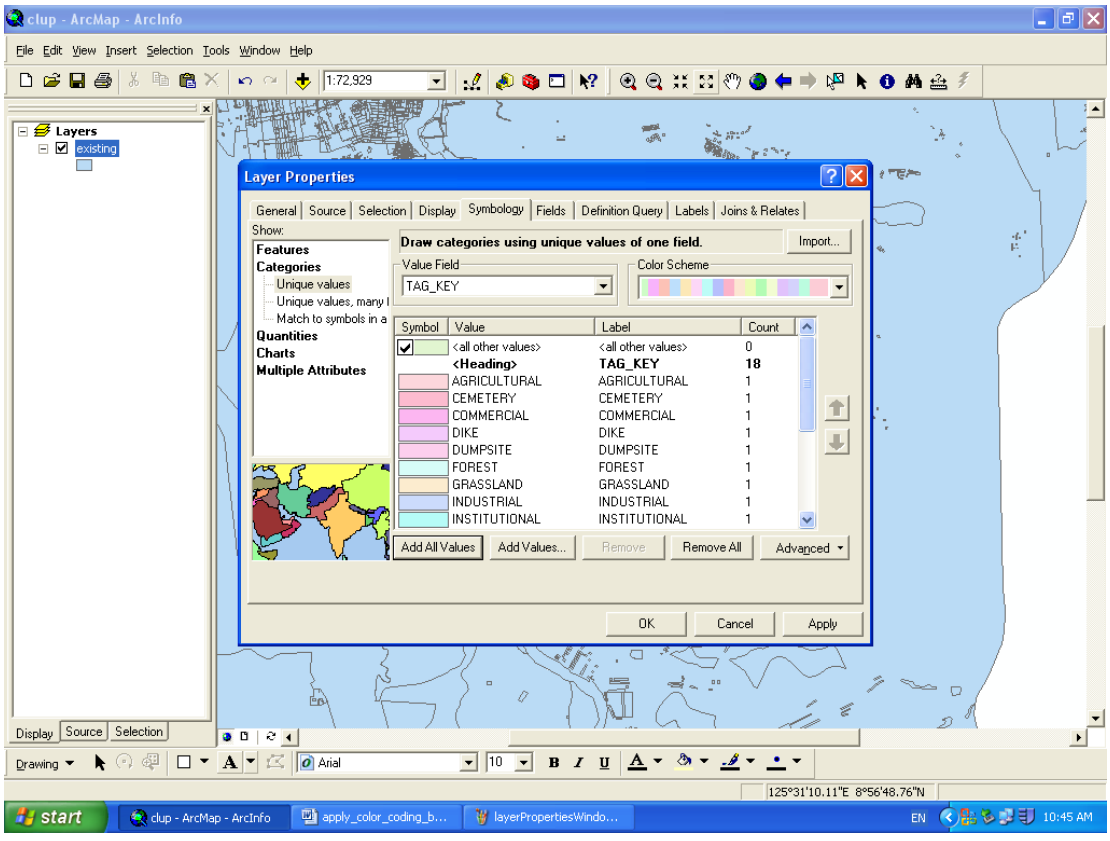
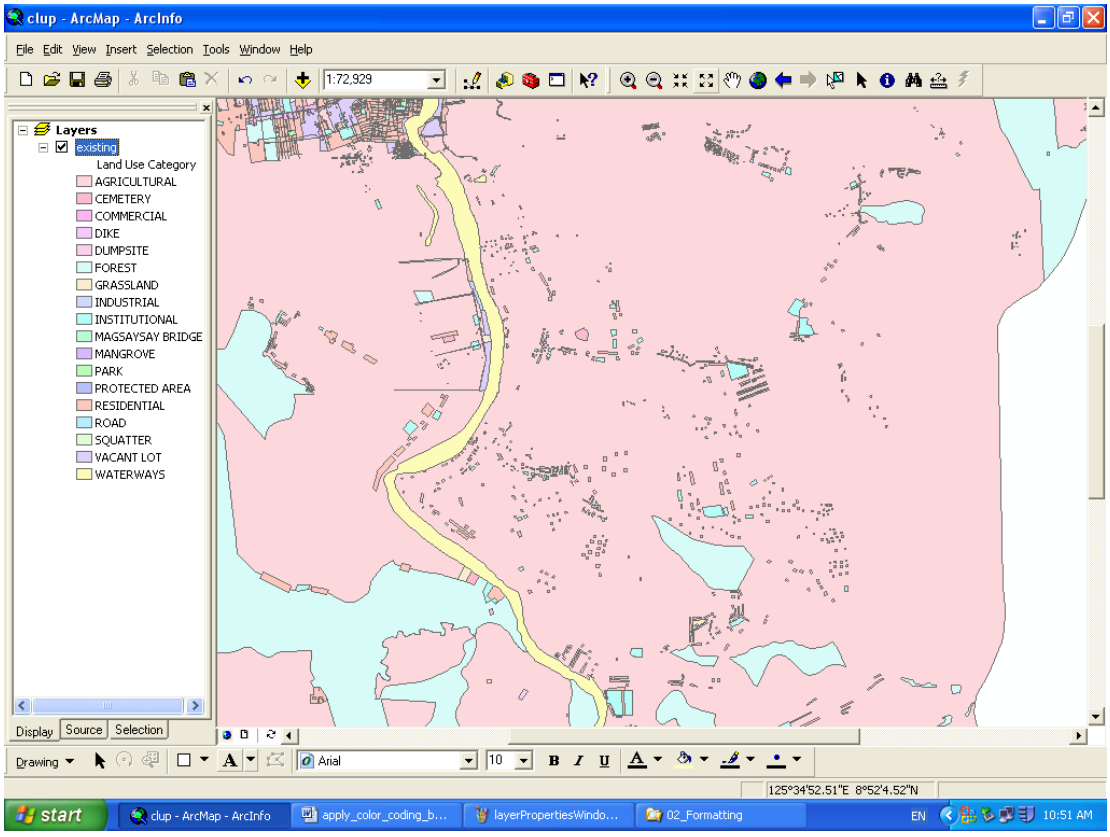
