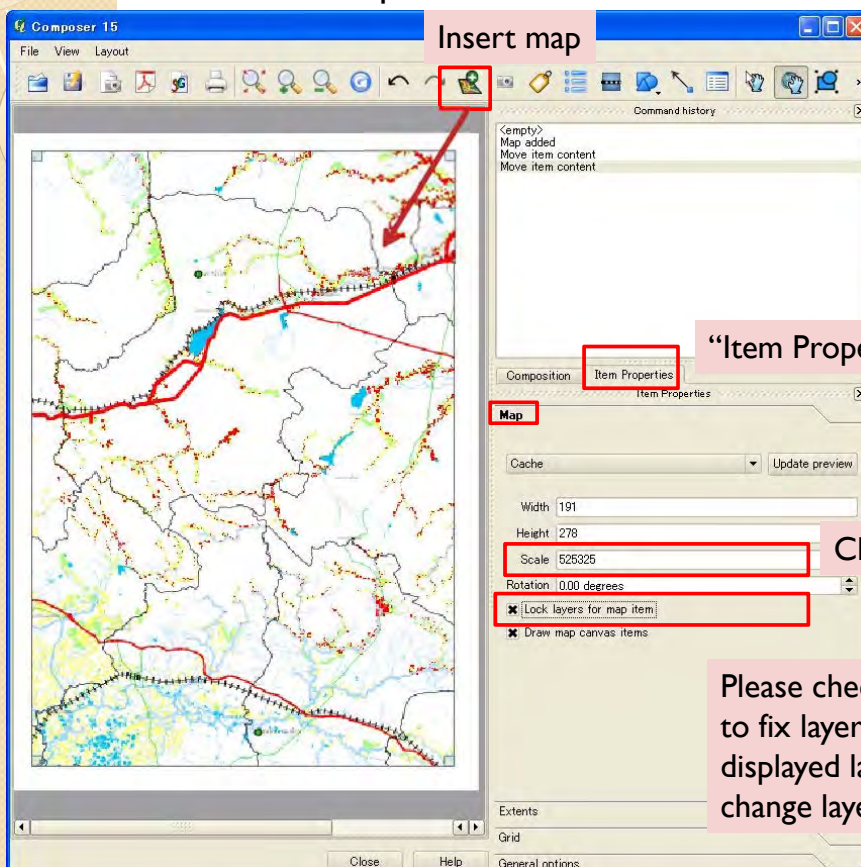
This is layer selection example for flood risk area map.



### 3. Making Inventory Maps

#### 3.6 Print Composer

After you display layers for map at main window, insert map at the print composer.



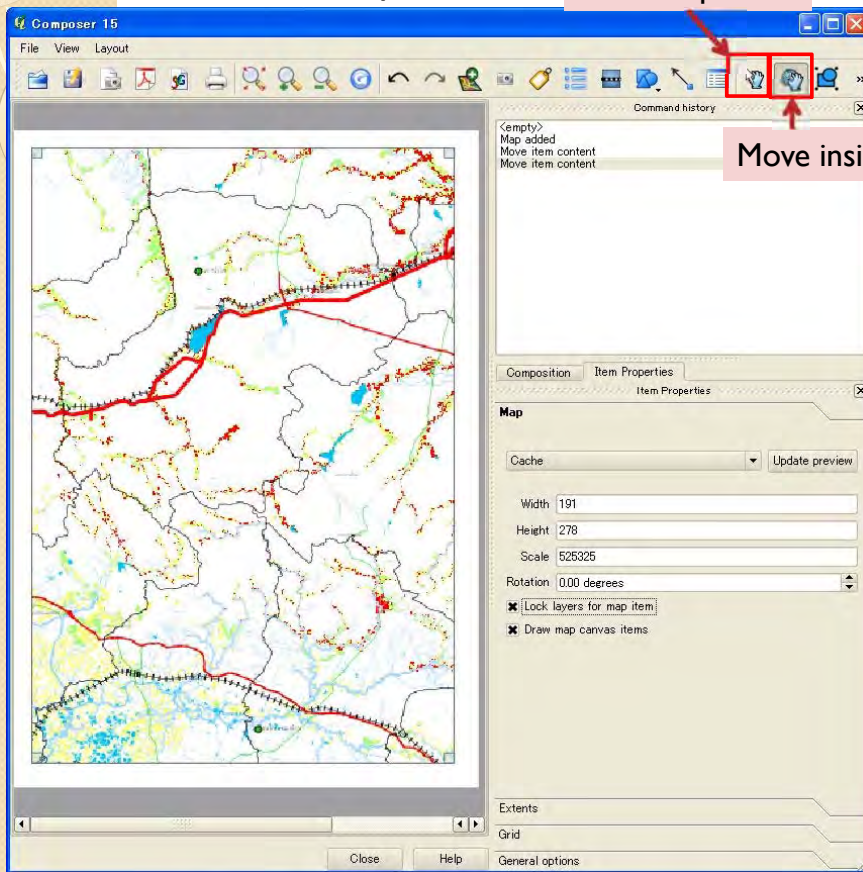
“Item Properties” and “Map” tab

Change “scale” here

Please check “Lock layers for map item” to fix layer. If you uncheck here, the displayed layer would change when you change layers in original map window.

### 3. Making Inventory Maps

#### 3.6 Print Composer



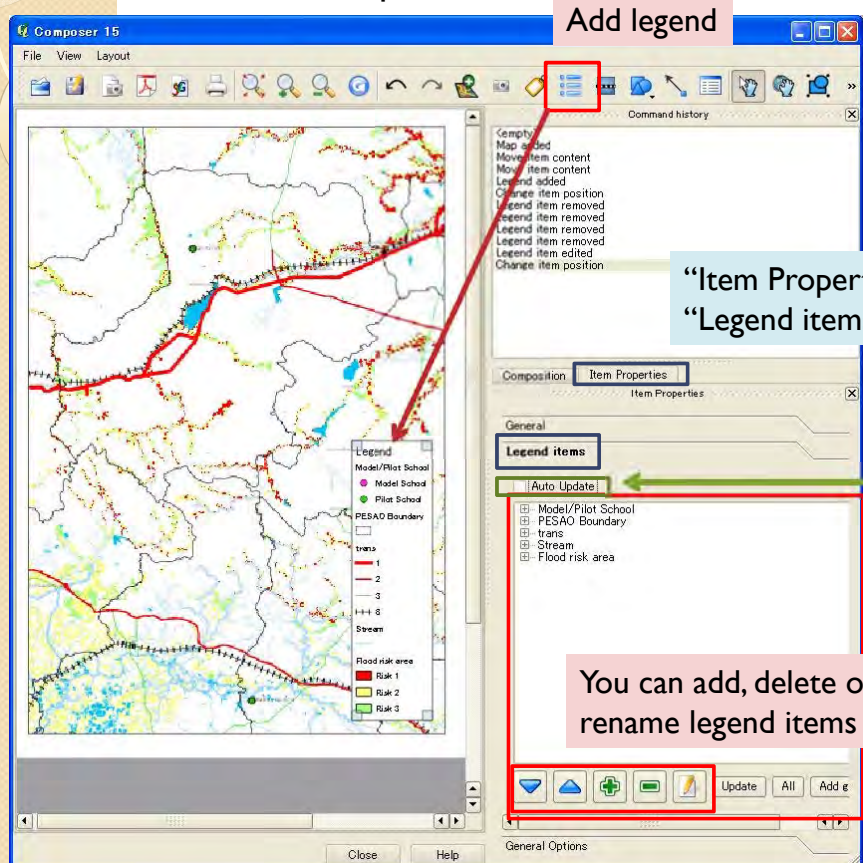
Move map frame

Move inside map

You can move and rescale map, so it is able to make risk area map for each ESAO by moving the inside map.

### 3. Making Inventory Maps

#### 3.6 Print Composer



Add legend

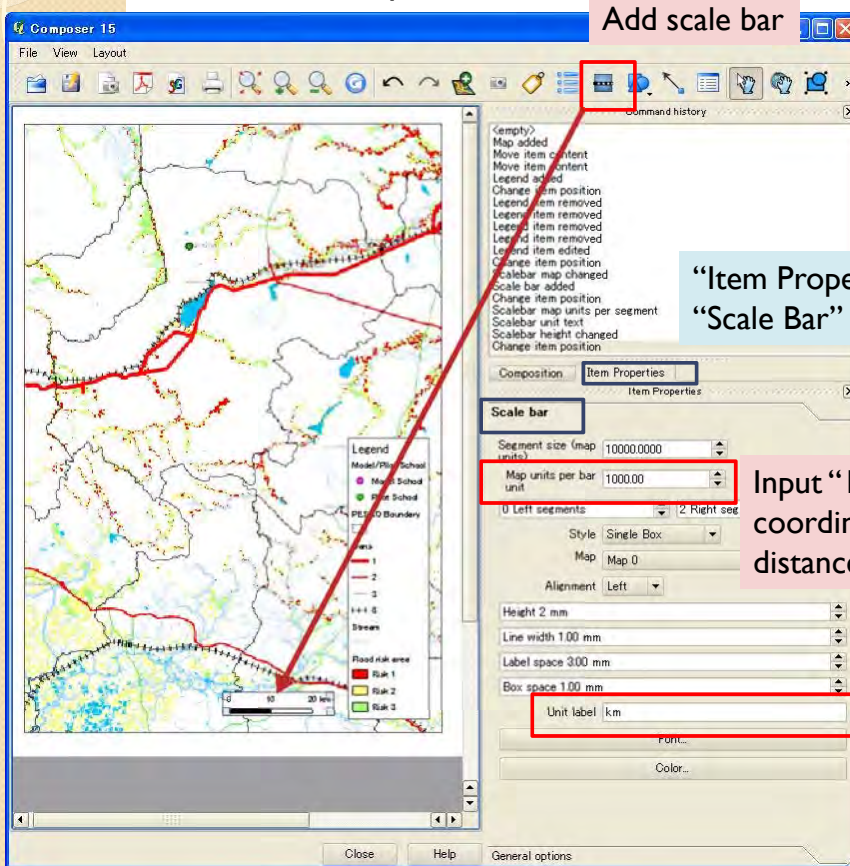
"Item Properties" and "Legend items" tab

Unselect "Auto Update" to fix the legend items.

You can add, delete or rename legend items here.

### 3. Making Inventory Maps

#### 3.6 Print Composer



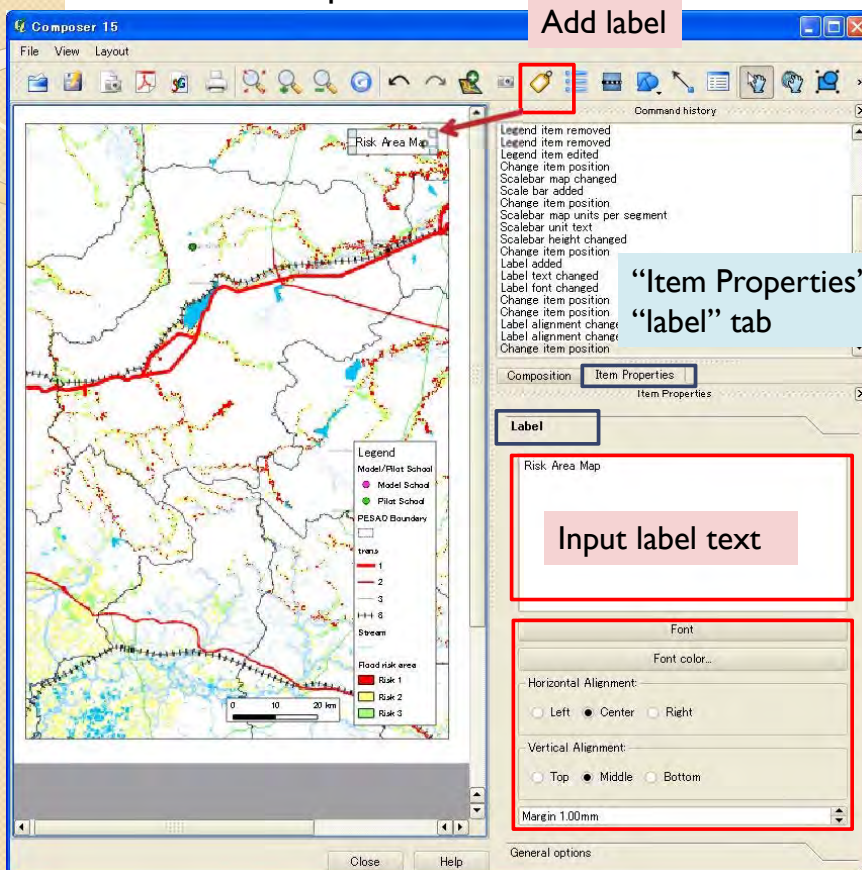
“Item Properties” and “Scale Bar” tab

Input “1000”, because the map coordination “UTM” uses meter as distance unit.

Unit label is “km”

### 3. Making Inventory Maps

#### 3.6 Print Composer



“Item Properties” and “label” tab

Input label text

You can change font settings here.

### 3. Making Inventory Maps

#### 3.6 Print Composer

Export as image file

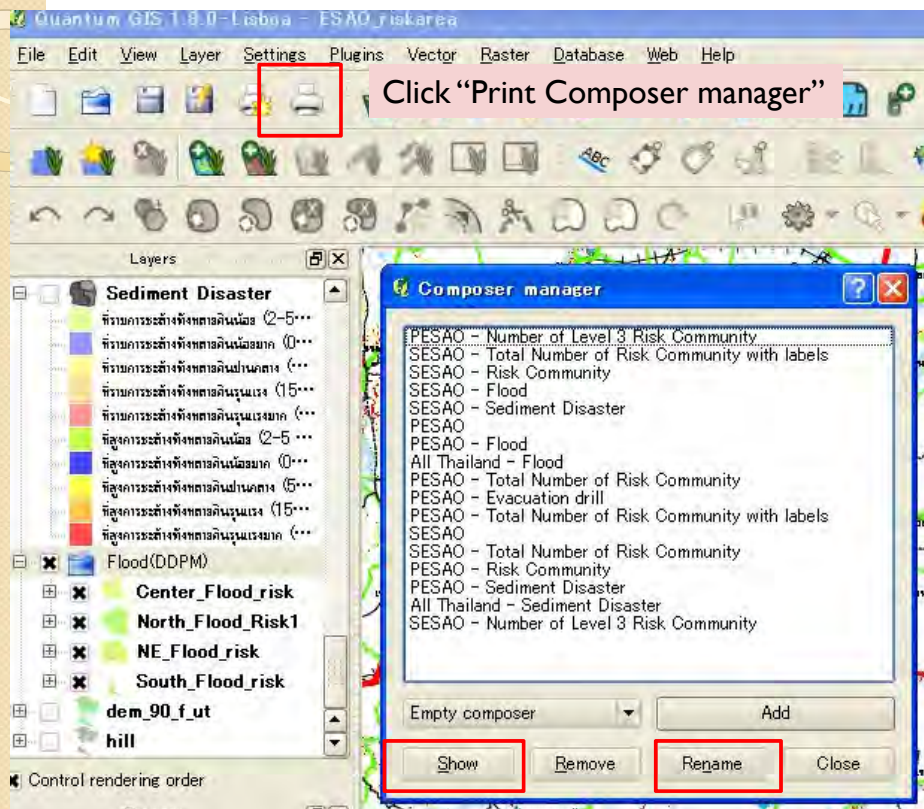


Export as pdf file

Print

### 3. Making Inventory Maps

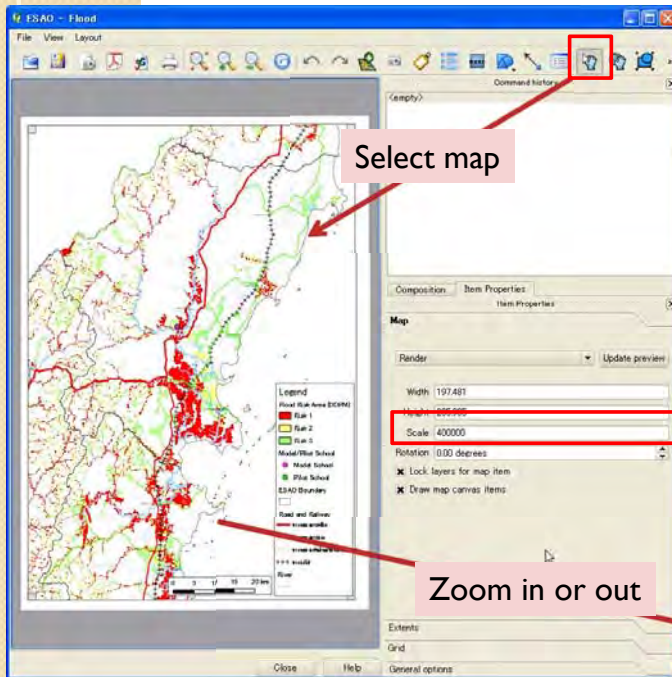
#### 3.6 Print Composer



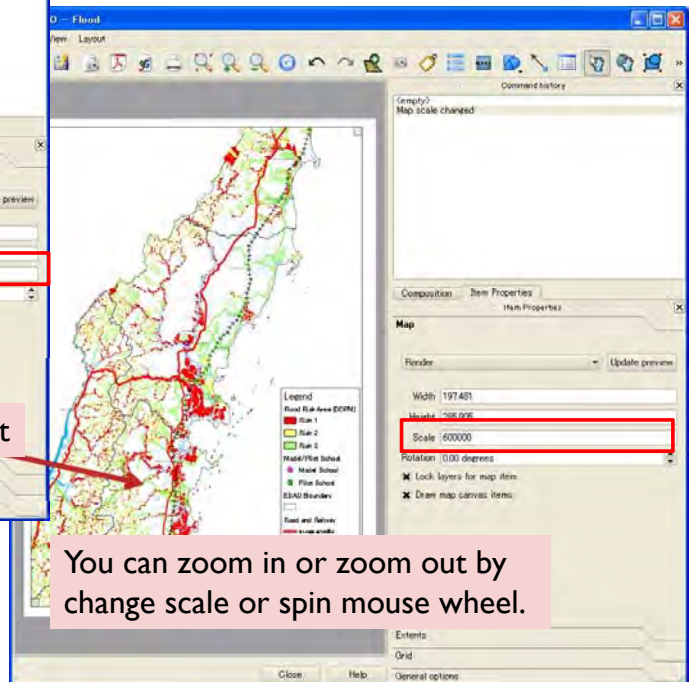
After you have made composer once, you can recall the composer by "show" button and rename.

### 3. Making Inventory Maps

#### 3.7 Make inventory map in other region



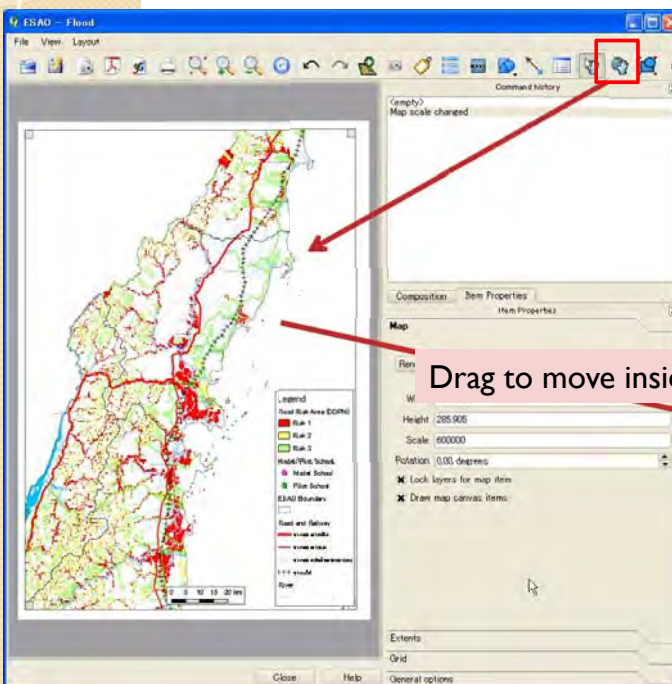
You can zoom in, zoom out or move inside map to other region to make other ESAD map.



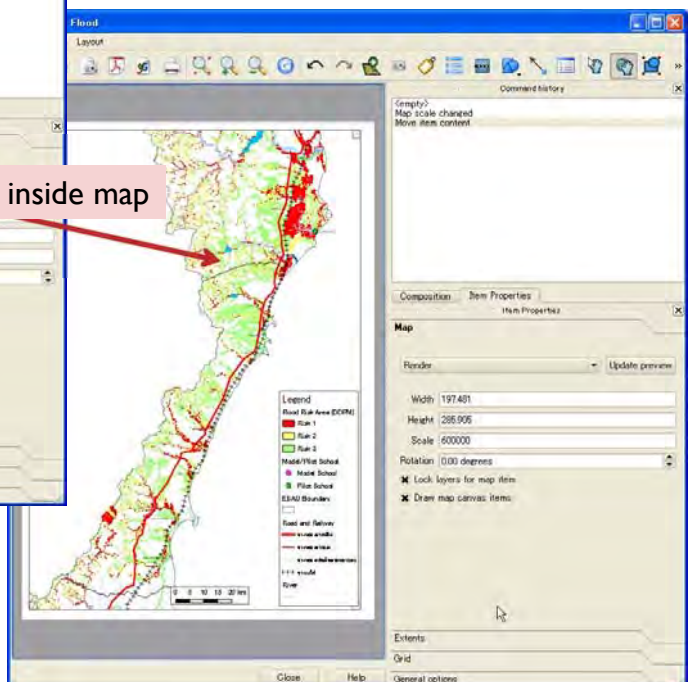
You can zoom in or zoom out by change scale or spin mouse wheel.

### 3. Making Inventory Maps

#### 3.7 Make inventory map map in other region



Drag to move inside map





### 3. Making Inventory Maps

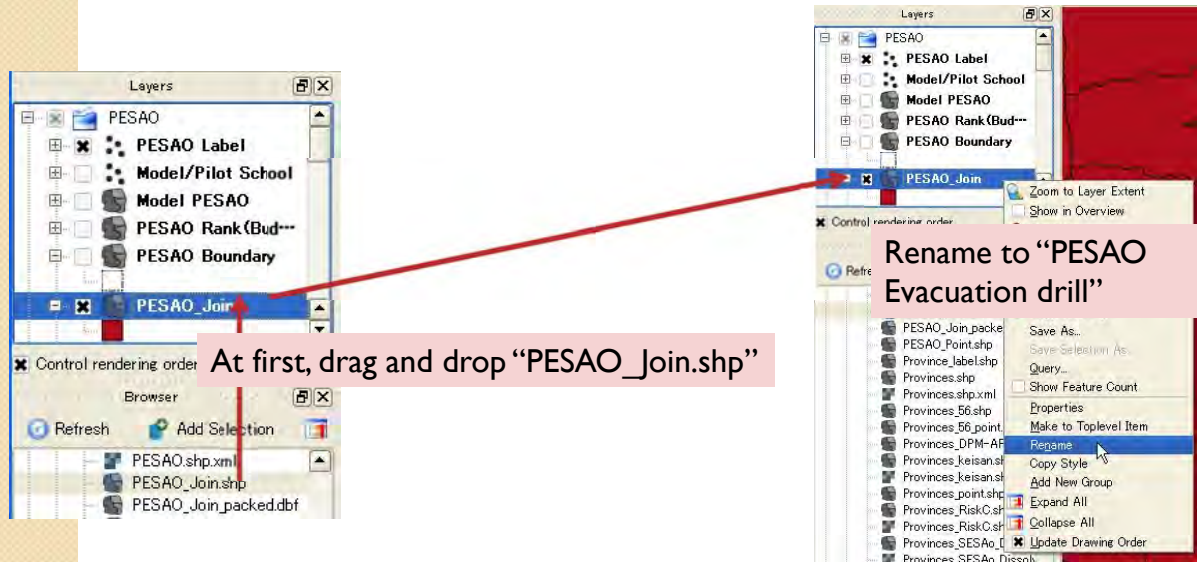
#### 3.8 Add new data (evacuation drill, etc...)