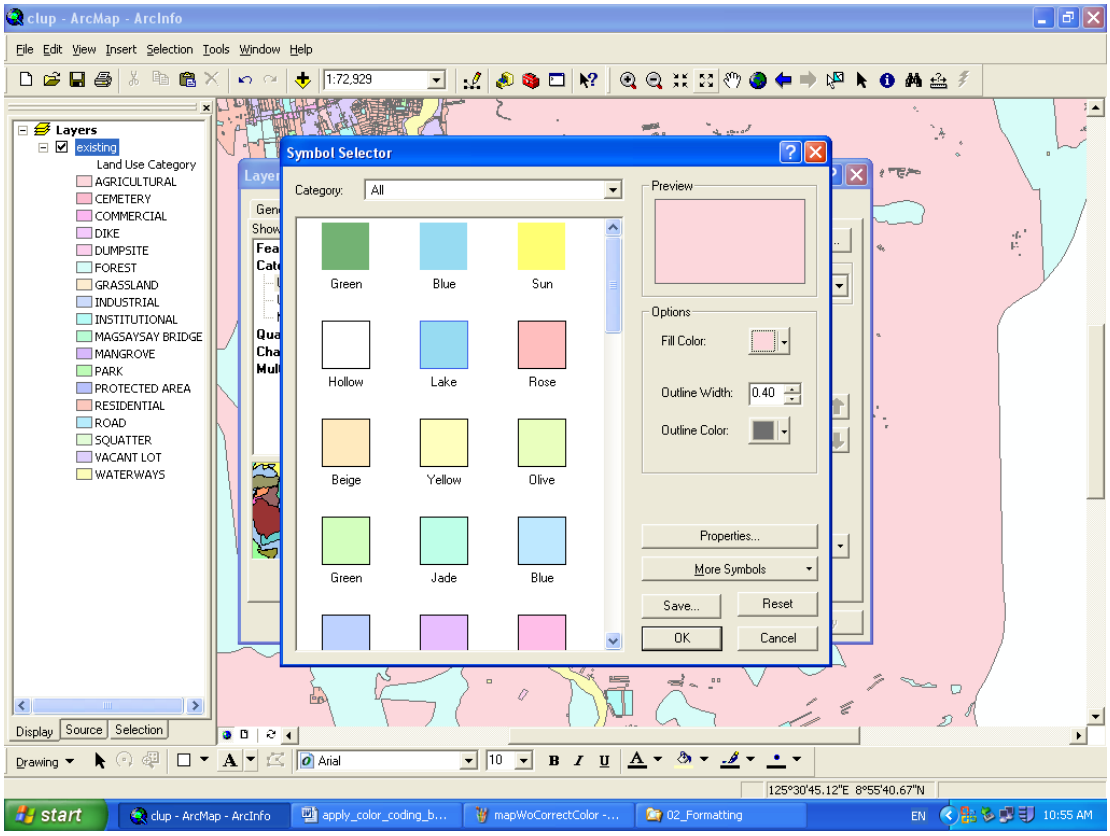
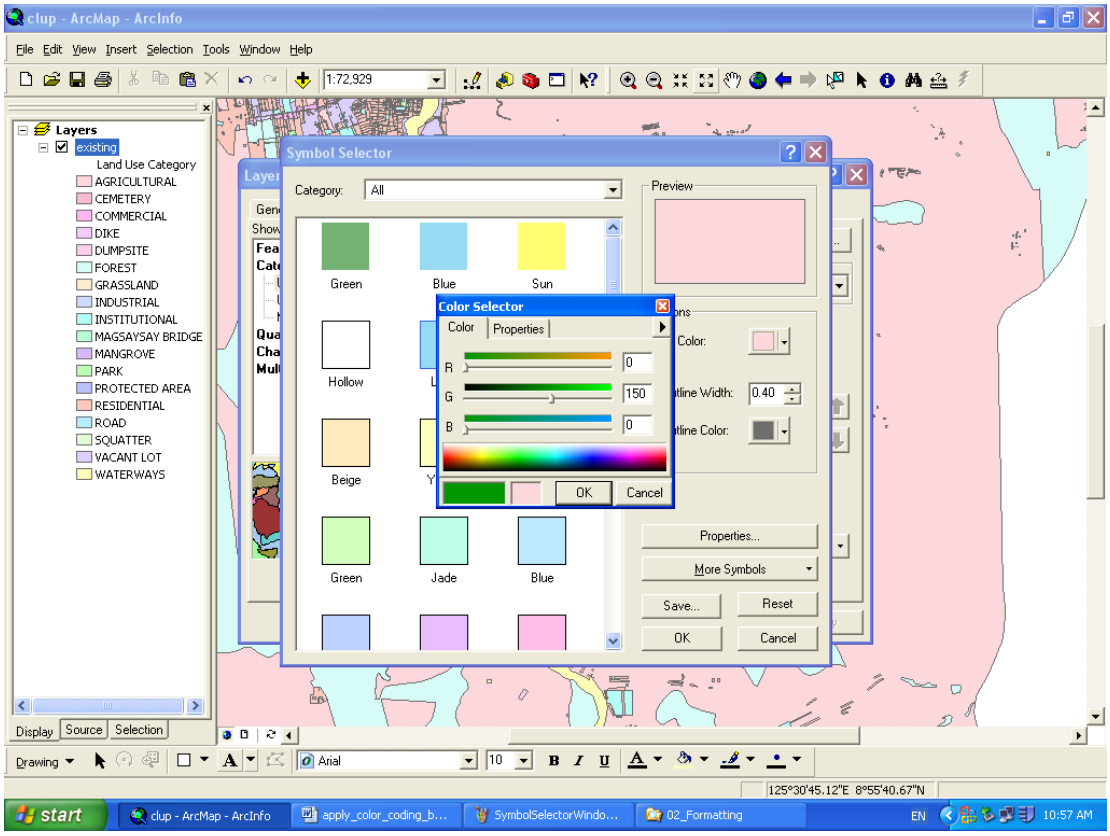
7.11 Tutorial on How to Apply Recommended Color-Coding to a Draft CLUP