It is able to add new information to the ESAO shape file.

There are some method to add data.

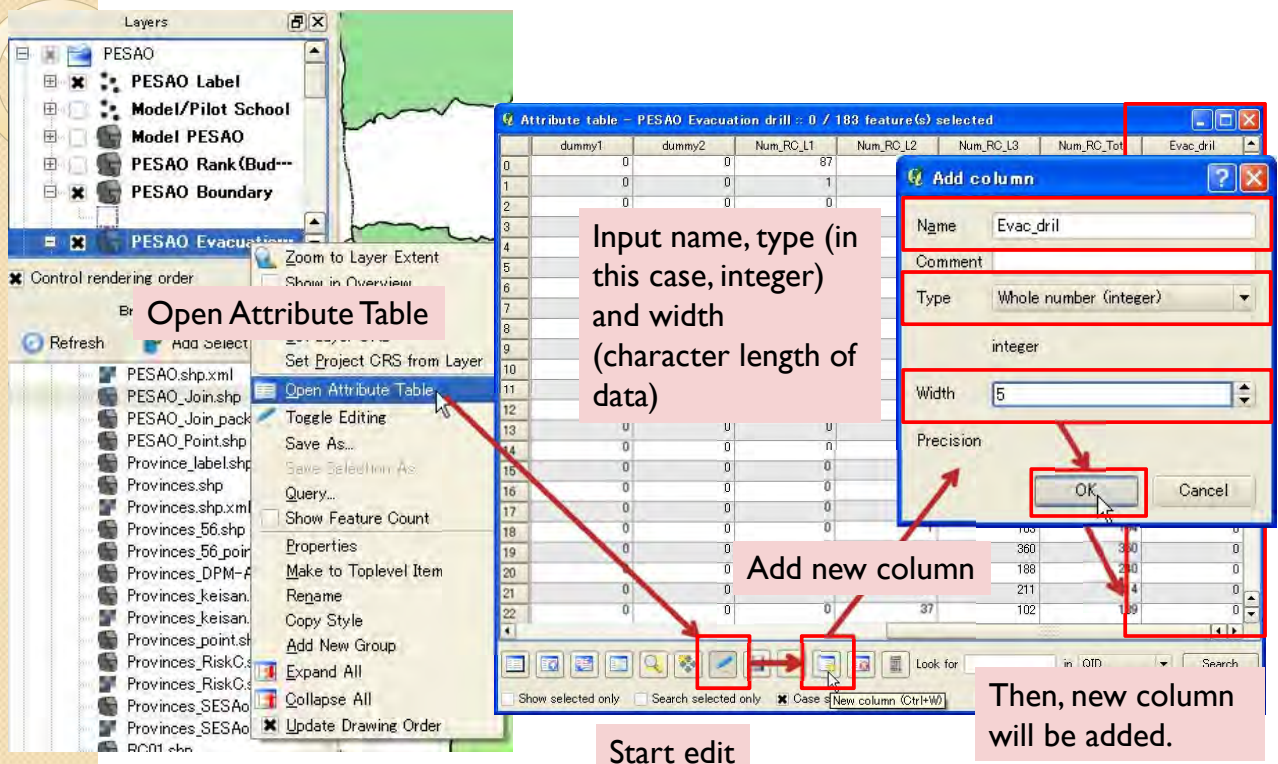
One is make new excel file and import to GIS, please refer to 3.1.2.

In this section, numbers of schools in which ESAOs plan to conduct evacuation drill will be added to PESAO file by manually operation.



### 3. Making Inventory Maps

#### 3.8 Add new data (evacuation drill, etc...)



### 3. Making Inventory Maps

#### 3.8 Add new data (evacuation drill, etc...)

Attribute table - PESAO Evacuation drill :: 0 / 183 feature(s) selected

	dummy1	dummy2	Num_RC_L1	Num_RC_L2	Num_RC_L3	Num_RC_Tot	Evac_dril
0	0	0	87	174	12	273	110
1	0	0	1	48	27	76	0
2	0	0	0	0	0	0	0
3	0	0	0	7	11	18	207
4	0	0	0	124	268	392	0
5	0	0	2	78	0	80	0
6	0	0	0	99	0	99	0
7	0	0	0	163	0	163	0
8	0	0	0	21	23	44	0
9	0	0	0	11	79	90	123
10	0	0	0	8	340	348	0
11	0	0	1	19	80	100	0
12	0	0	0	14	102	116	0
13	0	0	0	0	60	60	0
14	0	0	0	0	131	131	0
15	0	0	0	99	168	267	156
16	0	0	0	64	0	64	0
17	0	0	0	74	0	74	0
18	0	0	0	1	163	164	0
19	0	0	0	0	360	360	0
20	0	0	0	50	100	150	0
21	0	0	0	0	0	0	0
22	0	0	0	0	104	104	0

Double click to input data

After you finish input, click here to stop editing and save.

### 3. Making Inventory Maps

#### 3.8 Add new data (evacuation drill, etc...)

Open "Style" tab

Select "Graduated" and "Evac\_dril" column

Set color ramp, classes and mode

Double click to edit colors, ranges and labels

"Classify" or "Add class" to make color categories

Then, make color settings

Layers

- Zoom to Layer Extent
- Show in Overview
- Remove
- Set Layer CRS
- Set Project CRS from Layer
- Open Attribute Table
- Toggle Editing
- Refresh
- Show Feature Count
- Properties
- Make to Top Level Item
- Rename
- Copy Style
- Add New Group
- Expand All
- Collapse All
- Update Drawing Order
- Provinces\_keisan.shp

Layer Properties

Style | Labels | Fields | General | Metadata | Actions

Graduated

Column: Evac\_dril

Symbol: change

Color ramp: [source]

Classes: 6

Mode: Pretty Breaks

Symbol	Range	Label
[Pink]	1.0000 - 50.0000	1 - 50
[Light Blue]	50.0000 - 100.0000	51 - 100
[Light Green]	100.0000 - 150.0000	101 - 150
[Light Yellow]	150.0000 - 200.0000	151 - 200
[Light Purple]	200.0000 - 250.0000	201 - 250
[Light Red]	250.0000 - 300.0000	251 - 300

Classify | Add class | Delete class

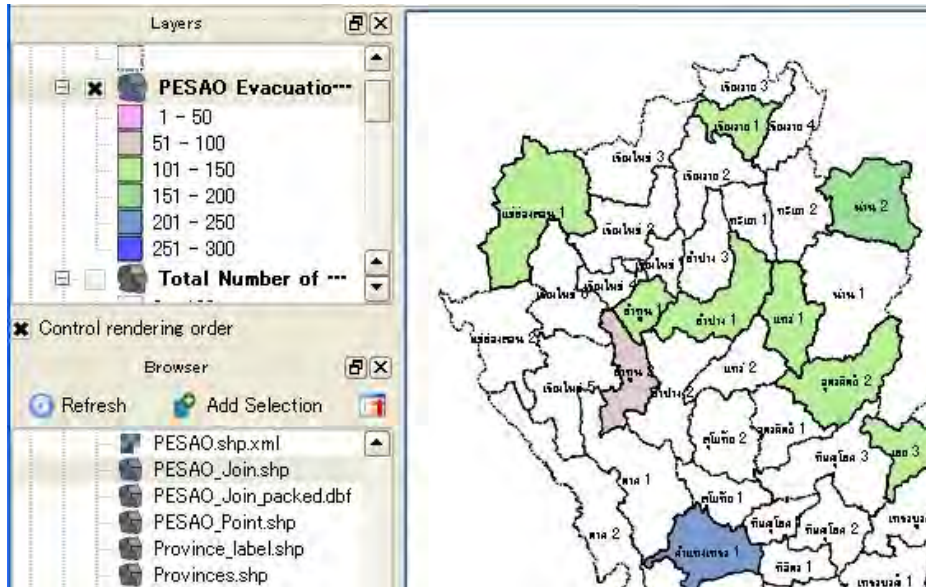
Restore Default Style | Save As Default | Load Style ... | Save Style ...

OK | Cancel | Apply | Help

### 3. Making Inventory Maps

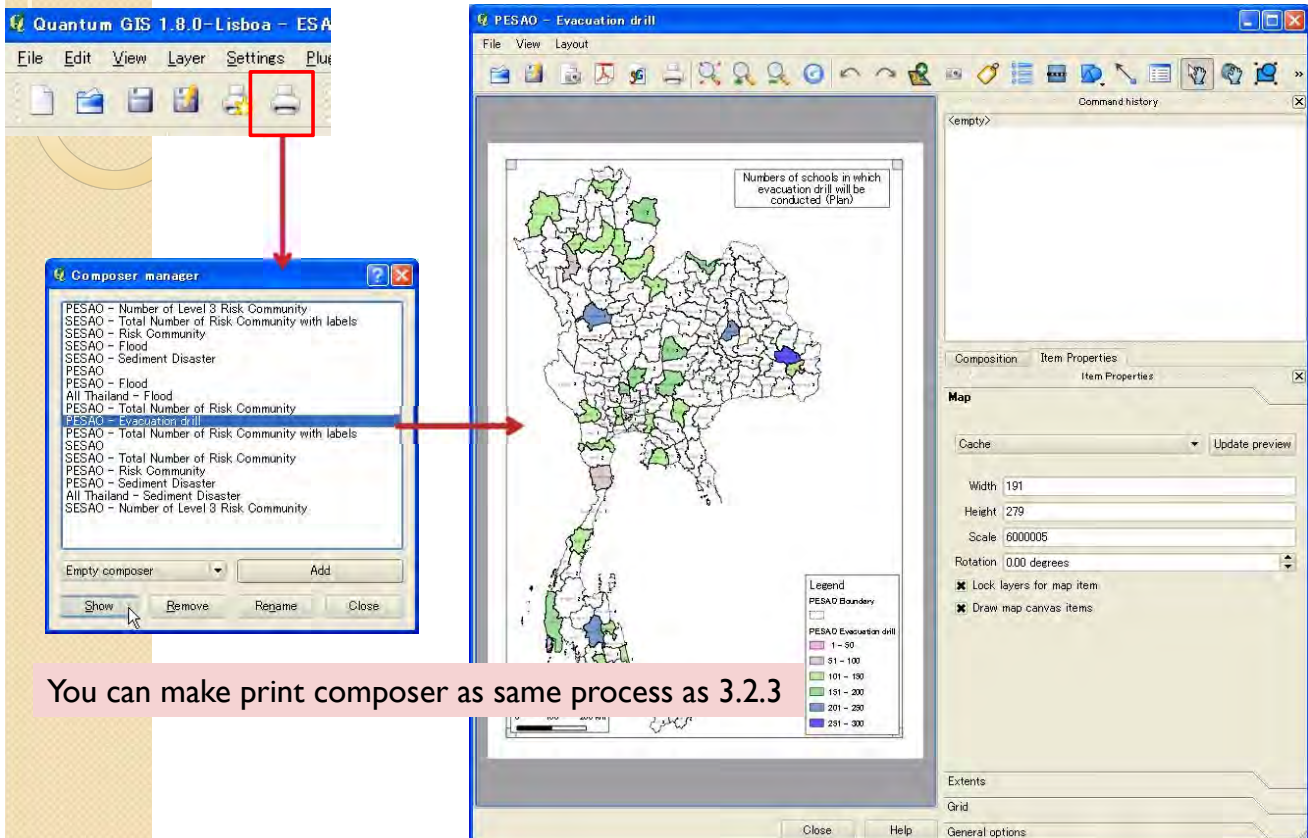
#### 3.8 Add new data (evacuation drill, etc...)

Then, the new map will appear.



### 3. Making Inventory Maps

#### 3.8 Add new data (evacuation drill, etc...)



You can make print composer as same process as 3.2.3

### 3. Making Inventory Maps

#### 3.9 Update data

If you want to change/update attribute table, you can edit by following function. (Partly same to 3.7.)

QID	Name	Budget	Model_ESAO	Model_Scho
0	เมืองจาง 1	0	0	0
1	เมืองไทย 6	75000	0	0
2	กรุงเทพมหานคร	37	0	0
3	กำแพงเพชร 1		0	0
4	น่าน 1		0	0
5	กำแพงเพชร 2		0	0
6	ธัญบุรี		0	0
7	นครนายก		0	0
8	นครปฐม 1		0	0
9	นครปฐม 2		0	0
10	นครสวรรค์ 1	172	0	0
11	นครสวรรค์ 2	152	0	0
12	นครสวรรค์ 3	207	0	0
13	นนทบุรี 1	32	0	0
14	นนทบุรี 2	64	0	0
15	น่าน 2	156	50000	0
16	ปทุมธานี 1	103	0	0
17	ปทุมธานี 2	67	0	0
18	พระนครศรีอยุธยา		0	0
19	พระนครศรีอยุธยา		0	0
20	พิจิตร 1	100	0	0
21	พิจิตร 2	37	0	0
22	พิจิตร 3	133	0	0

1. Open attribute table (ex. right click on "Model PESAO")
2. Click start edit button.
3. Double click the elements to update (ex. Budget cell)
4. Click stop edit button and save changes.

### 3. Making Inventory Maps

#### 3.9 Update data

You can edit features also.

Start/stop edit

Save edit

Add/delete/move feature

Select layer to edit

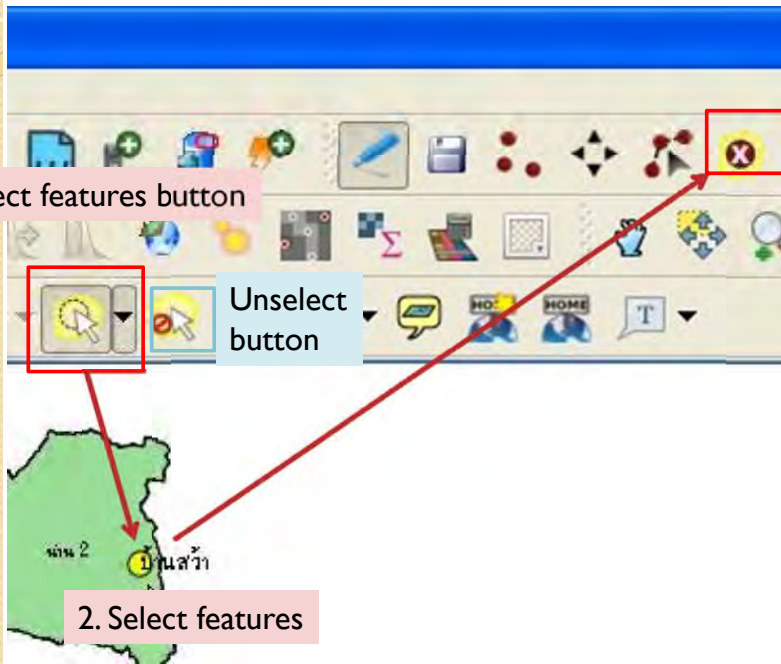
If the model school is changed...

1. Start edit button
2. Add/delete/move button
3. Stop edit button and save

### 3. Making Inventory Maps

#### 3.9 Update data

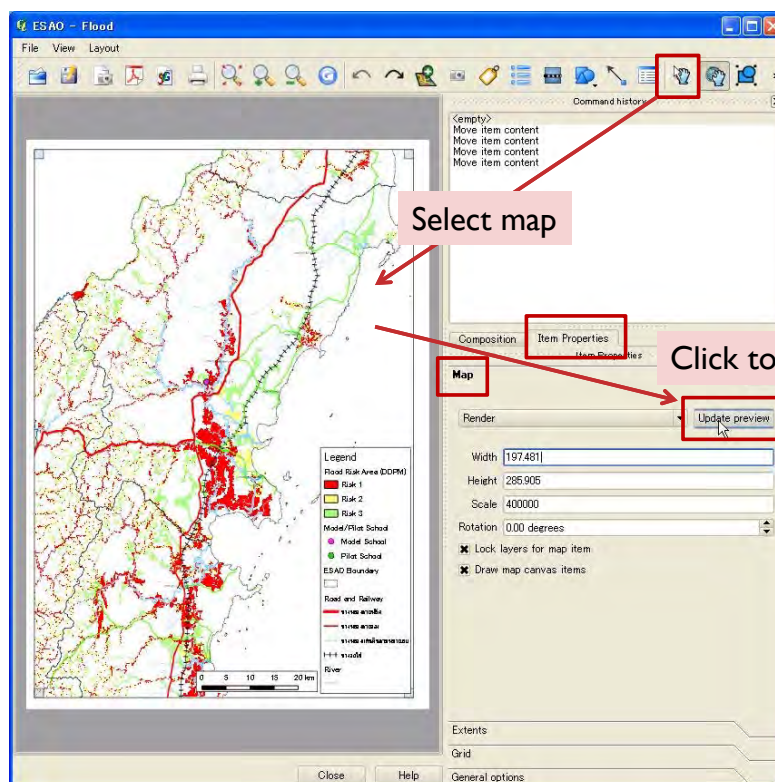
Operation to delete features is little deferent.



### 3. Making Inventory Maps

#### 3.9 Update data

After you update data, you reopen or click update button to reflect changes.



### 3. Making Inventory Maps

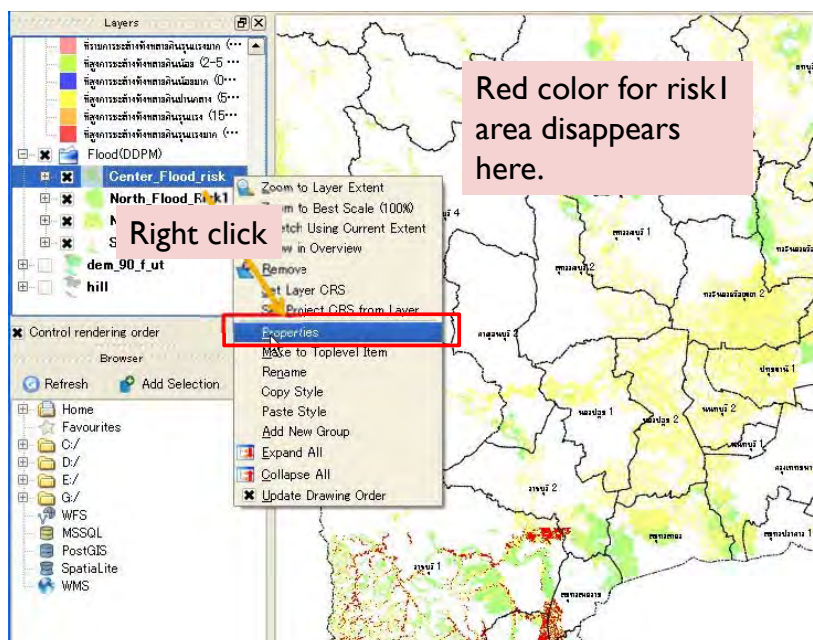
#### 3.10 Notes

- Name of model/pilot schools at SESAO 3, 17, 38, 41 and PESAO Ubon Ratchathani 4 are uncertain. Please confirm.
- Locations of the model/pilot schools are also uncertain. (look up by google)
- CBDRM data is now under updating.
- Risk community data contains some error.
- Risk area information is one of indicators for disaster risk. Out of the indicated risk area do not mean actual no risk area.
- If it is possible, it is better to integrate information of disaster education into the all school list and shape file you are making.

### 3. Making Inventory Maps

#### 3.11 Bugs for flood risk area map

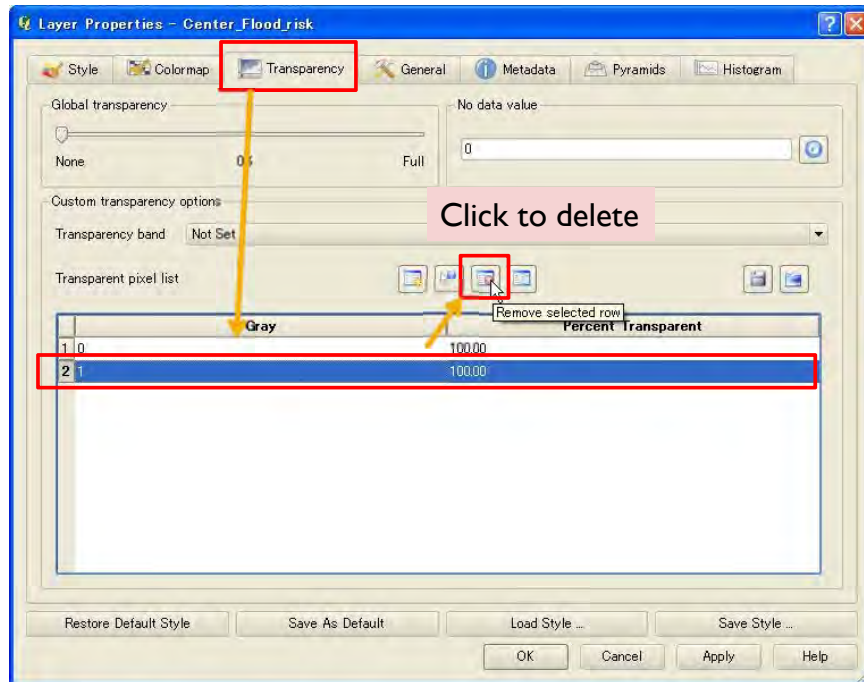
When you open flood risk area file, the color of risk I in “Flood (DDPM)” should disappear because of program problem. So, please fix the settings as follows. Please right click on the layer in which the color of risk I disappears and select “Properties”



### 3. Making Inventory Maps

#### 3.1 I Bugs for flood risk area map

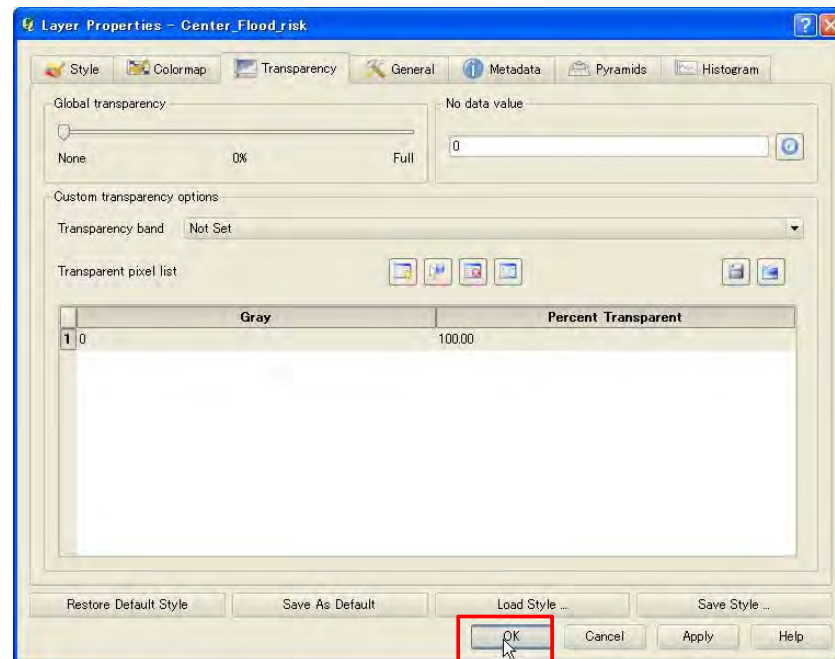
Select “Transparency” tab and remove “I” in the below field.