	Prerequisites for this exercise	
	In this tutorial, which is to be used at the Applied Training, the data that we will use does not conform to a ready CLUP layer (and the suggest coding found in the cookbook table LM02). The dataset used in this exercise is called existing (land use). In some steps we will have to "convert" some general land use categories to CLUP categories. *This tutorial deals with simple operations such as changing symbology and colors. The output will be a draft CLUP containing the recommended colors.*	
	Getting started	
1	Open ArcMap and add the *existing.shp* layer to the workspace. It is found in the folder *C:\HLURB\CLUP\01_CLUPGIS (Butuan)\04_LM*	
	The red-green-color coding (RGB) is handy to work with on computers, since most programs define colors as a mixture of these three colors. In ArcGIS those codes are accessible through a special Color Selection Window. The complete recommended color-coding is found in Annex 4-3 of Volume 1. Below follows an extract from the Annex.	
		RGB Code
	Residential	255,255,130
	Commercial	255,0,0
	Infrastructure/utilities	190,190,190
	Institutional	0,0,255
	Parks/playgrounds and other recreational spaces	100,225,100
	Industrial	140,0,200
	Agriculture	0,150,0
	Forest and forest use categories	0,100,0

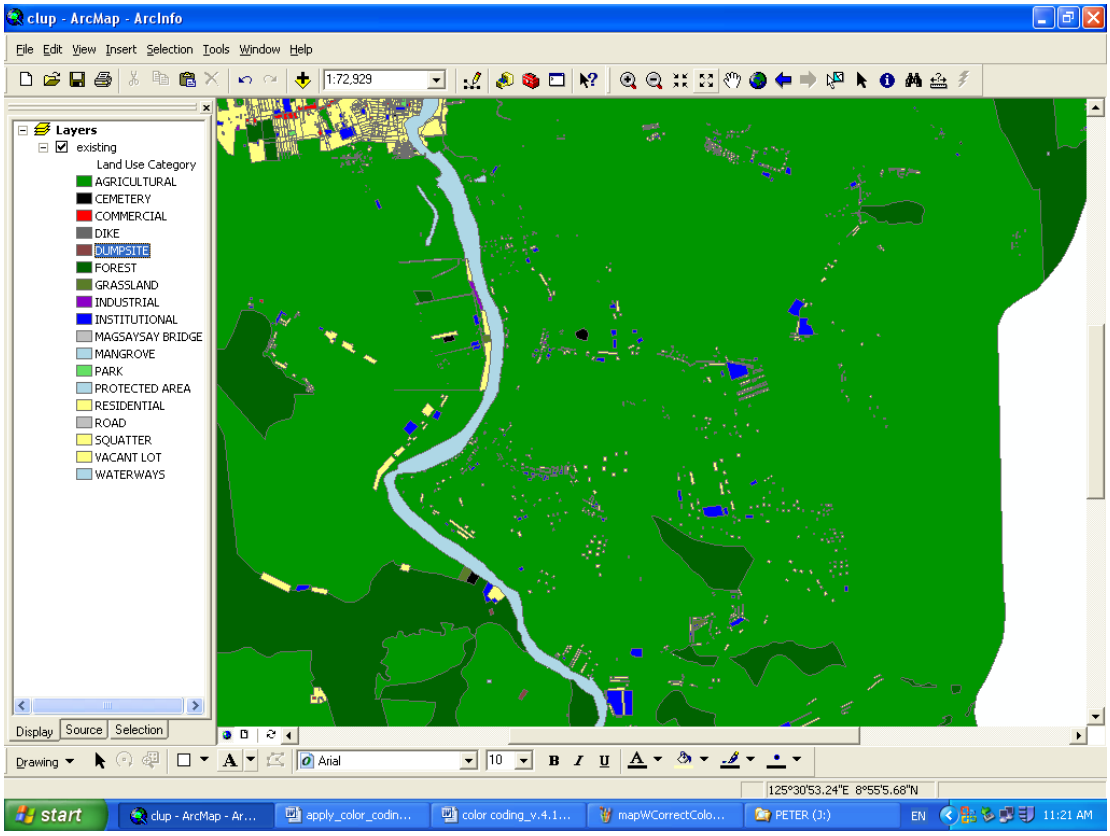
	Mining/quarrying	153,51,0
	Grassland/pasture	90,125,40
	Agro-industrial	200,150,255
	Tourism	255,102,0
	Water uses	175,215,230
2	In the table of content, right-click on *existing*, then select **Properties**. On your screen the *Layer Properties* window will appear. Select the **Symbology** tab.	
3	See image below. Click on *Categories* at the left, then choose *TAG_KEY* from the *Value Field* roll-down menu. Click **Add All Values**.	
		