### 3. Making Inventory Maps

#### 3.1 I Bugs for flood risk area map

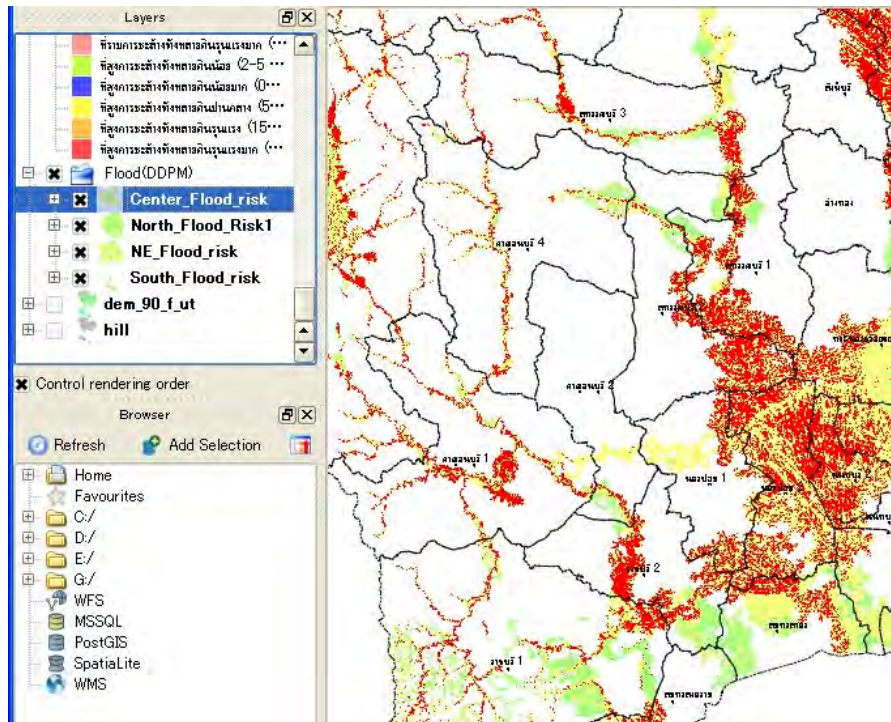
Then, the “I” should be deleted. Please click “OK” to return map.



### 3. Making Inventory Maps

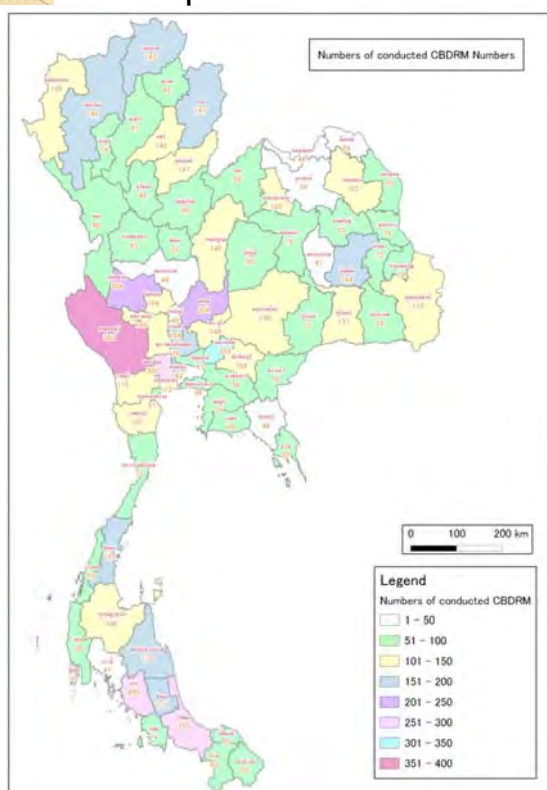
#### 3.1 I Bugs for flood risk area map

The color for risk I should be redrawn. Please do these operation each time you open the file.



## 4. Making Inventory Maps (CBDRM)

### 4.1 Import CBDRM data



In this chapter, we make CBDRM Map by using QGIS and Excel.

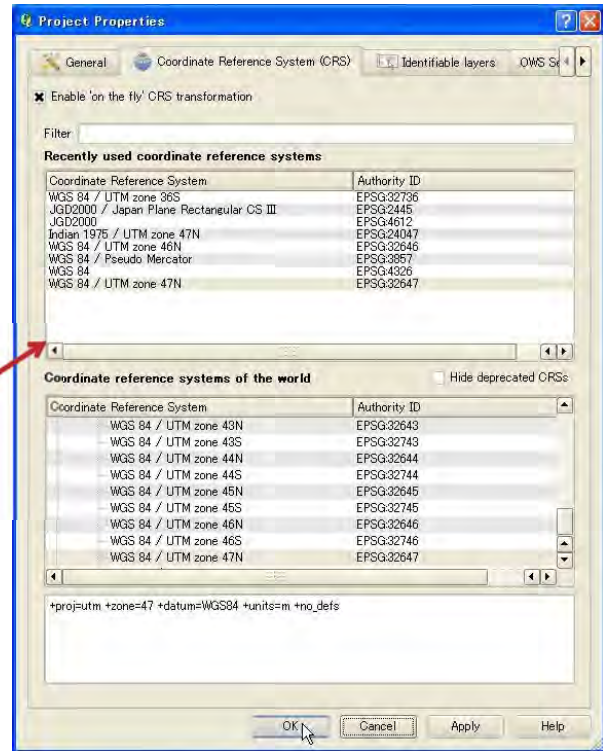
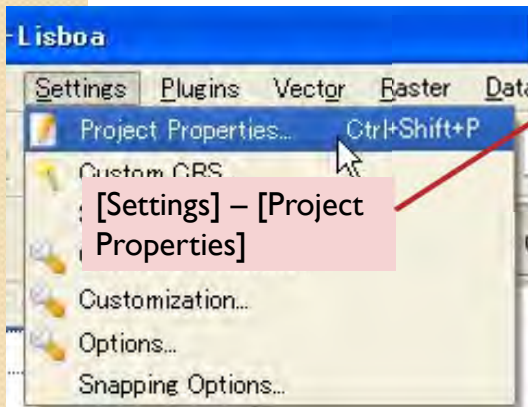
- 1.Import shape file (geographical data) and Excel file (CBDRM information)
- 2.Integrate the Excel file to shape file
- 3.Make coloring and print composer



#### 4. Making Inventory Maps (CBDRM)

##### 4.1.1 Import provinces file

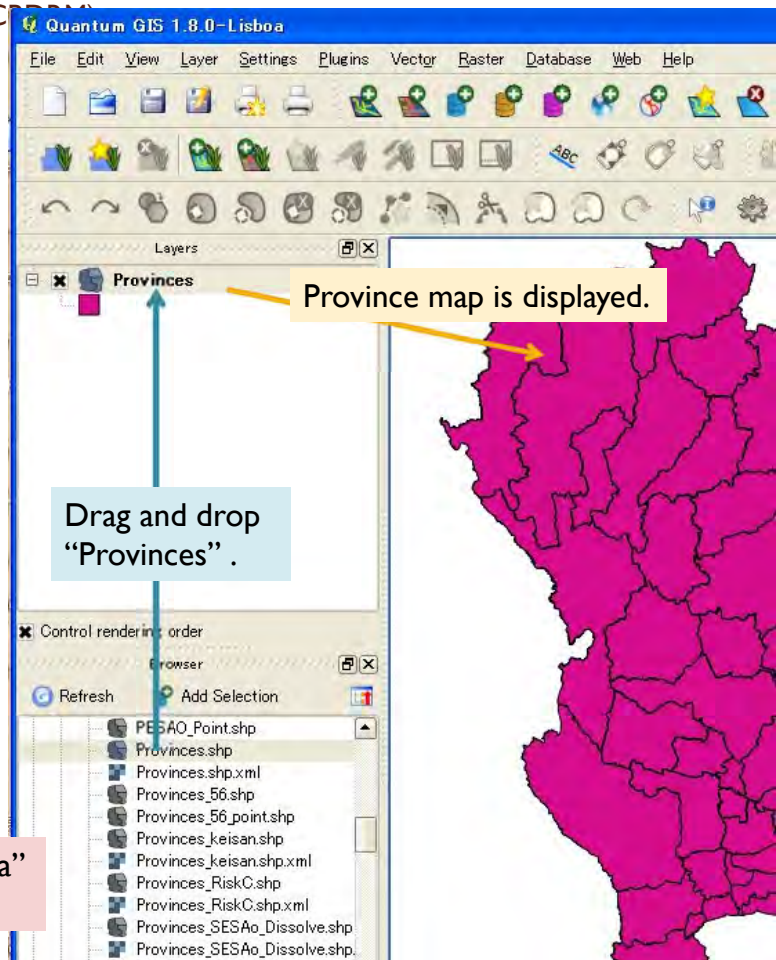
At first, make sure that Coordination Reference System (CRS) is set as WGS84 / UTM 47N and “Enable ‘on the fly’ CRS transformation” is checked.



#### 4. Making Inventory Maps (CBDRM)

##### 4.1.1 Import provinces file

Select “GIS\_Data” folder in the “Browser” field and drag and drop “Provinces” file into “Layers” folder.



## 4. Making Inventory Maps (CBDRM)

### 4.1.1 Import provinces file

Right click and select "Open Attribute Table"

ID numbers and other information are stored in the attribute table.

PROV_NAME	PROV_NAME	population	RC_Code	pop_den	AREA	Nu_RV17II	Nu_RV17II
Bangkok		6265144	NULL	4066.59	1556.622	0	0
Changwat Sam...		1028401	RC03	1063.37	967.116	0	5
Changwat Nont...		916614	RC01	1263.18	686.4	0	0
Changwat Path...		673649	RC01	445.59	1520.881	0	139
Changwat Phra...		727277	RC01	296.5	2547.348	0	1
Changwat Ana...		269419	RC16	293.45	950.497	0	50
Changwat Lopbu...		740306	RC16	114.65	6502.716	6	25
Changwat Sing...		232766	RC16	204.9	817.007	0	0
Changwat Chanat...		359629	RC16	143.63	2505.263	0	99
Changwat Sarab...		579283	RC01	164.86	3488.177	461	177
Changwat Chon...		1040665	RC17	230.9	4507.781	0	29
Changwat Phang...		522133	RC17	142.45	3665.289	36	25
Changwat Chant...		480064	RC17	76.32	6373.261	0	88
Changwat Trat...		219345	RC17	76.5	2867.27	0	117
Changwat Cha...		695159	RC03	122.86	5169.624	21	139
Changwat Pro...		406732	RC08	90.83	5032.227	0	180
Changwat Nakh...		241081	RC03	112.59	2141.291	0	163
Changwat Sak...		495282	RC03	70.74	6964.566	0	233
Changwat Nakh...		256202	RC05	123.28	20734.987	0	162
Changwat Bu...		1490369	RC06	348.16	10029.31	0	293

We are going to import the CBDRM data into this attribute table. In order to do that, it is necessary to import CBDRM data from Excel file.

## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Exccel file

Title

Data field

Province	Pro_Code	LS_55	Other55	Total_55	LS_56	Other56	Total_56	Total_LS	Total_Other	Grand_Total	Dummy1	Dummy2	
1	Province	Pro_Code	LS_55	Other55	Total_55	LS_56	Other56	Total_56	Total_LS	Total_Other	Grand_Total	Dummy1	Dummy2
2	กรุงเทพมหานคร	13	0	8	0	6	0	6	87	87	0	0	
3	นนทบุรี	12	0	113	113	0	15	15	0	162	162	0	
4	พระนครศรีอยุธยา	14	0	12	12	0	0	0	0	106	106	0	
5	สระบุรี	19	0	4	4	0	16	16	9	140	149	0	
6	สุพรรณบุรี	72	0	71	71	0	17	17	14	132	146	0	
7	กาญจนบุรี	71	0	1	1	0	9	9	17	346	363	0	
8	นครปฐม	73	0	12	12	0	3	3	0	220	220	0	
9	ราชบุรี	70	0	4	4	0	16	16	31	85	116	0	
10	ปราจีนบุรี	25	0	3	3	0	10	10	13	90	103	0	
11	ฉะเชิงเทรา	24	0	6	6	0	12	12	6	50	56	0	
12	สระแก้ว	27	0	1	1	0	6	6	40	30	70	0	
13	นครนายก	26	3	288	291	0	3	3	3	330	333	0	
14	สมุทรปราการ	11	0	3	3	0	0	0	0	27	27	0	
15	ประจวบคีรีขันธ์	77	0	5	5	0	3	3	9	64	73	0	
16	เพชรบุรี	76	0	8	8	0	18	18	23	78	101	0	
17	สมุทรสาคร	74	0	70	70	0	12	12	0	112	112	0	
18	สมุทรสงคราม	75	0	6	6	0	5	5	0	51	51	0	
19	นครราชสีมา	30	0	12	12	0	84	84	0	150	150	0	
20	สุรินทร์	32	0	0	0	0	0	0	26	97	123	0	
21	บุรีรัมย์	31	0	0	0	0	12	12	21	50	71	0	
22	ชัยภูมิ	36	0	0	0	0	0	0	50	8	58	0	
23	ขอนแก่น	40	0	0	0	6	11	17	49	30	79	0	
24	ร้อยเอ็ด	45	0	12	12	0	26	26	25	139	164	0	
25	มหาสารคาม	44	0	3	3	0	0	0	0	38	38	0	
26	กาฬสินธุ์	46	0	5	5	0	9	9	0	65	65	0	
27	สกลนคร	47	6	0	6	0	30	30	35	68	103	0	
28	มุกดาหาร	49	0	9	9	0	18	18	10	68	78	0	
29	นครพนม	48	0	9	9	0	18	18	2	51	53	0	
30	กำแพงเพชร	62	0	4	4	0	3	3	48	45	93	0	
31	พิจิตร	66	0	6	6	0	0	0	0	34	34	0	
32	นครสวรรค์	60	0	6	6	0	21	21	18	30	48	0	

Open "Total CBDRM ปี 47-ปัจจุบัน.xlsx".

Table to import into GIS must be simple table like this figure.

The first row is title of the attribute column. Write only alphabet and "\_". Do not use " " (space), "-", ",", ...

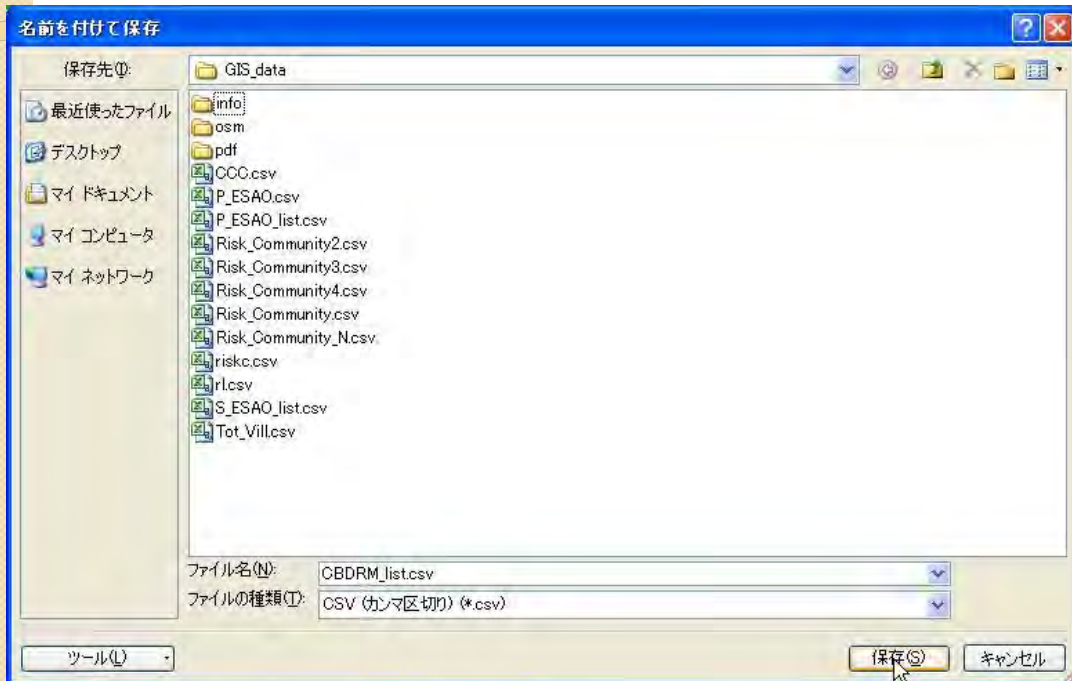
Data field is below. Do not use " ;".

The last two columns are dummy column filled by "0".

## 4. Making Inventory Maps (CBDRM)

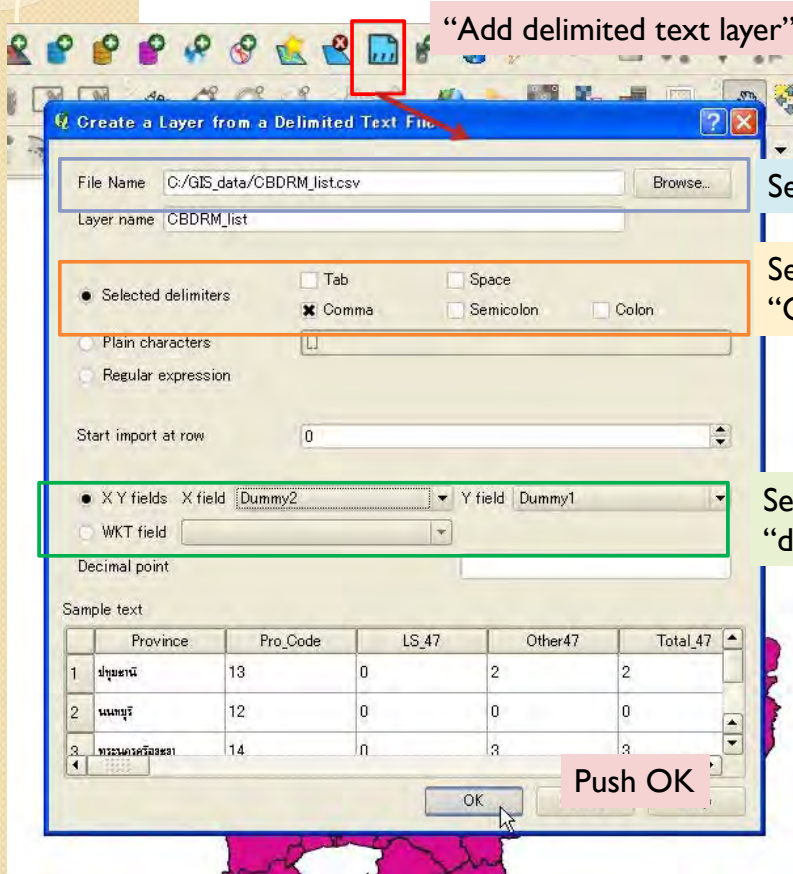
### 4.1.2 Import CBDRM data from Excel file

Save the data sheet as “CBDRM\_list.csv”. Please use file format as “CSV (comma delimited)”. In this format file, comma “,” is used as separator. So please don’t use comma “,” in the data field and title row in the data sheets.



## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Excel file



Load the saved csv file by “Add delimited text layer” button.

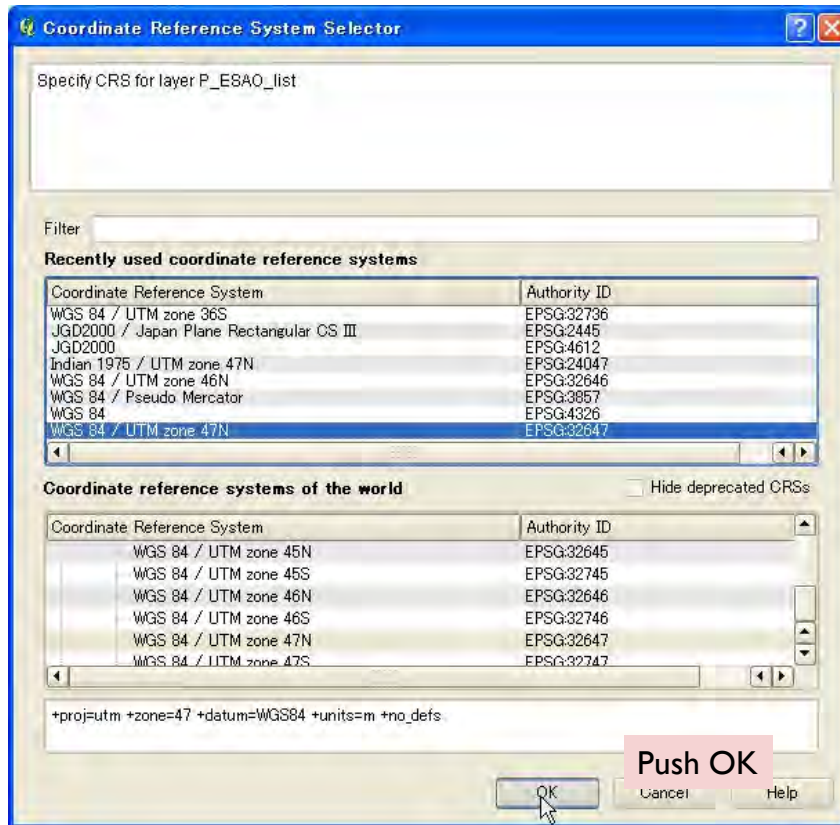
Select file

Select “Selected delimiters” and “Comma” only.

Select “XY fields” and “dummy1” and “dummy2”.

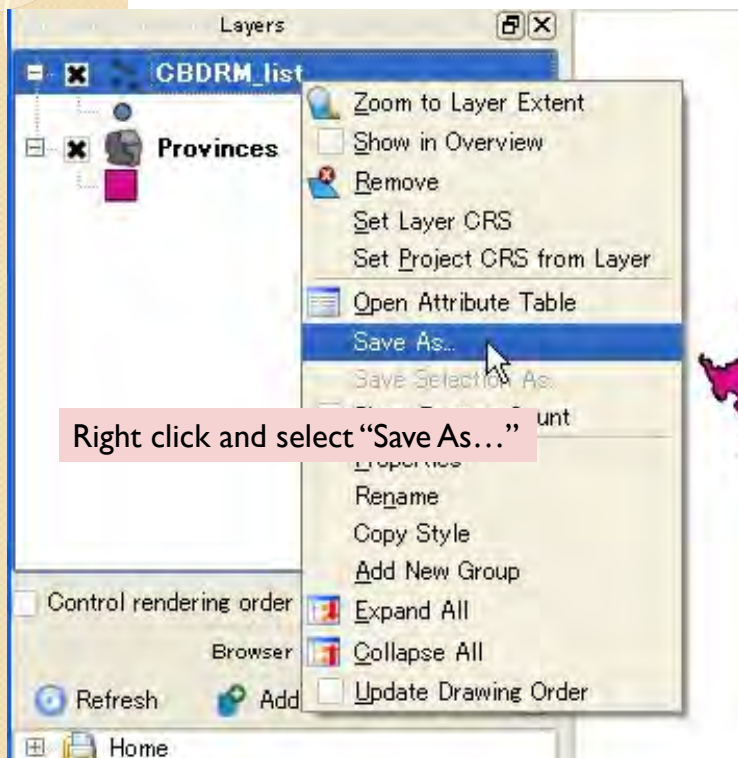
## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Excel file



## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Excel file

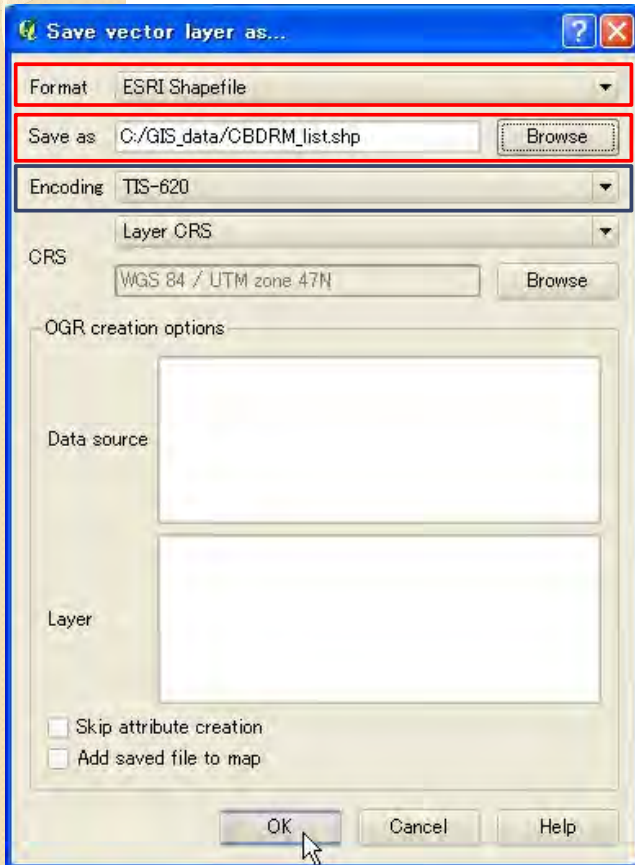


Then, the data will imported.