	> *Since the dataset we use does not exactly conform to a CLUP dataset, we need to be a bit imaginative. For example, the TAG_KEY column in the attribute table would have been named PLU_TP if we had followed the coding in the Cookbook table LM02 and it would have contained correct values as listed in Annex 4-3 in Volume 1.*	
4	Uncheck the symbol for *<all other values>*. Place the cursor over the word	

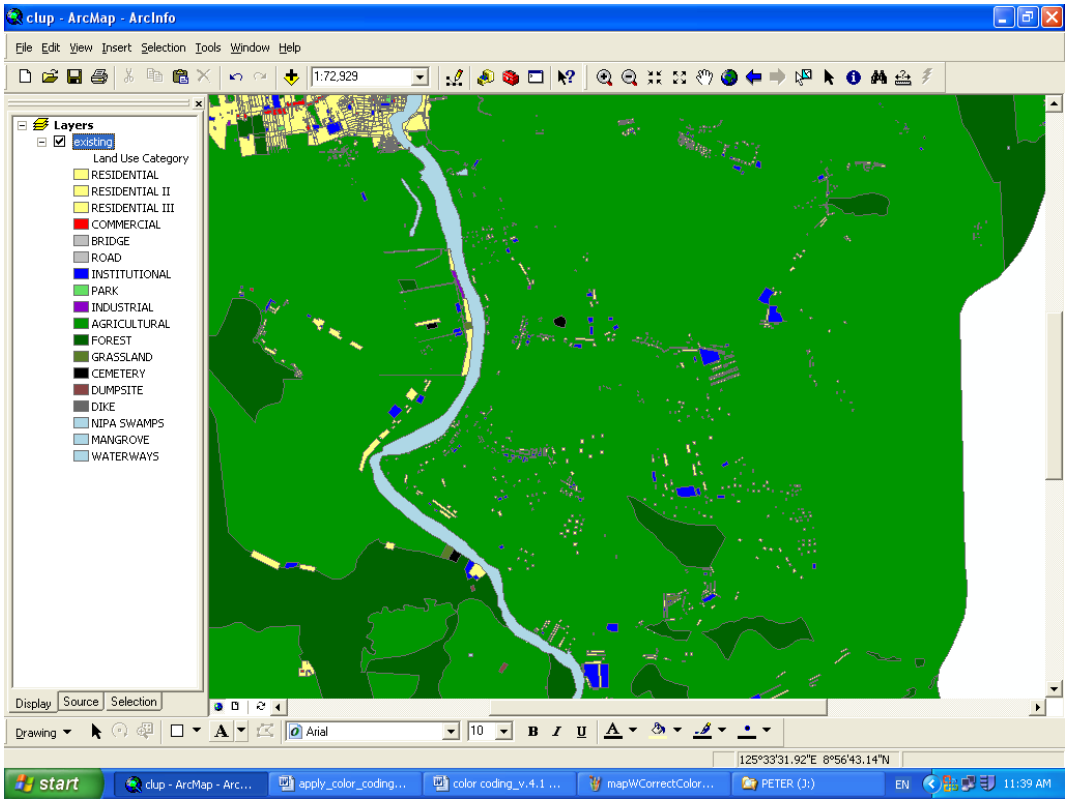
	TAG_KEY in the Label-column. Click once. You can now edit the label to “Land Use Category”. Click **Apply**, then **OK**. Verify that your screen looks like below (don’t mind if the color scale is different):	
		
5	Now right-click again on the *existing* layer in the table of content. Choose **Properties** and make sure that the **Symbology** tab is shown in the *Layer Properties* window.	
	Assign colors	
6	Now we will assign the correct color to the first category. Open the *Layer Properties* window, **Symbology** tab, if it’s not already open. Right-click on *AGRICULTURAL* and select **Properties for selected Symbol(s)**. The *Symbol Selector* window will open (see image below). In the *Options* box click on the small arrow next to *Fill color:*	

	
7	Then select **More colors…** at the bottom. Now the *Color Selector* window opens (see image below). Type in the RGB code for Agriculture “0,150,0” or use the selector bar arrows. Then click **OK** and **OK** once more.	



8	Repeat the same procedure in step 6 and 7. For each category, assign the color according to the recommended palette in Annex 4-3. Assign the following colors for the following land use categories. *Cemetery – black - 0,0,0* *Dike – dark grey – 104,104,104* *Dumpsite – brown – 137,68,68* *Magsaysay Bridge – same as infrastructure, grey – 190,190,190* *Protected Area – same as water uses, 175,215,230* *Road – same as infrastructure, grey – 190,190,190* *Squatter – same as residential, yellow – 255,255,130* *Vacant lot – same as residential, yellow – 255,255,130* *Waterways – same as water uses, 175,215,230*	
	Your table of content and workspace (a bit zoomed-in) should now look like this:	