This is temporary layer, thus save this layer as new file.

## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Excel file



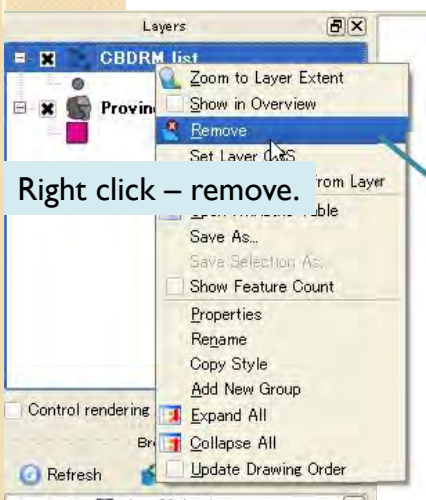
Select format and file name.

Select "Encoding" as "TIS-620".

Push OK

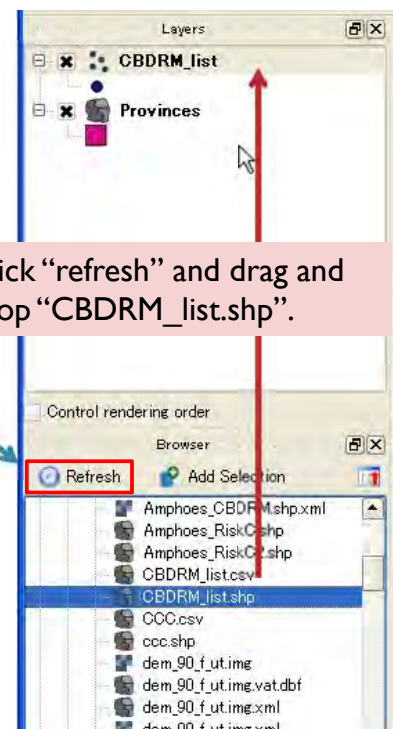
## 4. Making Inventory Maps (CBDRM)

### 4.1.2 Import CBDRM data from Excel file



Remove the temporary layer.

Click "Refresh" button of "Browser" field, and drag and drop "CBDRM\_list.shp" into "Layer" field.

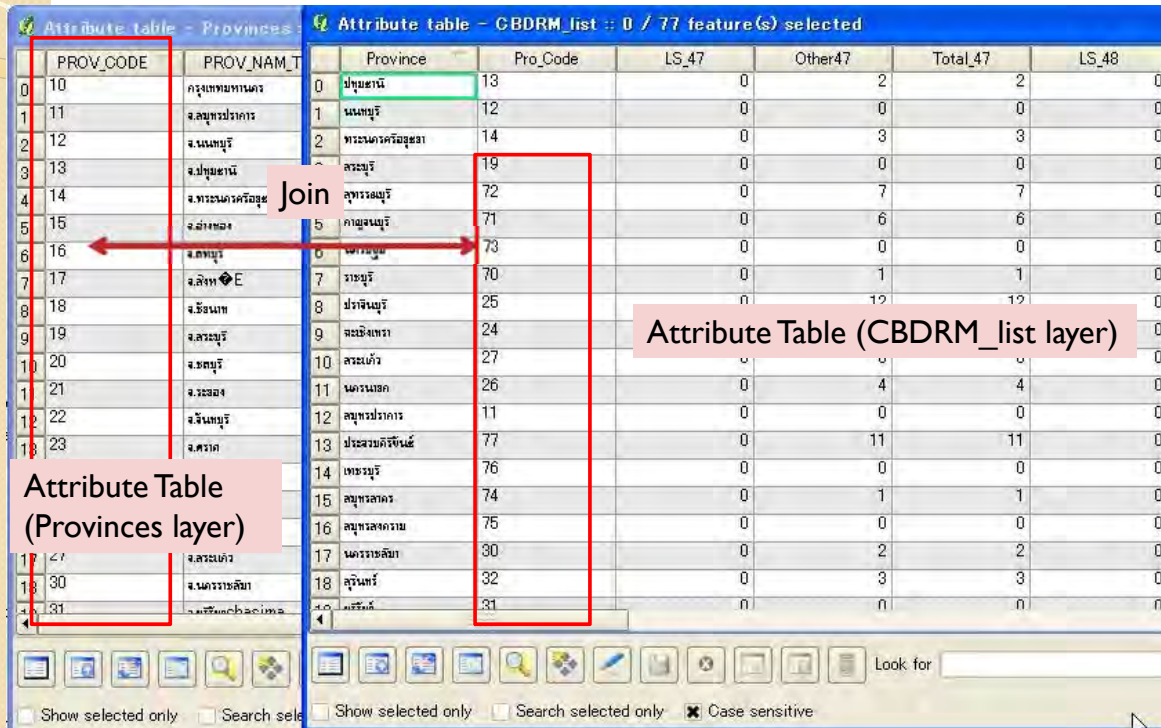


Click "refresh" and drag and drop "CBDRM\_list.shp".

#### 4. Making Inventory Maps (CBDRM)

##### 4.1.3 Join attribute table

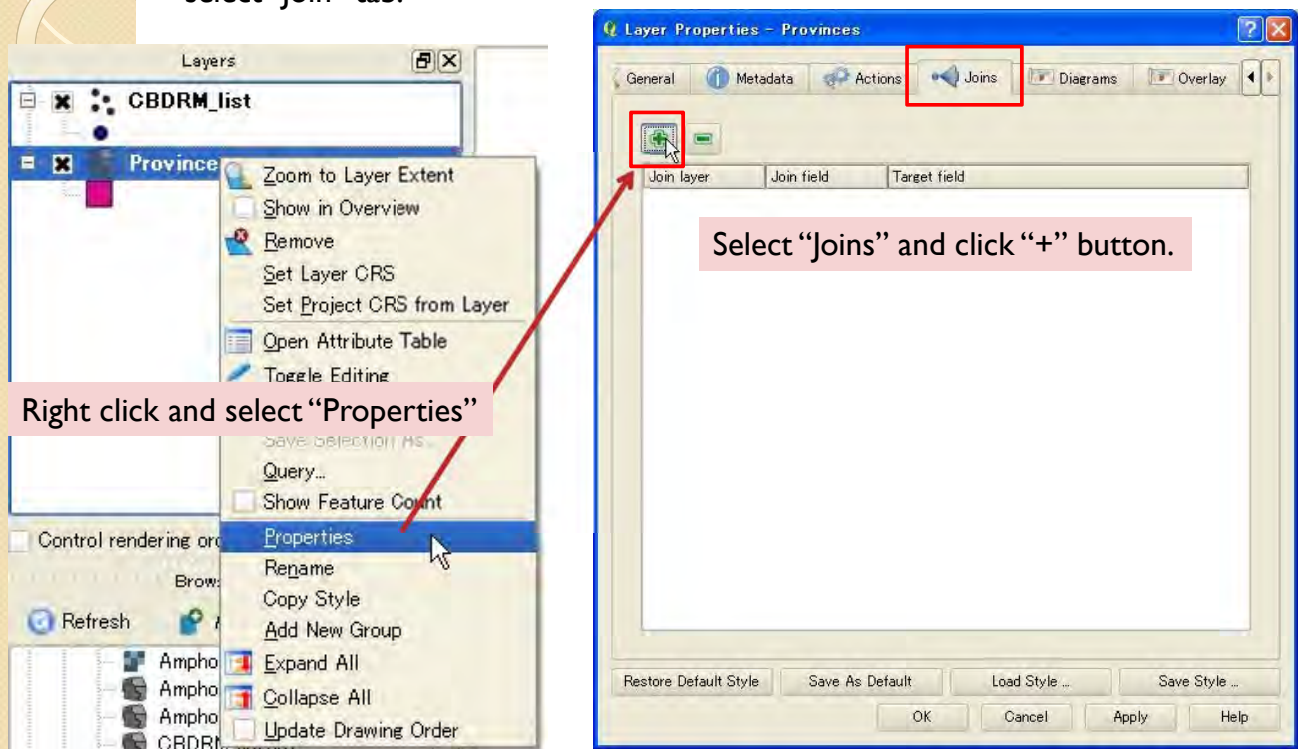
In next step, attribute table of “CBDRM\_list” will be joined into “Provinces” layers.



#### 4. Making Inventory Maps (CBDRM)

##### 4.1.3 Join attribute table

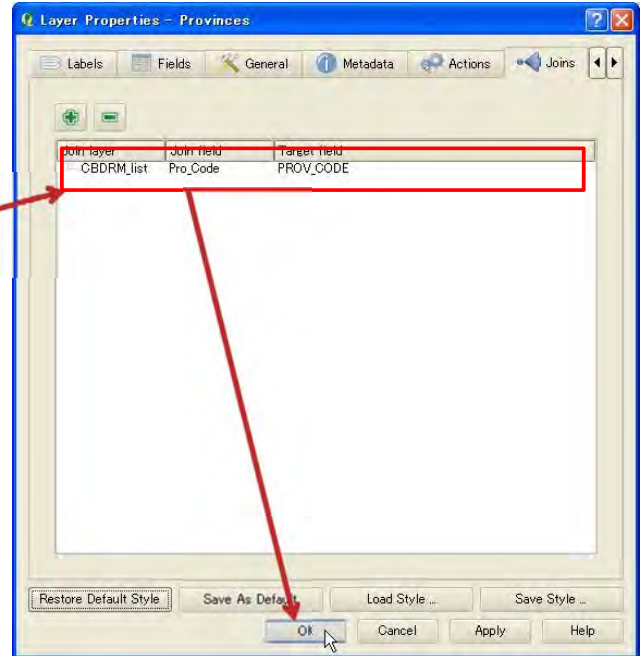
Open “Properties” window and select “Join” tab.



#### 4. Making Inventory Maps (CBDRM)

##### 4.1.3 Join attribute table

Select "Join layer", "Join field" and "Target field".



#### 4. Making Inventory Maps (CBDRM)

##### 4.1.3 Join attribute table

Then, attribute table should be joined.

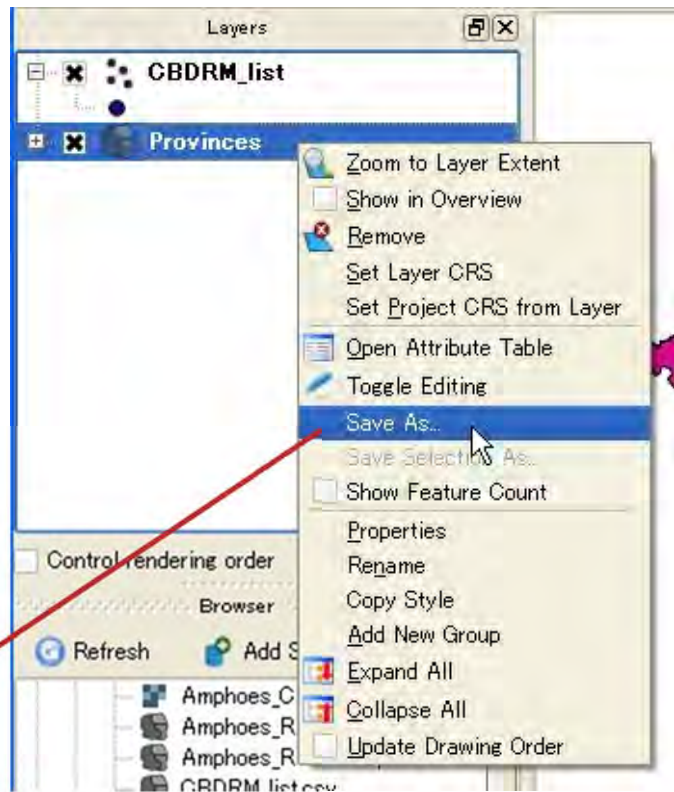
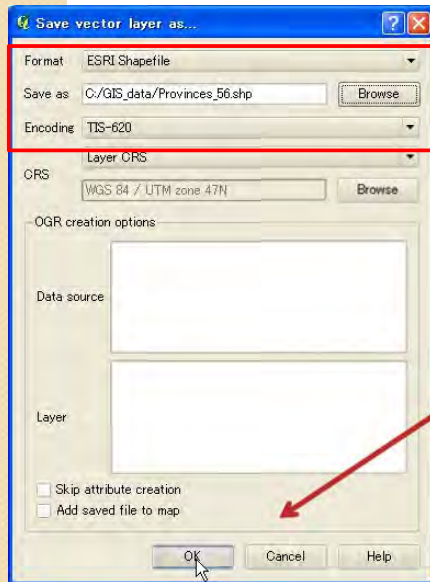
PROV_CODE	PROV_NAM_T	PROV_NAME	population	RD_Code	pop_den	AREA	No_P0_Vis	No_P0_Vis	No_P0_Vis	No_TotRVis	Province	15_47
0	bangkok	Bangkok	685144	NULL	476.53	1564.23	0	0	0	0	NULL	83
1	ayutthaya	Changwat Ayutthaya	102948	RC02	180.37	367118	0	0	0	86	ayutthaya	214
2	ayutthaya	Changwat Ayutthaya	618514	RC01	120.19	636.4	0	0	0	214	ayutthaya	214
3	ayutthaya	Changwat Pathum Thani	677649	RC01	445.59	1501801	0	139	0	139	ayutthaya	139
4	ayutthaya	Changwat Phra Nakhon Si Ayutthaya	72727	RC01	285.5	2547346	0	1	523	524	ayutthaya	524
5	ayutthaya	Changwat Angkor Wat	269419	RC16	290.46	960497	0	30	168	218	ayutthaya	218
6	ayutthaya	Changwat Loei	74826	RC16	114.06	660716	6	26	348	429	ayutthaya	429
7	ayutthaya	Changwat Saraburi	232366	RC16	294.9	917007	0	0	180	180	ayutthaya	180
8	ayutthaya	Changwat Chantaburi	356029	RC16	140.60	268230	0	99	165	264	ayutthaya	264
9	ayutthaya	Changwat Saraburi	576063	RC01	354.66	3481177	481	177	345	913	ayutthaya	913
10	ayutthaya	Changwat Chonburi	194085	RC17	230.9	4007781	0	29	30	59	ayutthaya	59
11	ayutthaya	Changwat Ratchaburi	52135	RC17	142.46	3665286	36	26	50	111	ayutthaya	111
12	ayutthaya	Changwat Chonburi	400364	RC17	36.32	673261	0	88	91	179	ayutthaya	179
13	ayutthaya	Changwat Trakul	219046	RC17	76.6	286727	0	117	11	128	ayutthaya	128
14	ayutthaya	Changwat Chonburi	625153	RC03	122.88	5164824	21	133	21	181	ayutthaya	181
15	ayutthaya	Changwat Pathum Thani	406792	RC03	30.88	5032227	0	180	104	284	ayutthaya	284
16	ayutthaya	Changwat Nakhon Si Ayutthaya	241081	RC03	112.59	2141291	0	163	0	163	ayutthaya	163
17	ayutthaya	Changwat Nakhon Si Ayutthaya	486682	RC02	70.74	6864866	0	282	150	389	ayutthaya	389
18	ayutthaya	Changwat Nakhon Si Ayutthaya	256250	RC05	120.28	2074407	0	102	524	699	ayutthaya	699
19	ayutthaya	Changwat Nakhon Si Ayutthaya	140598	RC06	148.16	190619	0	98	6	104	ayutthaya	104

## 4. Making Inventory Maps (CBDRM)

### 4.1.3 Join attribute table

The joined attribute table is re-separable.

To make the joined attribute table permanent, save the “Provinces” as “Provinces\_56”.



## 4. Making Inventory Maps (CBDRM)

### 4.2 Making CBDRM map

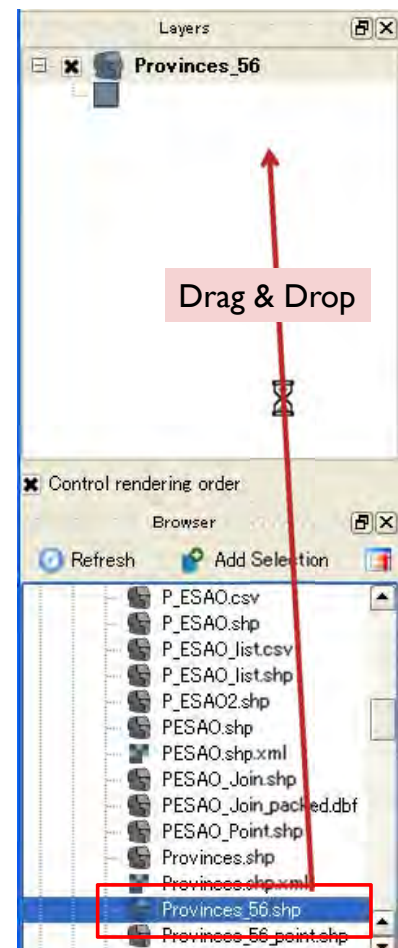
#### 4.2.1 Import data

Click “Refresh”, and drag and drop “Provinces\_56.shp” and “Provinces\_point.shp”.

“Provinces\_point.shp” is for label indication.

After you made joined shape files, “provinces\_56.shp”, once, it is not necessary to remake these shape file. You can use these file directly to make inventory maps.

In case you want to update the data, it is required to remake or edit these files.

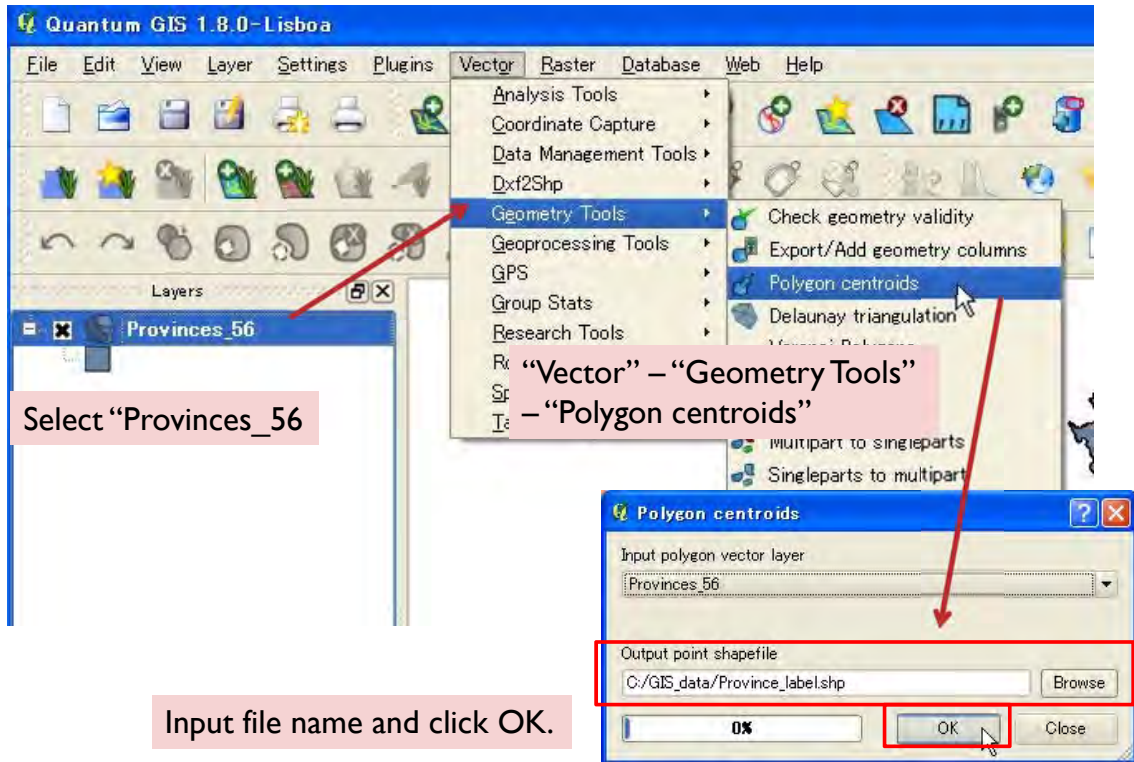




#### 4. Making Inventory Maps (CBDRM)

##### 4.2.2 Make point data for labeling

To display labels in QGIS, it is better to make point shape file by following process.



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.2 Make point data for labeling

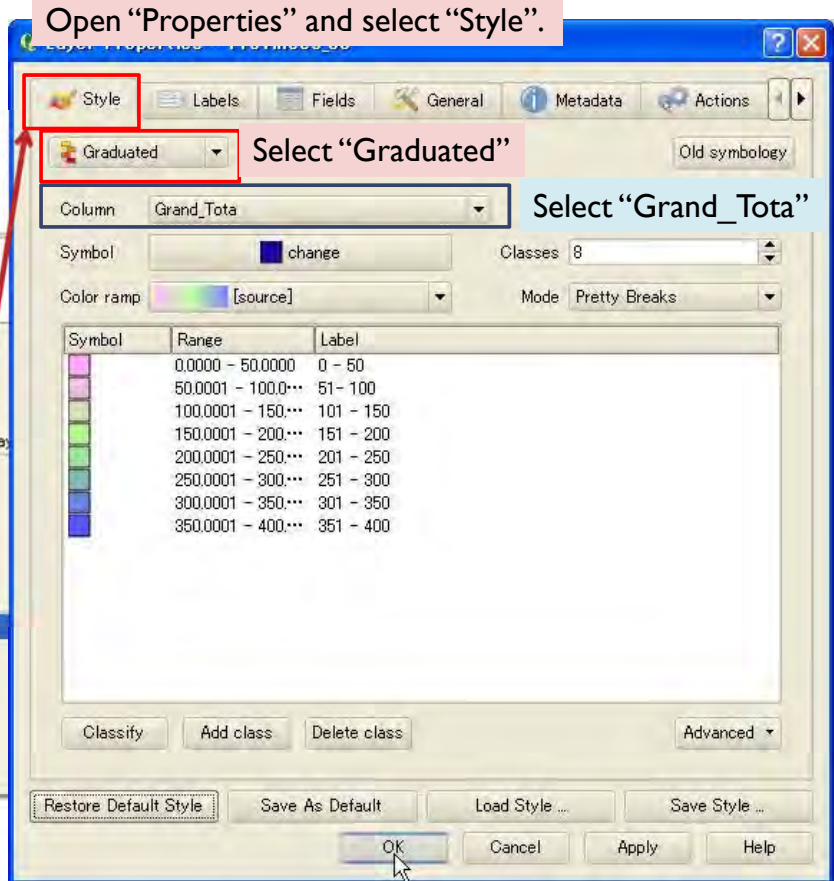
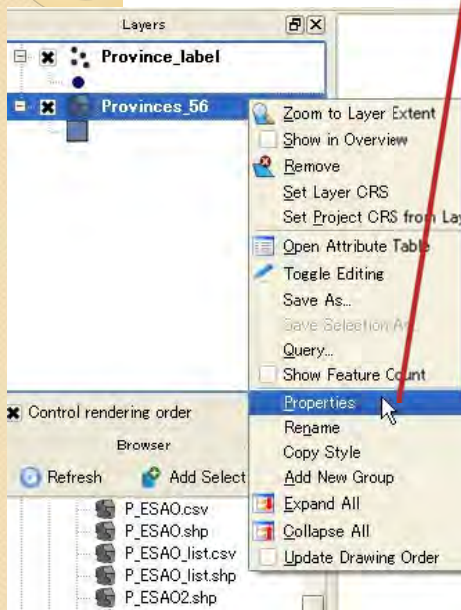
Import the file you made.