		
	Rename and Regroup Categories	
9	Open the *Layer Properties* window again, go to the **Symbology** tab. Place the cursor on *Magsaysay Bridge* in the Label column, click, and type 'Bridge'. Rename in the same way *Protected Area* to 'Nipa Swamps', *Squatter* to 'Residential II' and *Vacant Lot* to 'Residential III'.	
10	You can now arrange the categories in a better order. Open the *Layer Properties* window, **Symbology** tab. Simply use the arrows at the right of the categories to move one category up or down. Follow the order given by Annex 4-3. Your table of content should after this have the same appearance as shown in image below:	

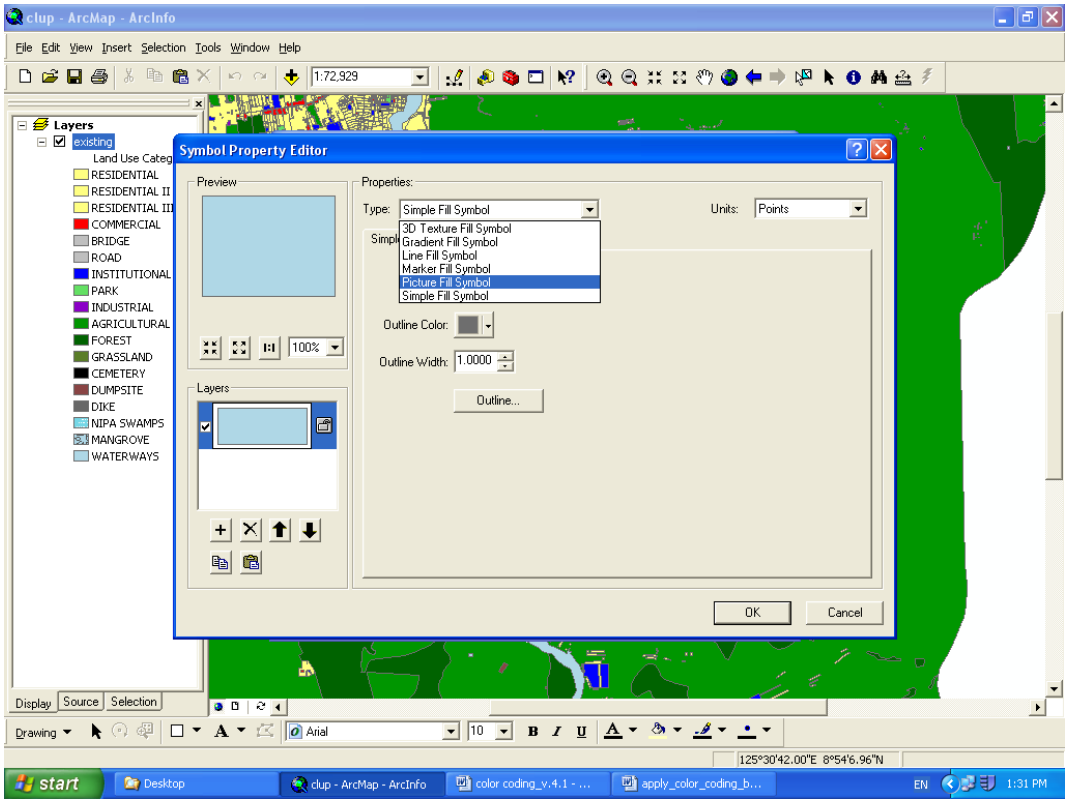


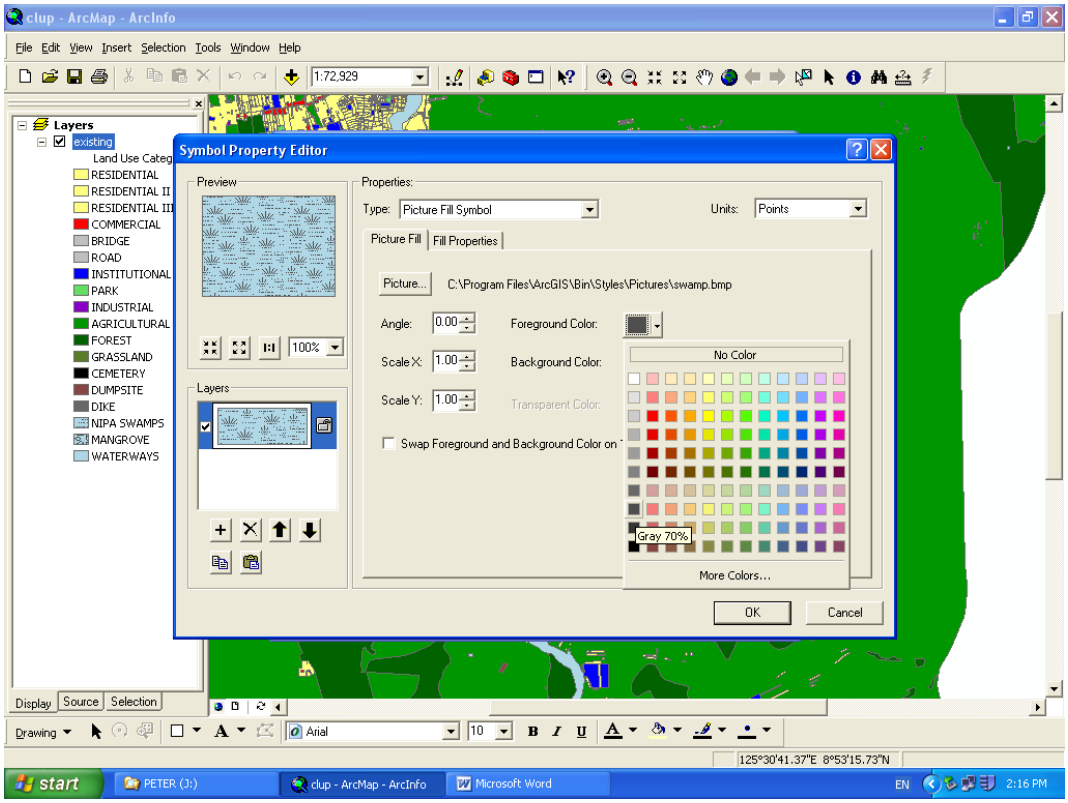
Assign Symbology

If you have studied the Annex 4-3, forest and water use areas will have the same color for sub-categories. However, it's recommended to separate categories with symbols. This is also the recommendation for the different forest areas.

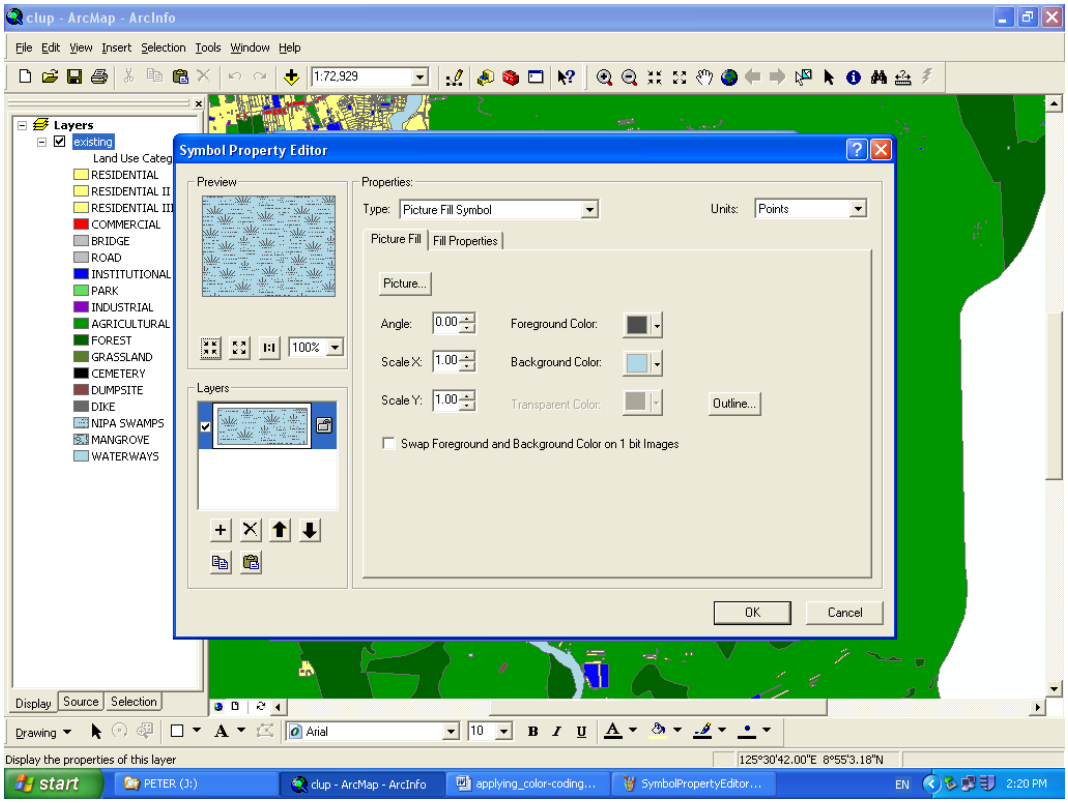
11 Open the *Layer Properties* window. Right-click on *PROTECTED AREA – NIPA SWAMP* and select **Properties for selected Symbol(s)**… The *Symbol Selector* window will now open. Click on **Properties**. The *Symbol Properties Editor* window will now open.