#### 4. Making Inventory Maps (CBDRM)

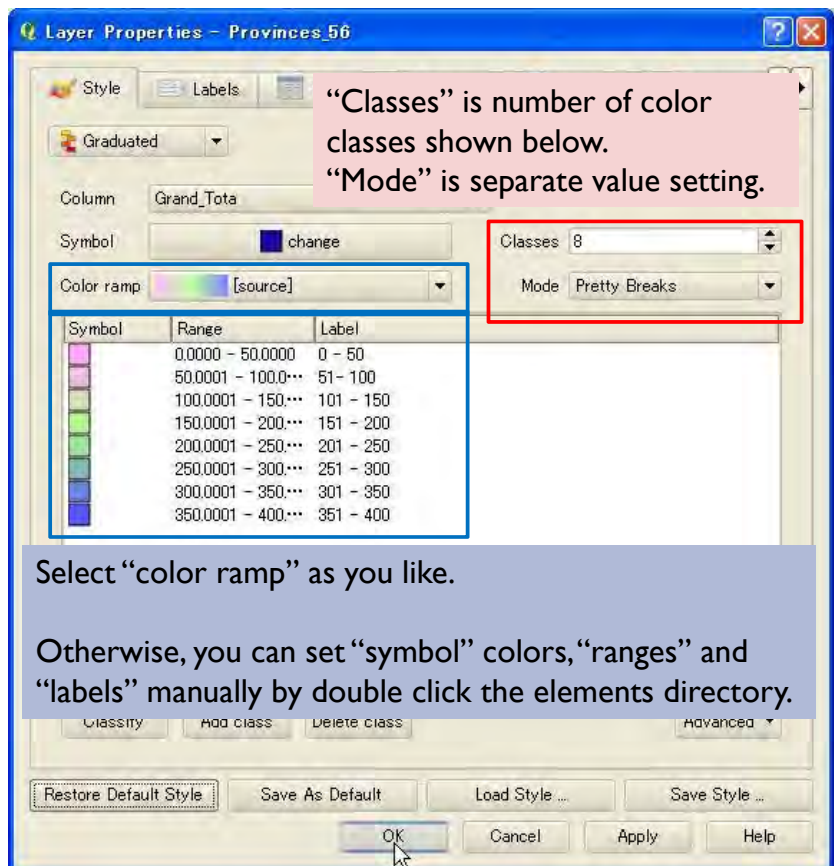
##### 4.2.3 Color setting

Next, make color settings.



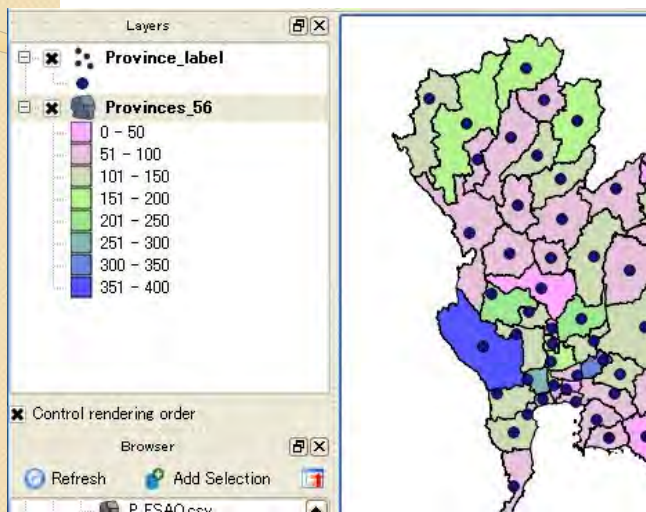
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.3 Color setting



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.3 Color setting

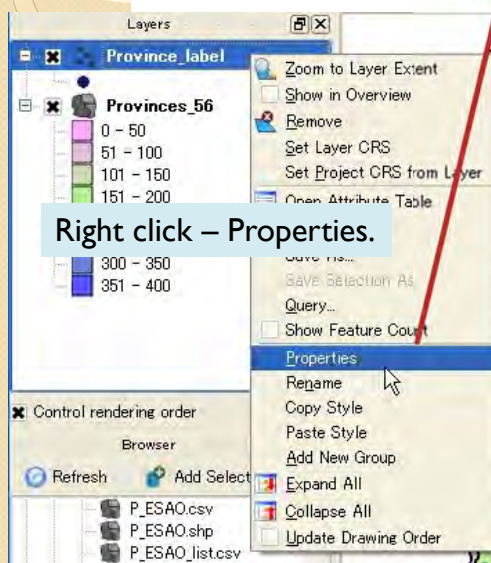


Then, you can see the colored map of total conducted numbers of CBDRM.

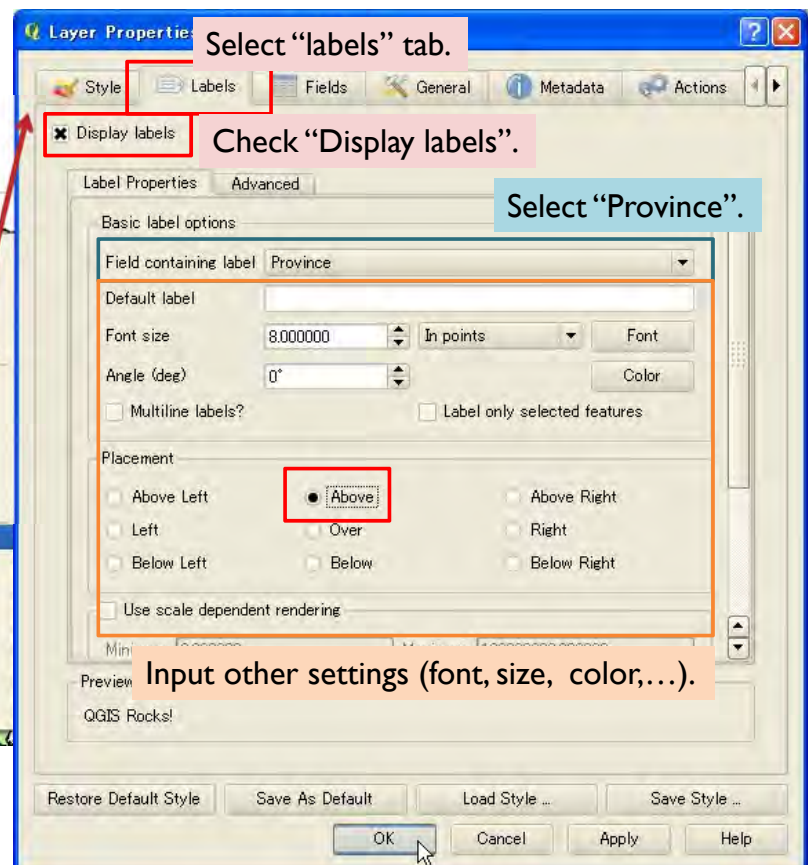
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.4 Labels

**Label setting**  
Next, make province label settings.



Right click – Properties.



Select "labels" tab.

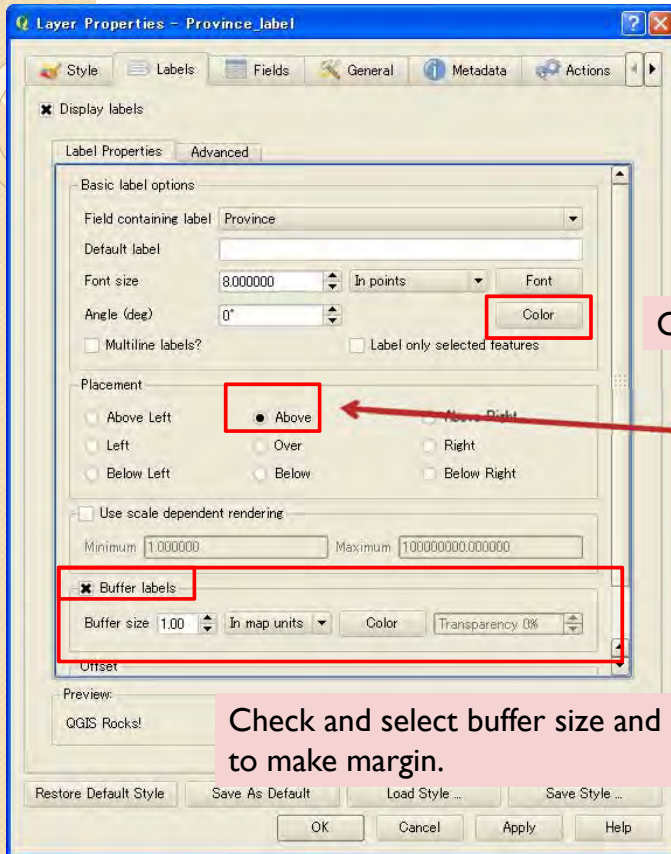
Check "Display labels".

Select "Province".

Input other settings (font, size, color,...).

## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels



Change font color here

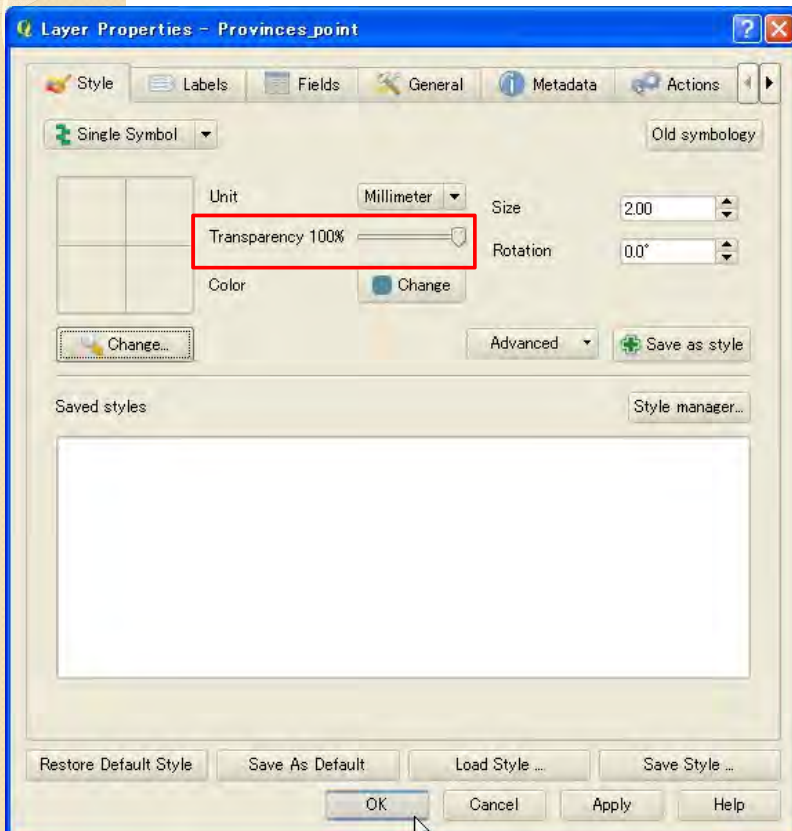
Select "Above" to display upper position.

Check and select buffer size and color to make margin.



## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels

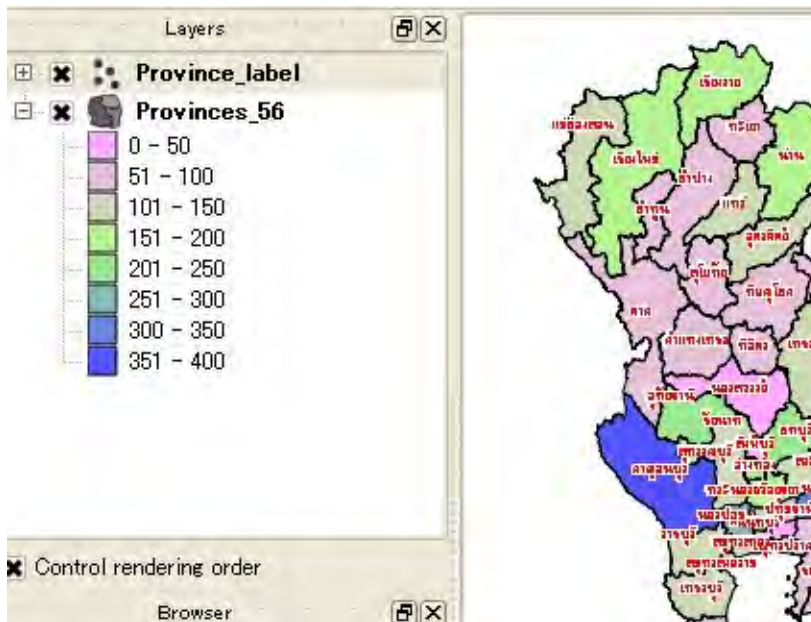


Set "Transparency" to 100 % to remove point symbols.

#### 4. Making Inventory Maps (CBDRM)

##### 4.2.4 Labels

Then, the province names are displayed in the map.

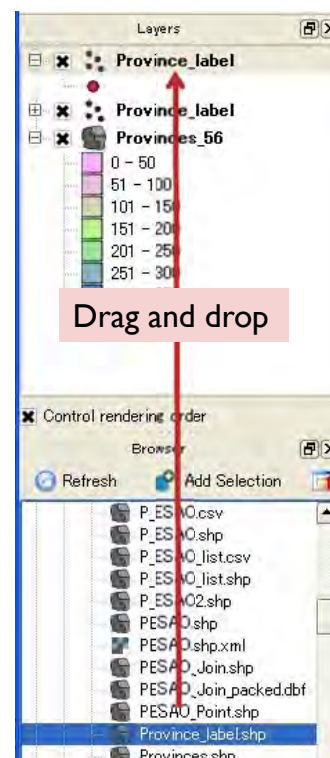


#### 4. Making Inventory Maps (CBDRM)

##### 4.2.4 Labels

Next, make province label settings.

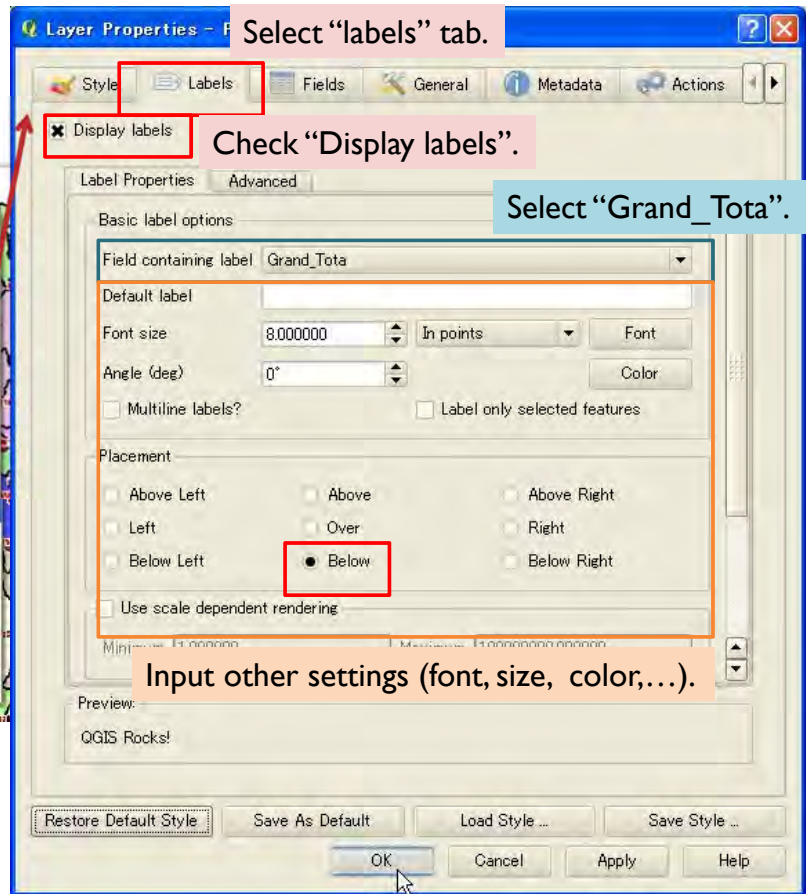
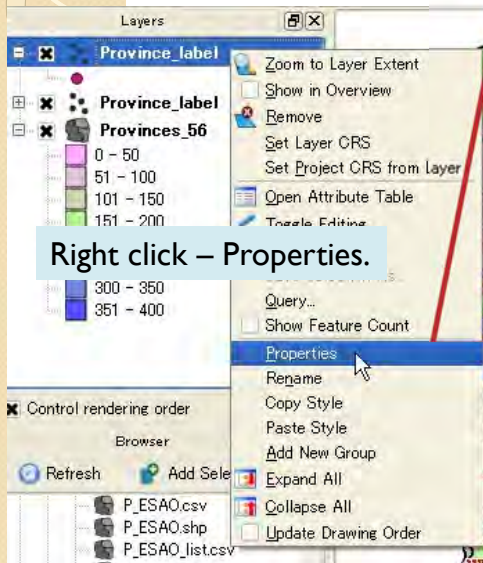
Import "Province\_label" one more.



#### 4. Making Inventory Maps (CBDRM)

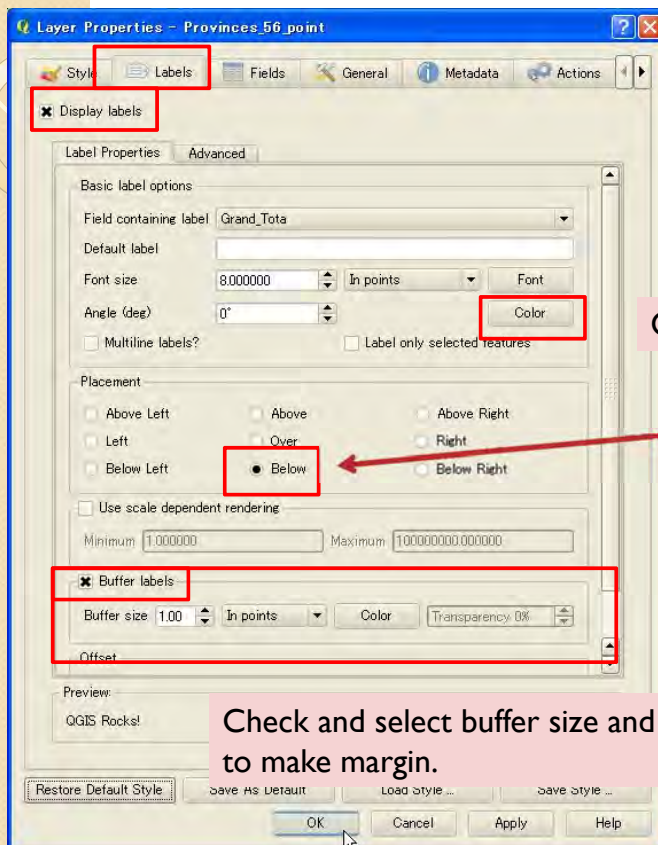
##### 4.2.4 Labels

Next, make province label settings.



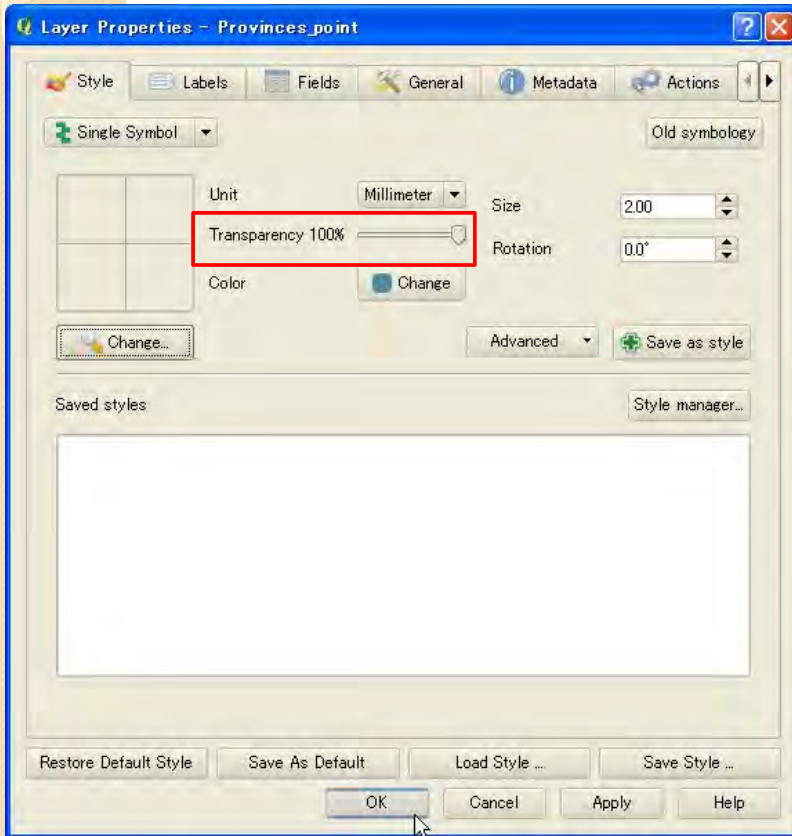
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.4 Labels



## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels

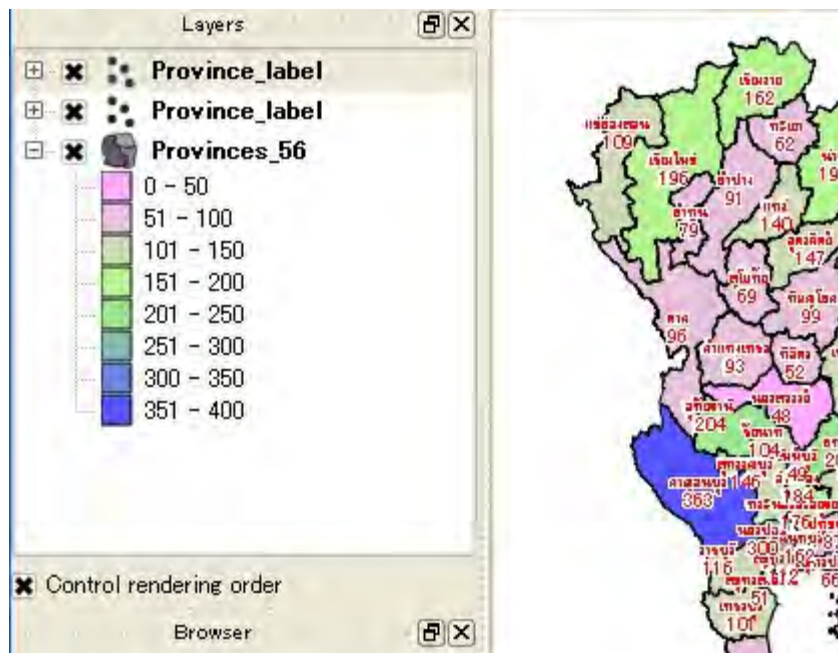


Set "Transparency" to 100 % to remove point symbols.

## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels

Then, the labels are displayed in the map.

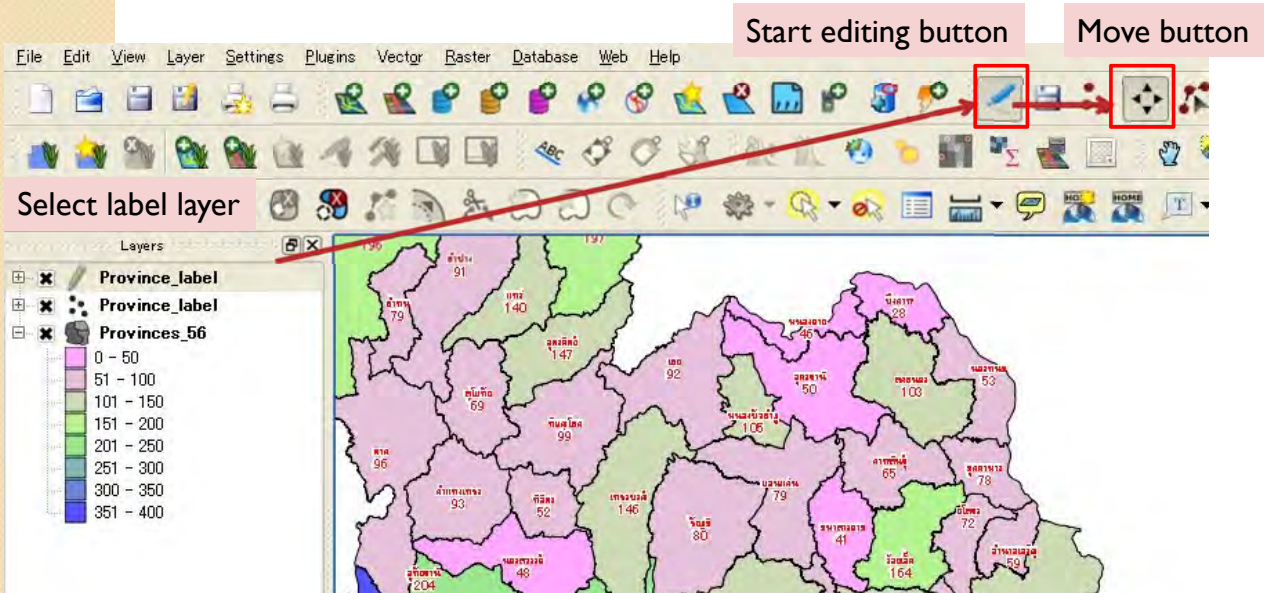


## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels

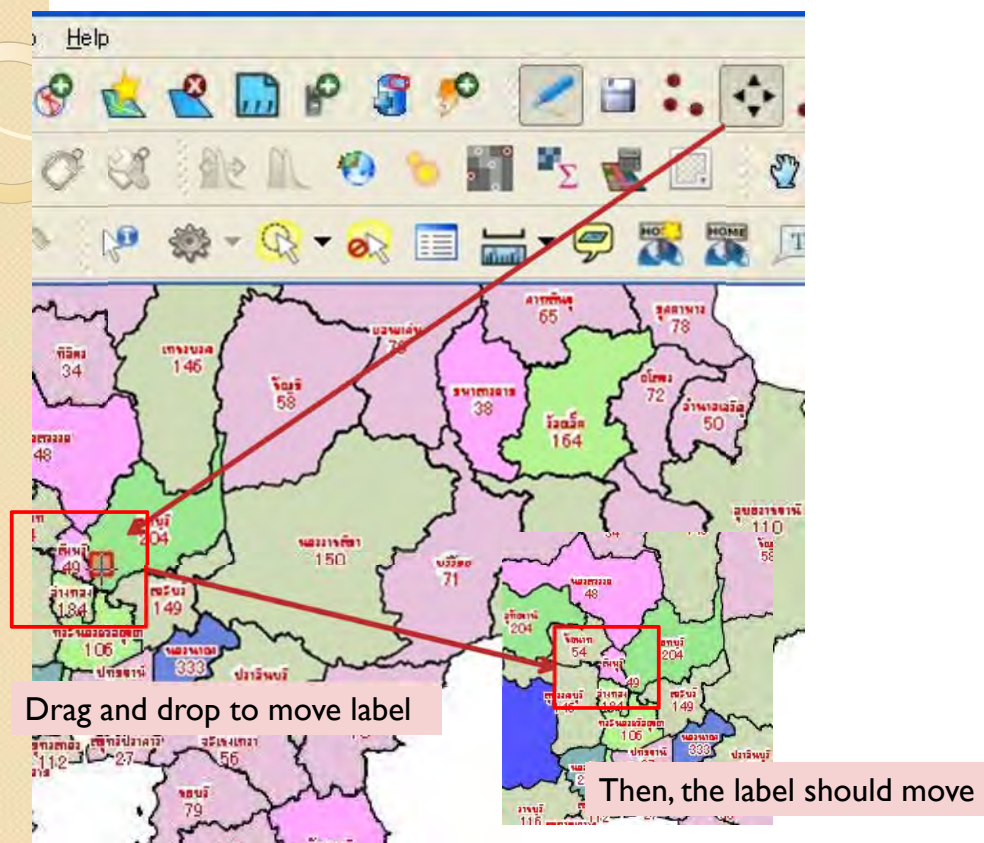
#### Move labels

In some case, the labels may overlap each other.  
You can move the lapped labels by following process.



## 4. Making Inventory Maps (CBDRM)

### 4.2.4 Labels

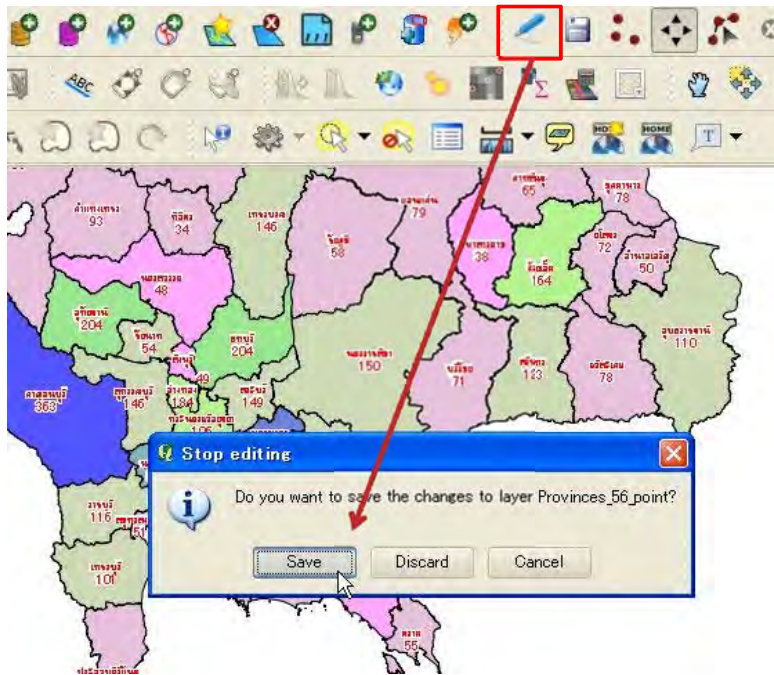




#### 4. Making Inventory Maps (CBDRM)

##### 4.2.4 Labels

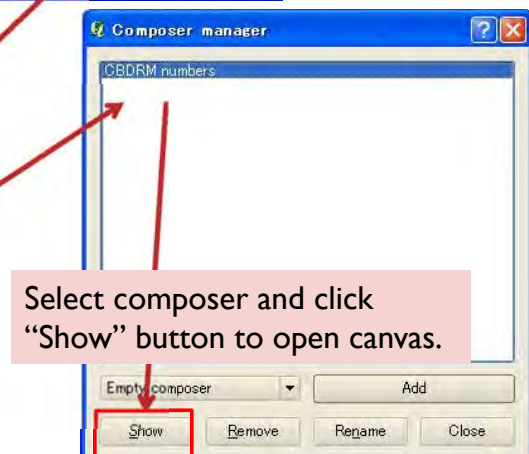
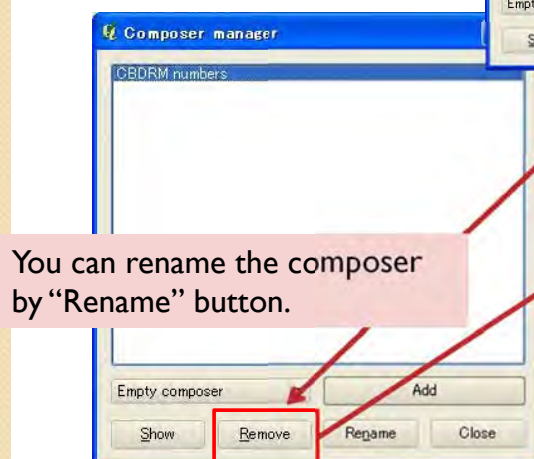
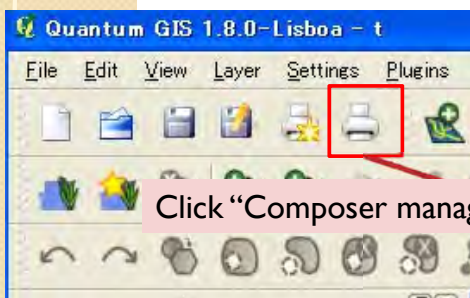
After you finish moving labels, re-click edit button and save changes. Then, the labels should be fixed at new position.



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer

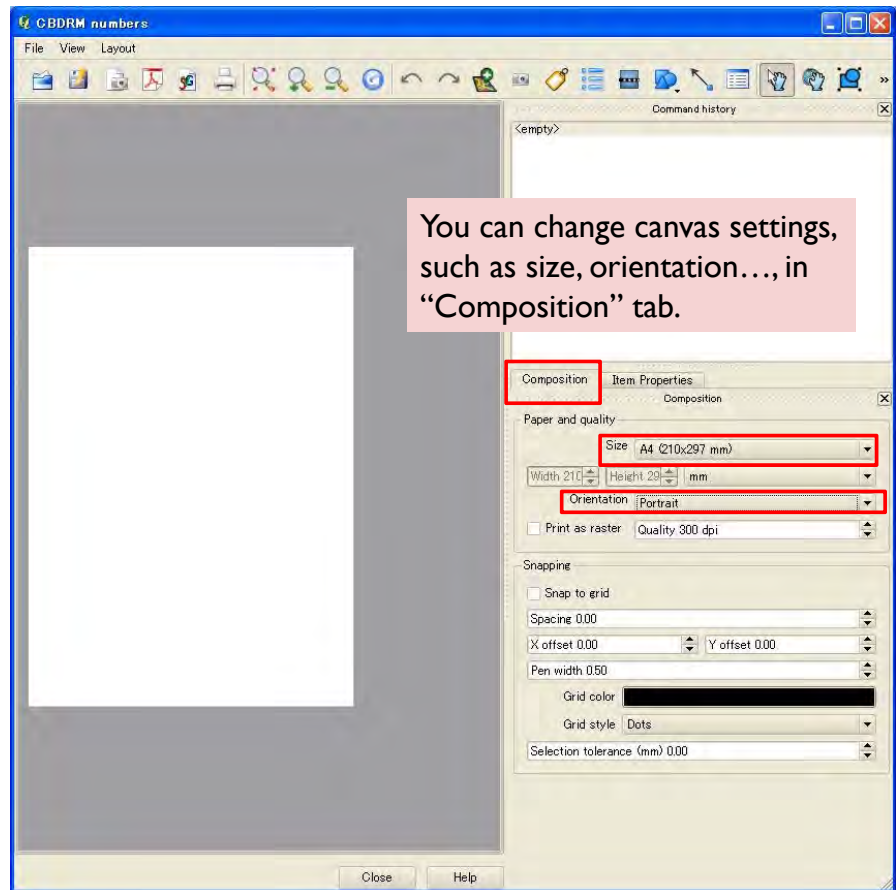
Print composer is a canvas to export map as image file (jpg, pdf, etc...).



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer

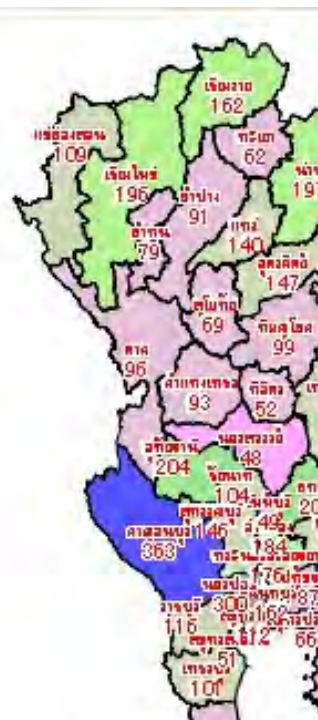
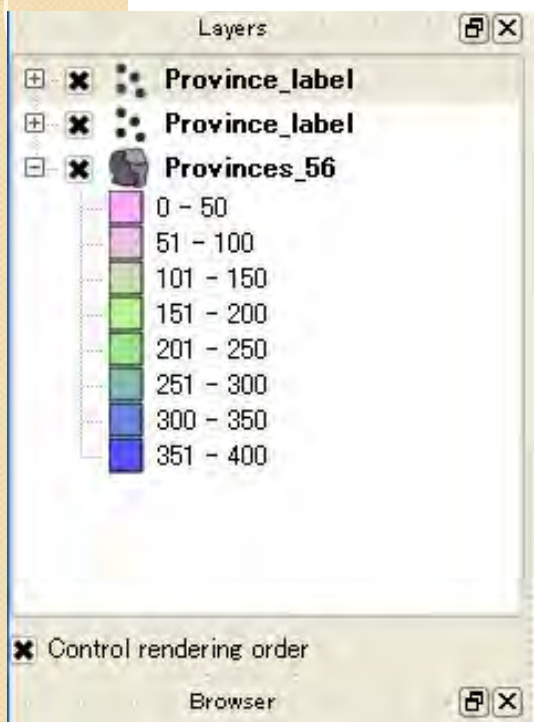
This is Print Composer window.



You can change canvas settings, such as size, orientation..., in "Composition" tab.

#### 4. Making Inventory Maps (CBDRM)

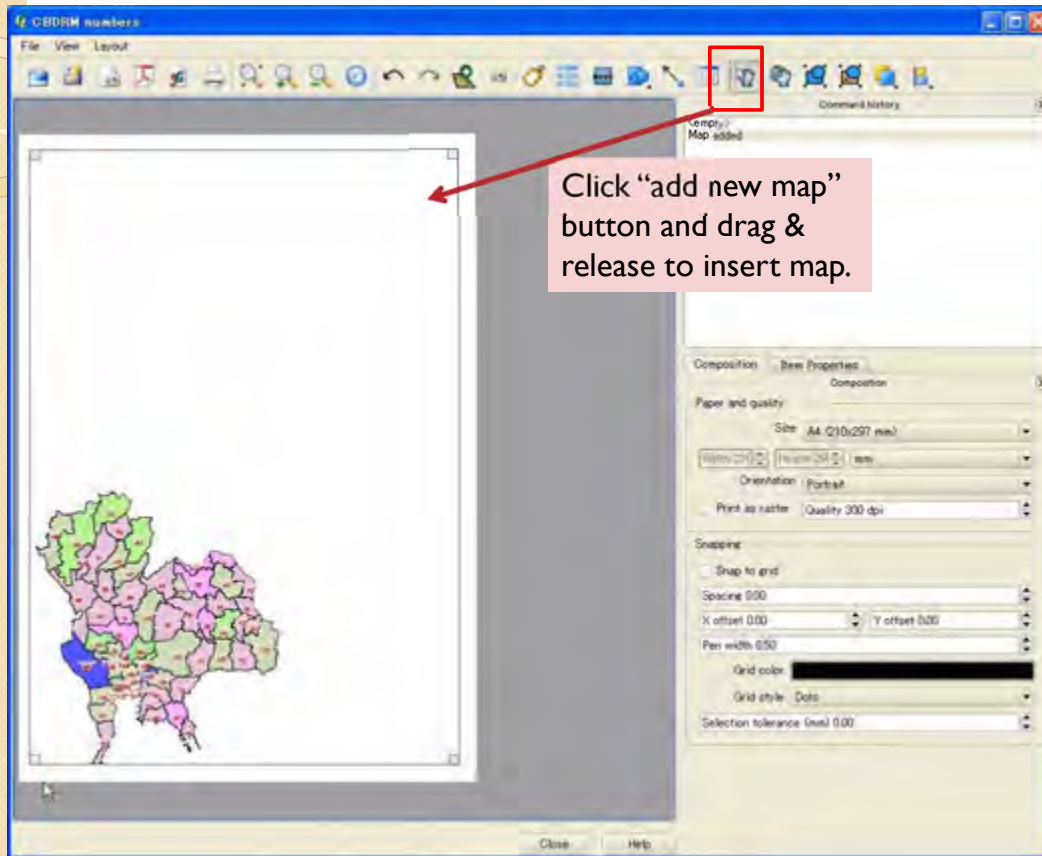
##### 4.2.5 Print composer



To make inventory map of whole Thailand, please display total numbers of conducted CBDRM colored map and labels in the QGIS map window.

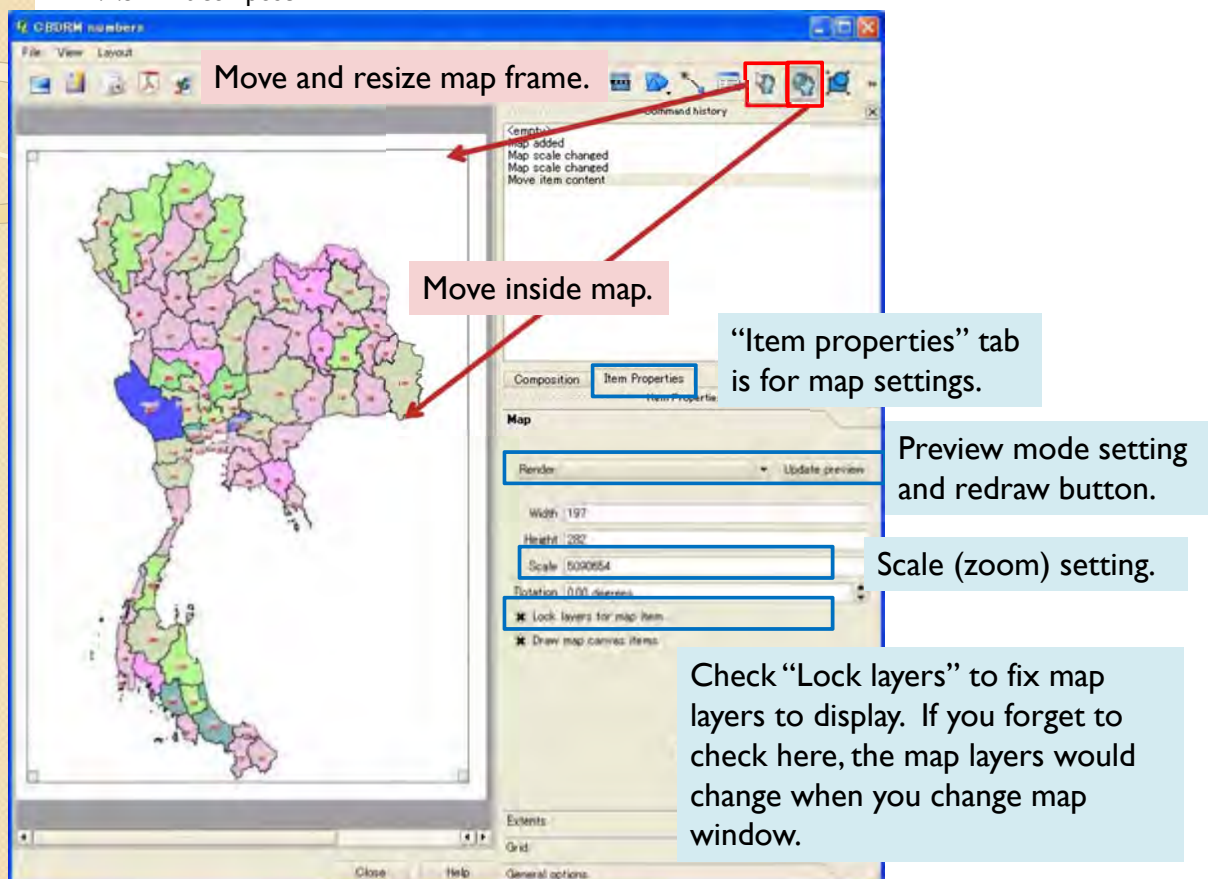
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer



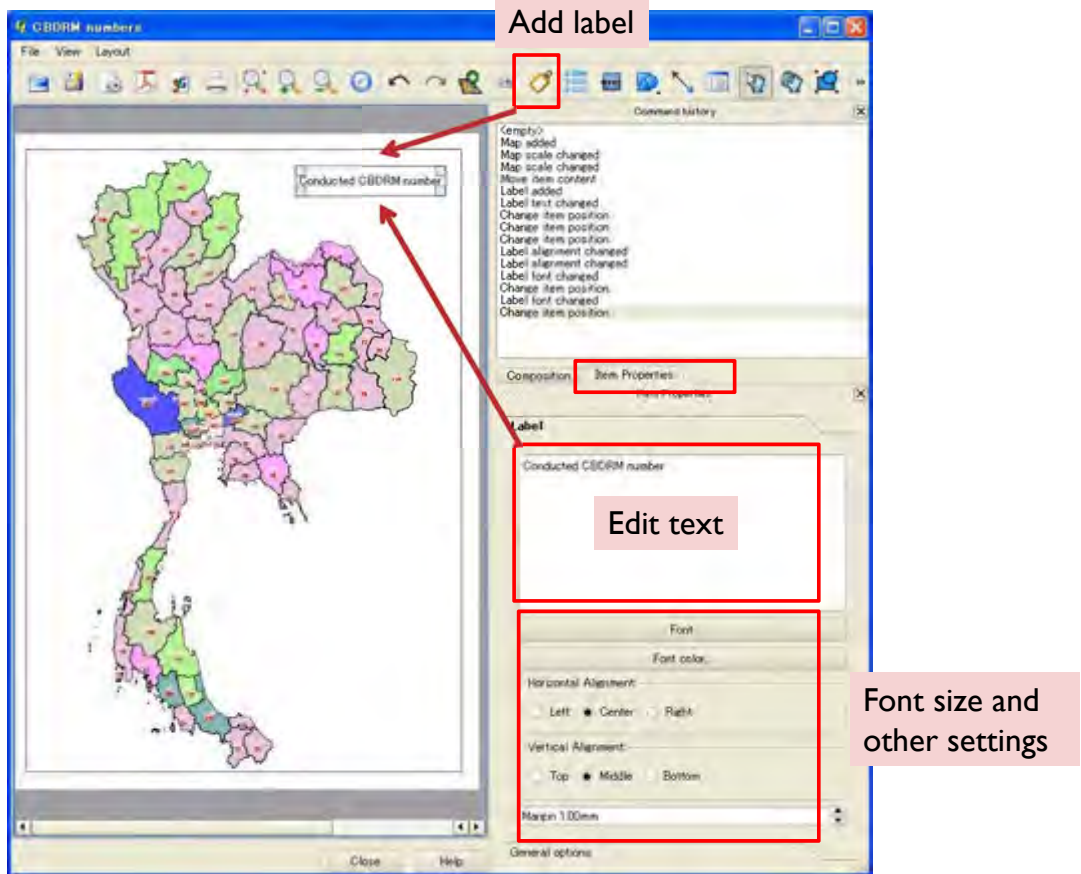
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer



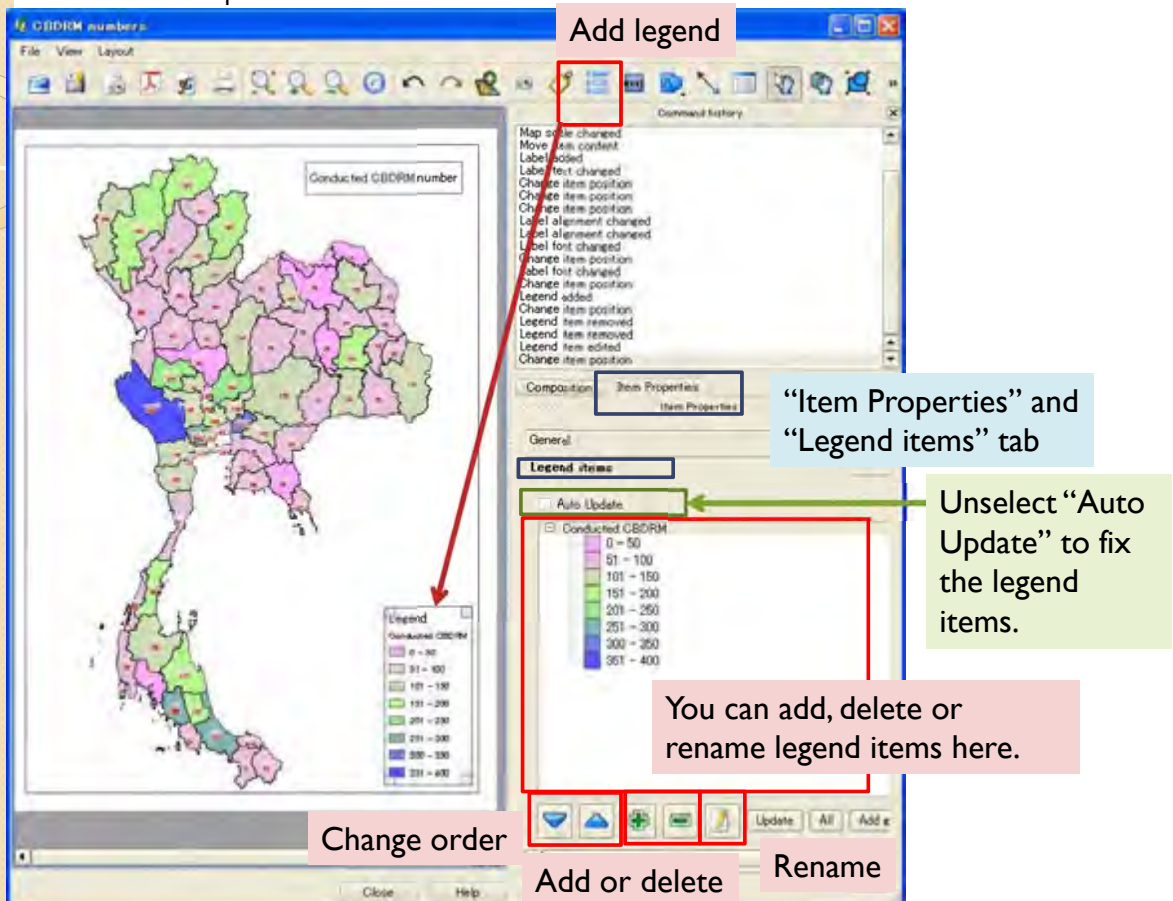
#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer



#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer

It is able to export map to file.

Export as image file



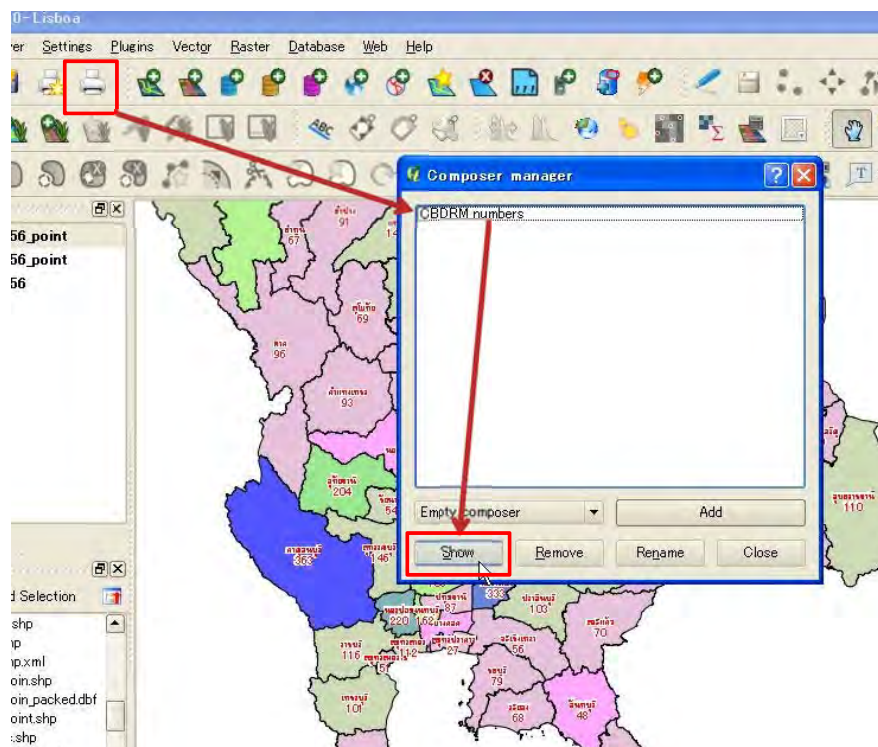
Export as pdf file

Print

#### 4. Making Inventory Maps (CBDRM)

##### 4.2.5 Print composer

After you made composer once, you can recall the canvas from this button.



#### 4. Making Inventory Maps (CBDRM)

##### 4.3 Map of CBDRM conducting percentage in risk community

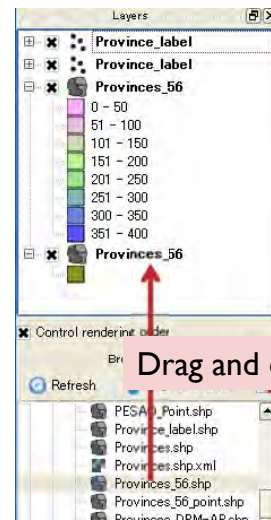
##### 4.3.1 Data import

You can import data about CBDRM conducting percentage in risk community from Excel file by same process in 4.1.2.

Other method is directly input to the province shape file.

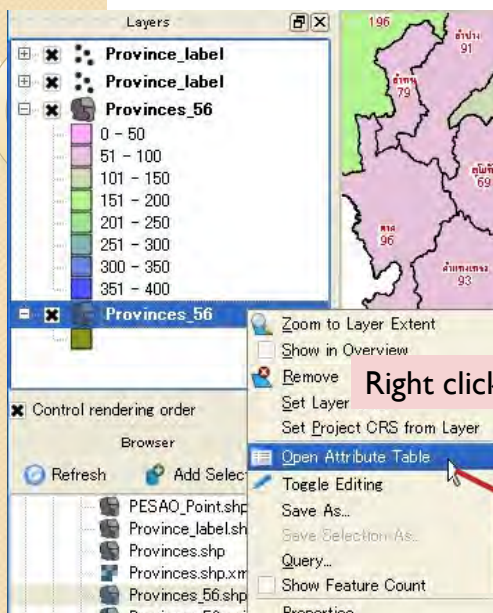
Following is explanation about making new column in attribute table and input the information.

At first, import "Province\_56", one more.



#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import



Right click – Open Attribute Table

ID	PROV_NAME	PROV_RANK	population	RC_Code	pop_dens	AREA	Num_RU_W	Num_PCWS	Num_PDRW	Num_TSDRW	Province	ES
0	กรุงเทพมหานคร	กรุงเทพมหานคร	4501144	RC01	4362.09	1563.625	0	0	0	0	กรุงเทพฯ	1
1	เชียงใหม่	เชียงใหม่	1000441	RC02	1000.00	4071.416	0	0	0	0	เชียงใหม่	2
2	เชียงราย	เชียงราย	816647	RC03	1203.19	636.4	0	0	214	214	เชียงราย	3
3	อุตรดิตถ์	อุตรดิตถ์	875849	RC04	448.09	1523.891	0	139	0	139	อุตรดิตถ์	4
4	น่าน	น่าน	727271	RC05	285.5	2547.246	0	1	521	521	น่าน	5
5	พะเยา	พะเยา	266446	RC06	266.46	660.467	0	0	0	0	พะเยา	6
6	ลำปาง	ลำปาง	548058	RC07	114.68	662.745	0	25	396	421	ลำปาง	7
7	ลำพูน	ลำพูน	237396	RC08	204.9	877.037	0	0	165	165	ลำพูน	8
8	แม่ฮ่องสอน	แม่ฮ่องสอน	266425	RC09	143.09	2582.267	0	0	0	0	แม่ฮ่องสอน	9
9	เชียงใหม่	เชียงใหม่	329269	RC10	164.86	3468.171	401	122	746	871	เชียงใหม่	10
10	ลำปาง	ลำปาง	134366	RC11	249.1	4507.781	0	29	30	59	ลำปาง	11
11	ลำพูน	ลำพูน	322131	RC12	142.45	3468.268	38	25	750	111	ลำพูน	12
12	เชียงใหม่	เชียงใหม่	488064	RC13	78.22	6172.241	0	0	0	0	เชียงใหม่	13
13	เชียงใหม่	เชียงใหม่	215046	RC14	763	2897.21	0	112	11	123	เชียงใหม่	14
14	เชียงใหม่	เชียงใหม่	58153	RC15	122.86	1194.624	24	139	-11	134	เชียงใหม่	15
15	เชียงใหม่	เชียงใหม่	400702	RC16	30.65	3929.217	3	180	194	374	เชียงใหม่	16
16	เชียงใหม่	เชียงใหม่	241091	RC17	112.09	2342.281	0	162	0	162	เชียงใหม่	17
17	เชียงใหม่	เชียงใหม่	48562	RC18	76.74	684.884	0	100	76	176	เชียงใหม่	18
18	เชียงใหม่	เชียงใหม่	265250	RC19	123.29	2154.617	0	102	584	686	เชียงใหม่	19
19	เชียงใหม่	เชียงใหม่	140309	RC20	149.19	1307.931	0	282	0	282	เชียงใหม่	20
20	เชียงใหม่	เชียงใหม่	132769	RC21	146.91	884.216	28	119	43	232	เชียงใหม่	21
21	เชียงใหม่	เชียงใหม่	148360	RC22	157.3	860.845	0	291	389	680	เชียงใหม่	22
22	เชียงใหม่	เชียงใหม่	161441	RC23	18.24	15027.18	0	421	21	442	เชียงใหม่	23

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import

Make new column for numbers of conducted CBDRM in risk community.

**New column name**

Name: GT\_Specifi

Type: Whole number (integer)

Width: 5

OK

Click OK

Start Edit

Add new column

Width (length of number)

Type (integer)

PROV_CODE	PROV_NAM_T	PROV_NAM_E	population	RiskOper TV
10	กรุงเทพมหานคร	Bangkok	6355144	NULL
11	สมุทรปราการ	Changwat Sam...	1028401	RC03
12	นนทบุรี	Changwat Nont...	816614	RC01
13	ปทุมธานี	Changwat Path...	677649	RC01
14	พระนครศรีอยุธยา	Changwat Phra...	727277	RC01
15	อ่างทอง	Changwat Ang ...	269419	RC16
16	ลพบุรี	Changwat Lopburi	745506	RC16
17	สิงห์?E	Changwat Sing...	232766	RC16
18	ชัยนาท	Changwat Chainat	359820	RC16
19	สระบุรี	Changwat Sara...	57501	RC16
20	ชลบุรี	Changwat Chon...	1040860	RC17
21	ระยอง	Changwat Ravone	522133	RC17
22	จันทบุรี	Changwat Ch...	635153	RC03
23	ตราด	Changwat Tra...	406732	RC03
24	ฉะเชิงเทรา	Changwat Chac...	406732	RC03
25	ปราจีนบุรี	Changwat Prac...	241081	RC03
26	นครนายก	Changwat Nakh...	485632	RC03
27	สระแก้ว	Changwat Srak...	2556260	RC05
30	นครราชสีมา	Changwat Nakh...	1493359	RC05
31	บุรีรัมย์	Changwat Buri ...	1493359	RC05
32	สุรินทร์	Surin	157.3	RC05
33	ศรีสะเกษ	Sisakhet	108.24	RC13
34	อุบลราชธานี	Changwat Ubon...	108.24	RC13

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import

Then, new column should be added at the last of attribute table. Double click to input data.

Dummy2	Old_GT	Num_TotVil	CBDRMperTV	RiskOper TV	GT_Specifi
NULL	NULL	NULL	NULL	NULL	NULL
0	27	88	4.5	15.6	95
0	162	214	44.3	34.7	30
0	87	139	21.5	18.7	66
0	106	524	12.6	33.6	89
0	184	218	40.8	40.8	122
0	204	431	28.3	36.7	41
0	49	165	24.8	43.8	65
0	54	264	24.6	49.3	226
0	149	973	23.2	91.4	9
0	79	59	15.5	6.4	13
0	68	111	11.7	20.9	32
0	48	179	17.8	23.8	33
0	55	128	25.7	47.9	17
0	56	182	9.3	19.7	63
0	103	284	22.1	38.9	125
0	333	163	76.6	39.9	49
0	70	389	12.6	50.6	73
0	150	696	10.4	17.9	27
0	71	286	9.4	11.7	34
0	123	233	14.5	10.8	55
0	78	690	7.9	25.7	54
0	110	447	12	15.6	

## 4. Making Inventory Maps (CBDRM)

### 4.3.1 Data import

Vil	CBDRMperTV	RiskOperTV	GT_Specifici	Risk_C
NULL	NULL	NULL	NULL	NULL
88	4.5	15.6	4	88
56	8.9	9.1	5	56
59	15.5	6.4	9	59
53	18.8	37.9	10	53
111	11.7	20.9	13	111
78	20.5	25.3	15	78
182	9.3	19.7	17	182
182	10.4	9.2	19	182
659	3.4	71.8	23	659
143	16	14.5	23	143
563	4.4	36.8	25	563
146	17.8	42.9	25	146
286	9.4	11.1	27	286
91	29.6	22.6	27	91
139	21.5	18.1	30	139
247	12.5	26.4	31	247
179	17.8	23.5	32	179
128	25.7	47.9	33	128
103	32	16.2	33	103
233	14.5	10.8	34	233
554	6.1	59.6	34	554
122	27.8	34.1	34	122

You can also make "Risk\_C" column for numbers of total risk community.

## 4. Making Inventory Maps (CBDRM)

### 4.3.1 Data import

Vil	CBDRMperTV	RiskOperTV	GT_Specifici	Risk_C
NULL	NULL	NULL	NULL	NULL
88	4.5	15.6	4	88
56	8.9	9.1	5	56
59	15.5	6.4	9	59
53	18.8	37.9	10	53
111	11.7	20.9	13	111
78	20.5	25.3	15	78
182	9.3	19.7	17	182
182	10.4	9.2	19	182
659	3.4	71.8	23	659
143	16	14.5	23	143
563	4.4	36.8	25	563
146	17.8	42.9	25	146
286	9.4	11.1	27	286
91	29.6	22.6	27	91
139	21.5	18.1	30	139
247	12.5	26.4	31	247
179	17.8	23.5	32	179
128	25.7	47.9	33	128
103	32	16.2	33	103
233	14.5	10.8	34	233
554	6.1	59.6	34	554
122	27.8	34.1	34	122

After you input numbers of conducted CBDRM in risk communities and numbers of total risk communities, make new column for percentage.

Type is "Decimal number"

Set Width and Precision

Click OK

Add new column button



#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import

After you add "Percentage" column, calculate percentage as follows.

The screenshot shows the ArcGIS Field Calculator dialog box overlaid on a data table. The table has columns: RiskOperTV, GT\_Specifici, Risk\_C, and Percentage. The dialog box has the following elements:

- Only update selected features:** Checked (indicated by a red box and arrow).
- Update existing field:** Checked (indicated by a red box and arrow).
- Output field name:** Percentage (indicated by a red box and arrow).
- Output field type:** Percentage (indicated by a red box and arrow).
- Function List:** A list of functions including Total\_54, LS\_65, Other55, etc. (indicated by a red box and arrow).
- Expression:**  $100.0 * "GT\_Specifici" / "Risk\_C"$  (indicated by a red box and arrow).
- OK button:** Located at the bottom right (indicated by a red box and arrow).

Annotations include:

- "Check these box and select 'Percentage'" (pointing to the checked boxes and the field type).
- "Push field calculator button" (pointing to the calculator icon in the bottom toolbar).
- "Input formula" (pointing to the expression text).

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import

The screenshot shows the ArcGIS Attribute Table for 'Provinces\_56'. The table has columns: ID, Num\_TotVil, CBDRMperTV, RiskOperTV, GT\_Specifici, Risk\_C, and Percentage. A 'Stop editing' dialog box is open, asking: "Do you want to save the changes to layer Provinces\_56?". The dialog box has 'Save', 'Discard', and 'Cancel' buttons. The 'Save' button is highlighted with a red box and arrow. The 'Percentage' column is highlighted in green. The 'Edit' button in the bottom toolbar is also highlighted with a red box and arrow.

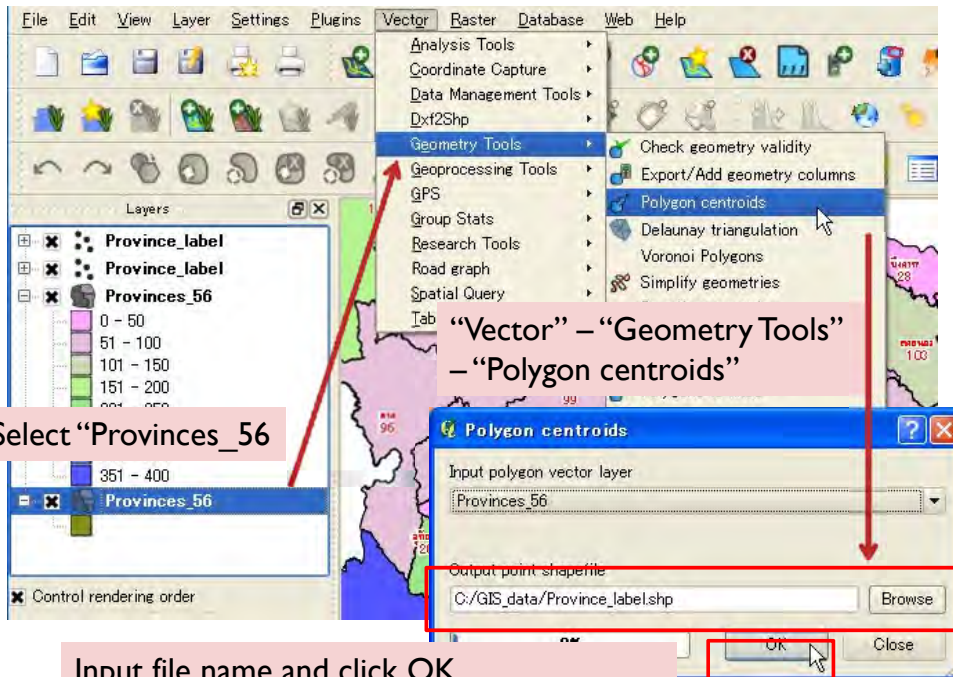
Annotations include:

- "After you calculate percentage, re-click edit button to terminate edit and save." (pointing to the 'Edit' button and the 'Save' button in the dialog box).

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.1 Data import

Next, make point data for labels same as 4.2.2



Select "Provinces\_56"

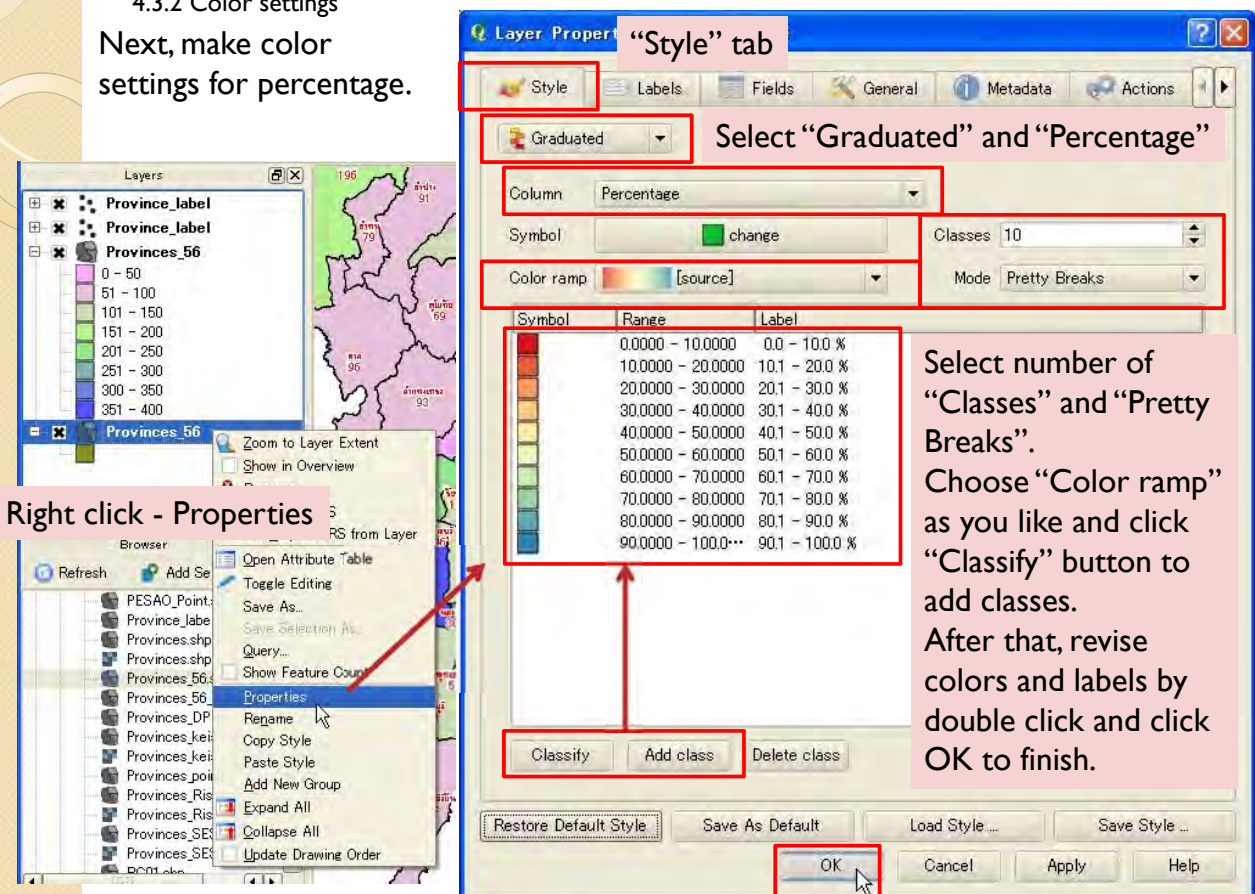
"Vector" – "Geometry Tools"  
– "Polygon centroids"

Input file name and click OK.  
Then, new point file for labels will be made.

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.2 Color settings

Next, make color settings for percentage.



Right click - Properties

"Style" tab

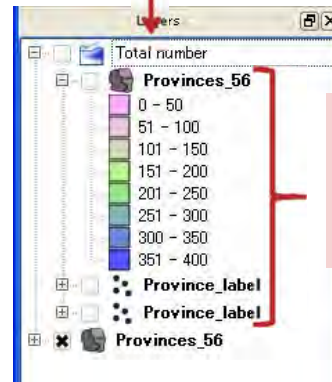
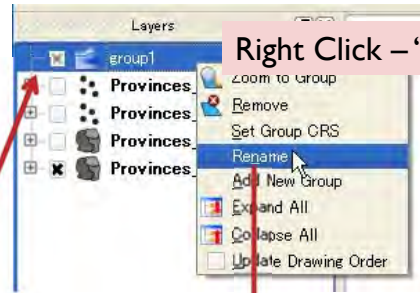
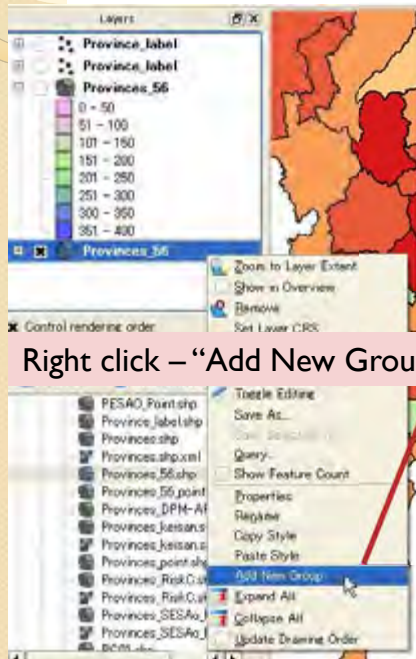
Select "Graduated" and "Percentage"

Select number of "Classes" and "Pretty Breaks".  
Choose "Color ramp" as you like and click "Classify" button to add classes.  
After that, revise colors and labels by double click and click OK to finish.

#### 4. Making Inventory Maps (CBDRM)

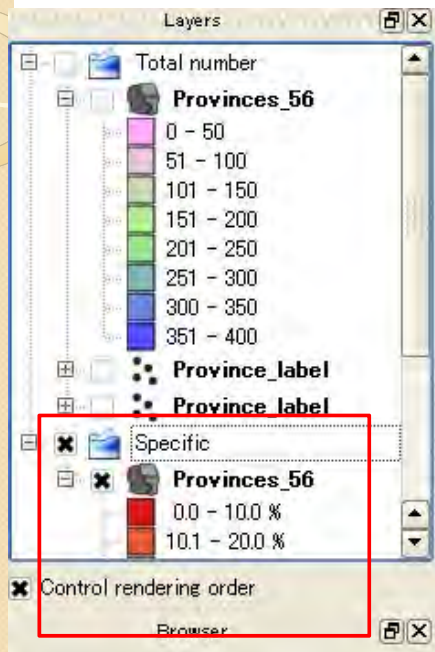
##### 4.3.3 Group

In order to separate total and specific map, add group to the layer.



#### 4. Making Inventory Maps (CBDRM)

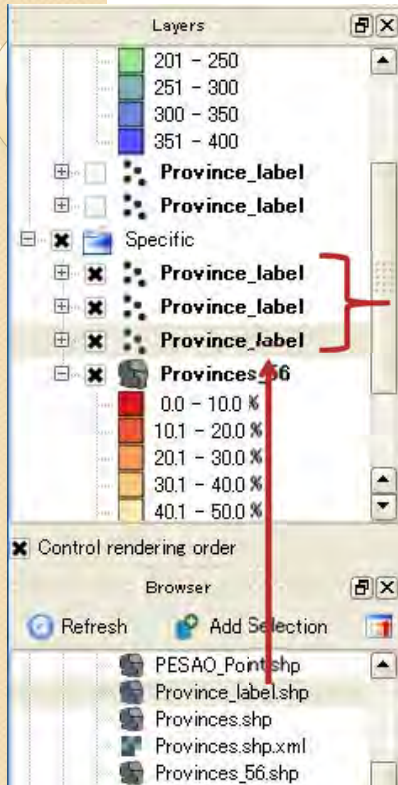
##### 4.3.3 Group



Make Specific group by same process.

## 4. Making Inventory Maps (CBDRM)

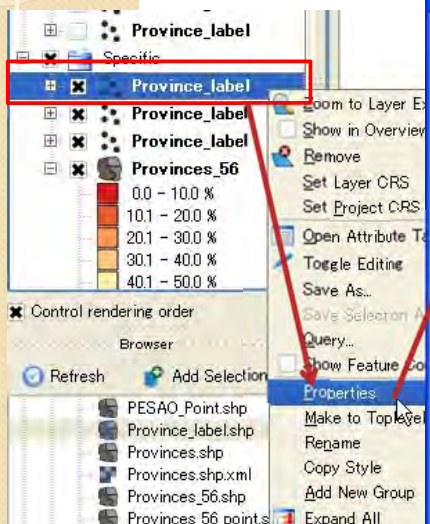
### 4.3.4 Label settings



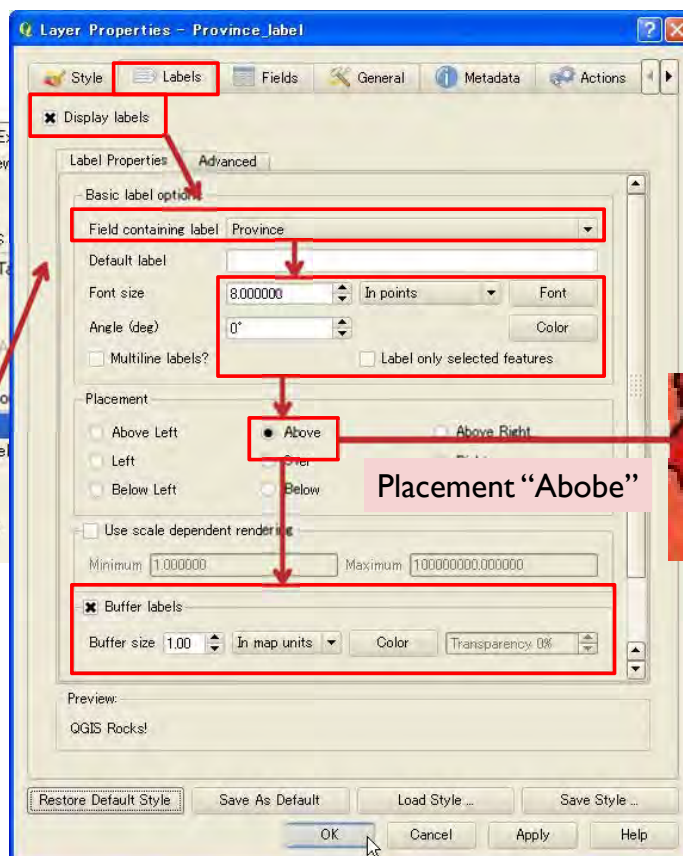
In order to make label, import three layers for label you made in 4.3.1.

## 4. Making Inventory Maps (CBDRM)

### 4.3.4 Label settings



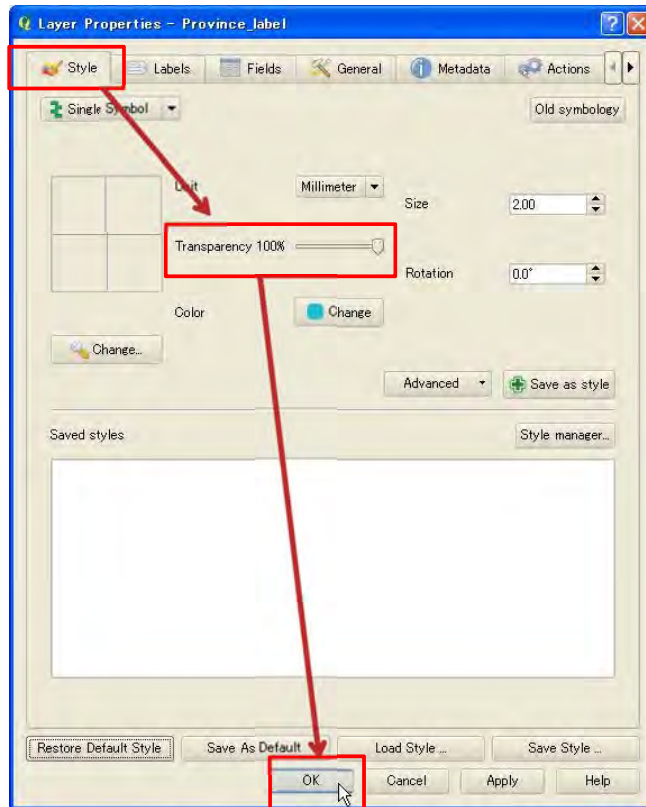
Set first layer for province name label same as 4.2.3.



Placement "Above"

## 4. Making Inventory Maps (CBDRM)

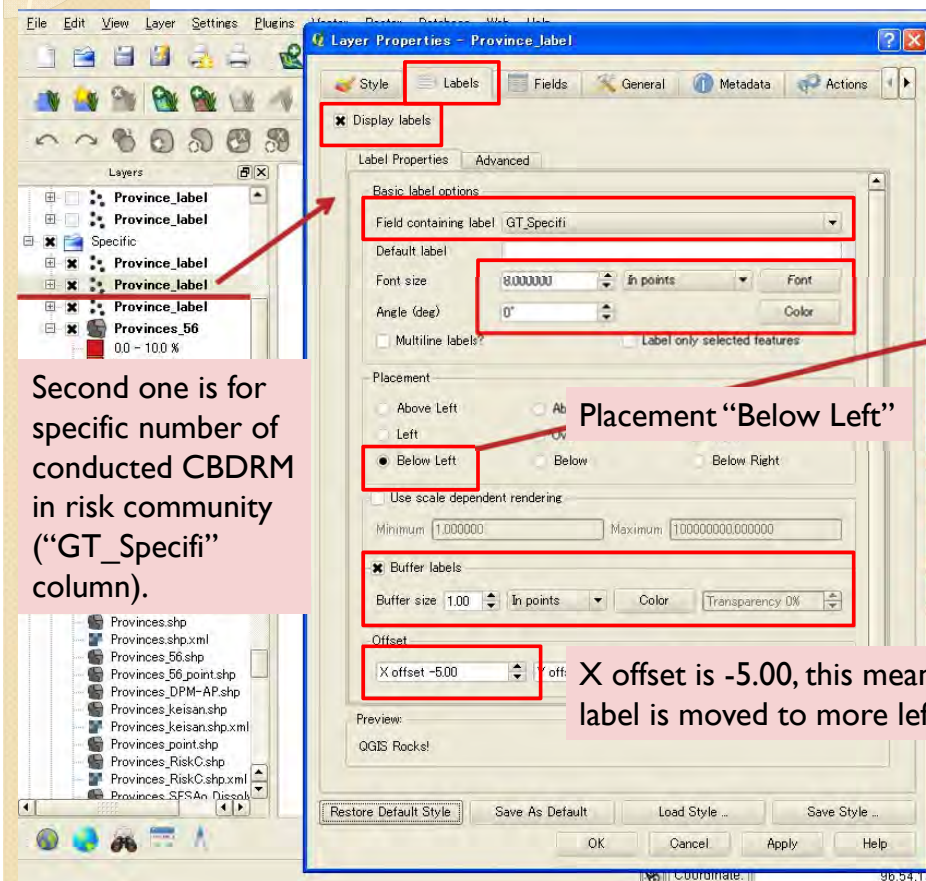
### 4.3.4 Label settings



After make label, set transparency to 100% and push OK to finish.

## 4. Making Inventory Maps (CBDRM)

### 4.3.4 Label settings



Second one is for specific number of conducted CBDRM in risk community ("GT\_Specifi" column).

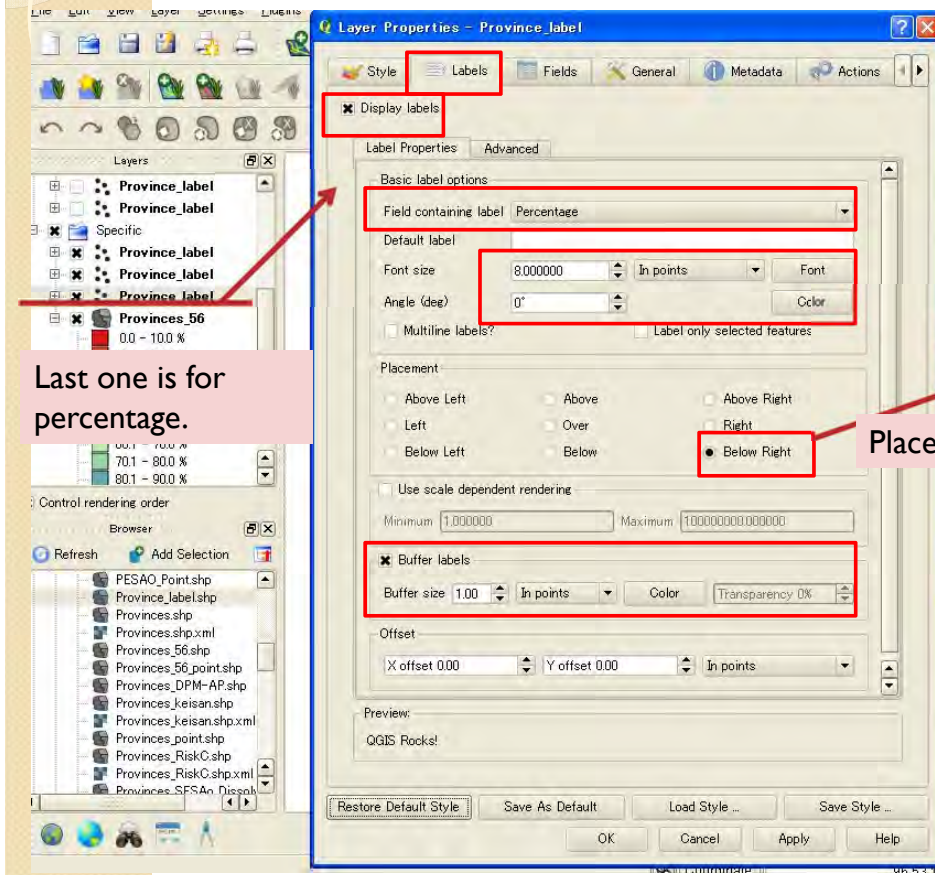
Placement "Below Left"

X offset is -5.00, this means label is moved to more left.

After set label, change transparency to 100% at "Style" tab and click OK.

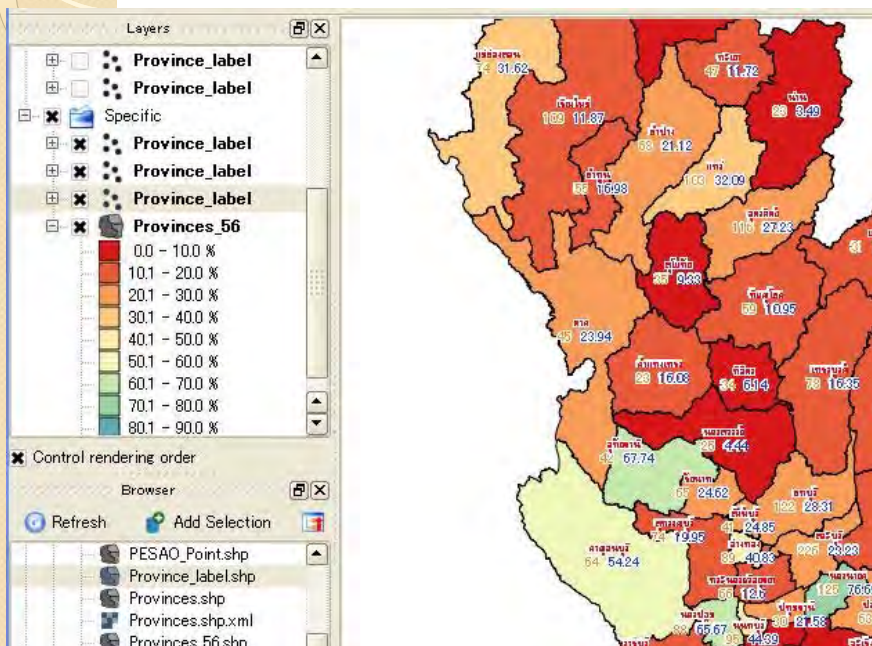
## 4. Making Inventory Maps (CBDRM)

### 4.3.4 Label settings



## 4. Making Inventory Maps (CBDRM)

### 4.3.4 Label settings



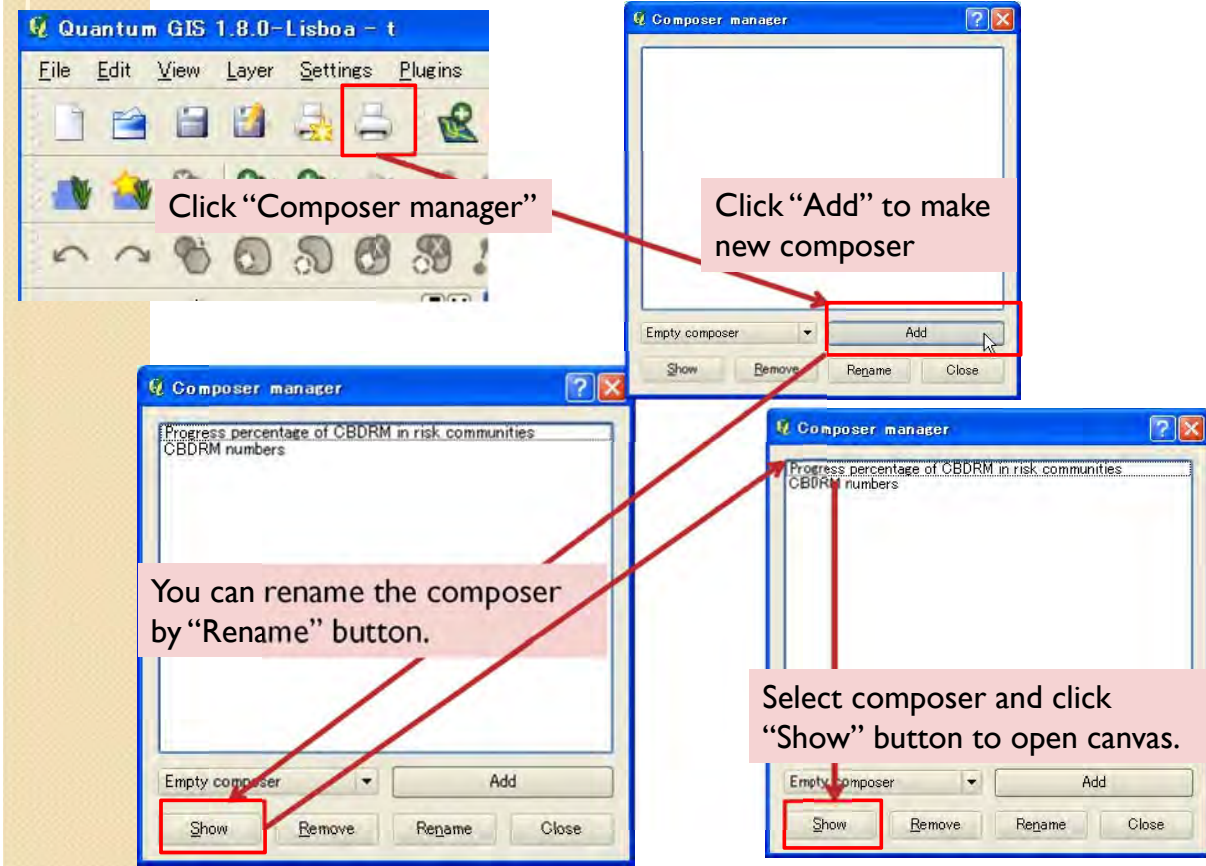
Then, you can see the progress percentage map for CBDRM in risk communities.

If there are some overlaps of labels, you can move (see 4.2.3 move labels).

#### 4. Making Inventory Maps (CBDRM)

##### 4.3.5 Print Composer

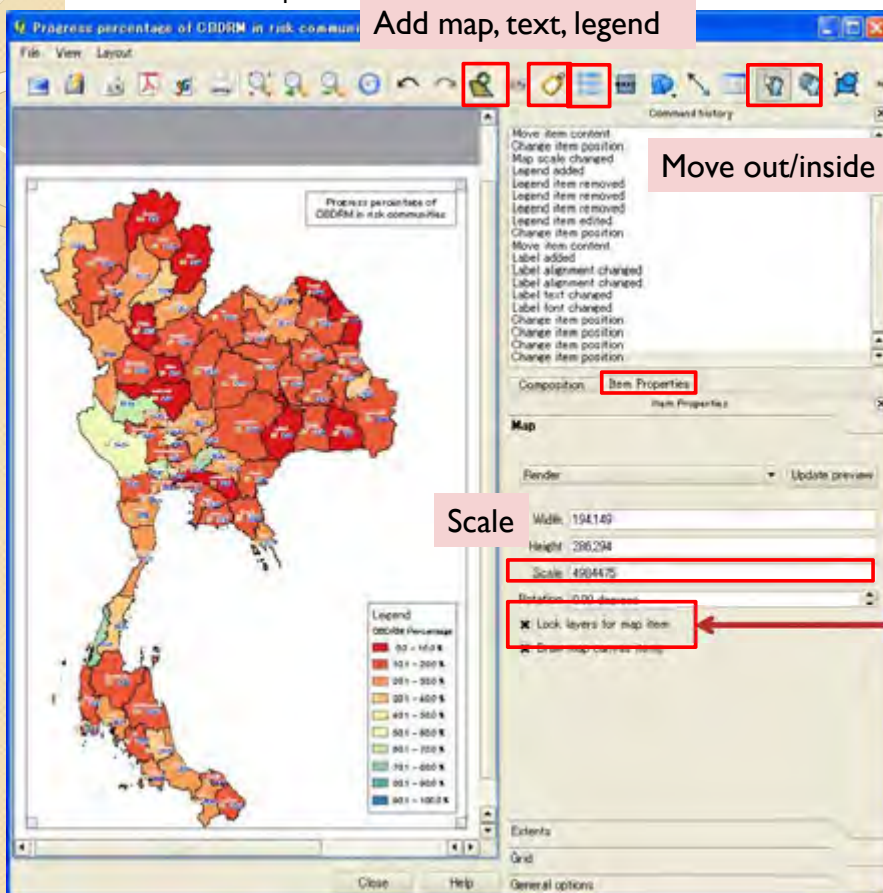
Make print composer to print the map.



#### 4. Making Inventory Maps (CBDRM)

##### 4.3.5 Print Composer

Add map, text, legend



You can make map by same process in 4.2.4.

Don't forget check "Lock layers".