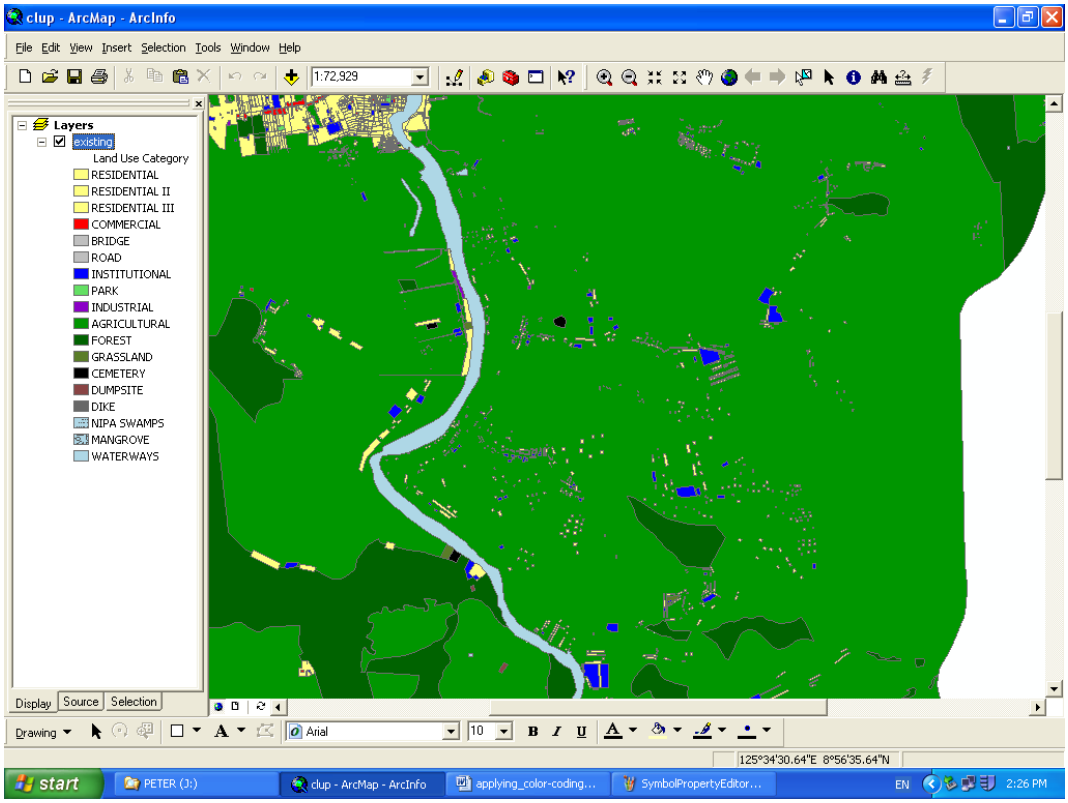
12 In the *Type* list menu, select *Picture Fill Symbol*. See image below.

		
13	Click **OK**. Now browse and select the *swamp* bitmap file. If ArcGIS did not take you to the correct folder at once, the path is usually something like *C:\Program Files\ArcGIS\Bin\Styles* . Click **OK**.	
14	See image below. Now select “Grey 70%” as foreground color. Click on the small arrow beside *Foreground color* and select the color in the first column’s third row from the bottom. If you use the *Color Selector*, the RGB code is 78,78,78. The background color should be the original blue tone, RGB 175,215,230. Make sure that the background color is correct.	



15 Click **OK**. See image below. Click **OK** once more.



16	You will now be back in the *Symbol Selector* window. If the color has been reset, so you need to change back to the original RGB 175,215,230.	
17	Repeat step 11-16, this time by applying *a Picture Fill Symbol* for *Mangrove*. You will find a bitmap image in the same folder called *mangrove*.	
		
	Do you read this and have completed all the steps above? You are finished with the exercise. Well done!	