

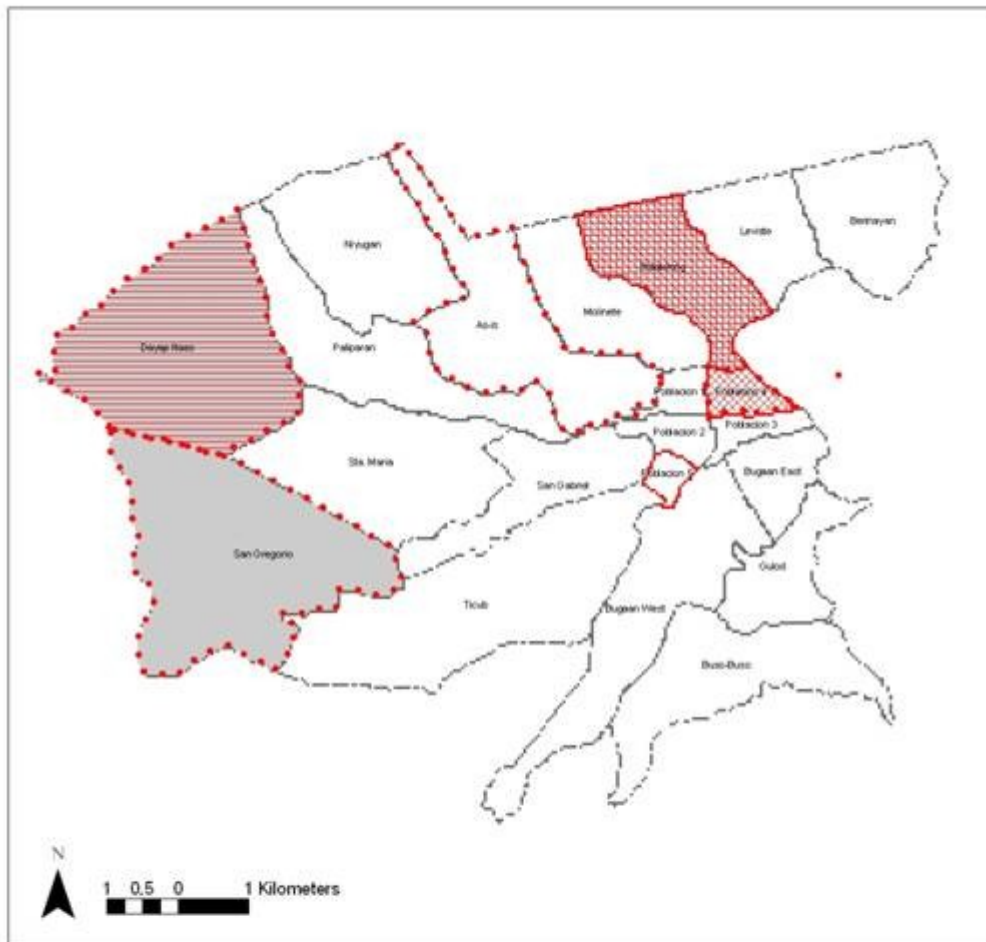
7.09 How to Create the Needs Analysis Layers

Disclaimer: The objective of this tutorial is to get familiar with the GIS software. The tutorial only covers some parts that are being done in a real analysis. The results that are being displayed in the tutorial can't be compared with the results a real analysis would generate.

Introduction

In this exercise you are going to prepare a Needs Analysis Map which will look like this.

CLUP NEEDS ANALYSIS



SOCIO SERVICES BY BARANGAY

- Barangay with unacceptable proportion of households with income less than poverty threshold
- Barangay with poor access to open areas and recreational facilities
- Barangay with unacceptable high crime rate
- Barangay with unacceptable net enrolment ratio in primary education
- Barangay with a critical health situation
- Barangay with unacceptable proportion of informal settlers
- Barangay with no barangay hall/office
- Barangay boundary

In Chapter 5, there are five attribute tables that can be used for the Needs Analysis:

ND01 Needs Analysis: Socio Services by Barangay;

ND02 Needs Analysis: Eco Services by Barangay;
ND03 Needs Analysis: Infrastructure provision by Barangay;
ND04 Needs Analysis: Socio Condition by Facility;
ND05 Needs Analysis: Infrastructure Condition by Utility

In this tutorial we are going to use ND01, however the same approach can be applied for the other tables.

The Metadata instructions for ND01 Table looks like this:

GIS Table Outline

Barangay Unique ID B_ID	Name of barangay B_NM	Administration: No = Barangay with no barangay hall/office; Yes; NA= Not applicable ADM	Housing/ Shelter: No= Barangay with unacceptable proportion of informal settlers; Yes; NA= Not applicable H	Health: No = Barangay with a critical health situation; Yes; NA= Not applicable HEAL	Education: No = Barangay with unacceptable net enrolment ratio in primary education; Yes; NA= Not applicable SCH	Protection:No = Barangay with unacceptable high crime rate; Yes; NA= Not applicable PROT	Recreation: No = Barangay with poor access to open areas and recreational facilities; Yes; NA= Not applicable REC	Social Welfare: No = Barangay with unacceptable proportion of households with income less than poverty threshold; Yes; NA= Not applicable SOC
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1 Getting Started – Controlling the Attribute File

1.1 Start Excel.

1.2 Open the file *ND01_2008.dbf*. Verify that it looks like this:

B_ID	B_NM	B_ADM	B_H	B_HEAL	B_SCH	B_PROT	B_REC	B_SOC
41011001	As-is	Yes	Yes	Yes	Yes	Yes	Yes	No
41011004	Berinayan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011014	Niyugan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011012	Leviste	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011002	Balakilong	Yes	No	No	No	Yes	No	Yes
41011015	Paliparan	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011010	Dayap Itaas	No	Yes	Yes	No	Yes	Yes	No
41011013	Molinete	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011016	Poblacion 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011019	Poblacion 4	Yes	No	Yes	Yes	No	No	No
41011023	Sta. Maria	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011017	Poblacion 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011022	San Gregori	No	Yes	Yes	Yes	Yes	Yes	No
41011021	San Gabriel	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011007	Bugaan West	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011020	Poblacion 5	Yes	No	Yes	Yes	Yes	Yes	Yes
41011024	Ticub	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011008	Buso-Buso	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011006	Bugaan East	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011011	Gulod	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41011018	Poblacion 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes

'No' indicates a 'problem' as explained in the Instructions sheet of the metadata for ND01 table. For example 'No' under Column 'B_SCH' for Barangay Dayap Itaas (yellow cell in the table above) will be found on the

map as 'Barangay with unacceptable net enrolment ratio in primary education'.

- 1.3 If you have made any changes in the file, observe that the file is saved as a *dbf* file.
- 1.4 Exit Excel

2 Getting Started in ArcMap

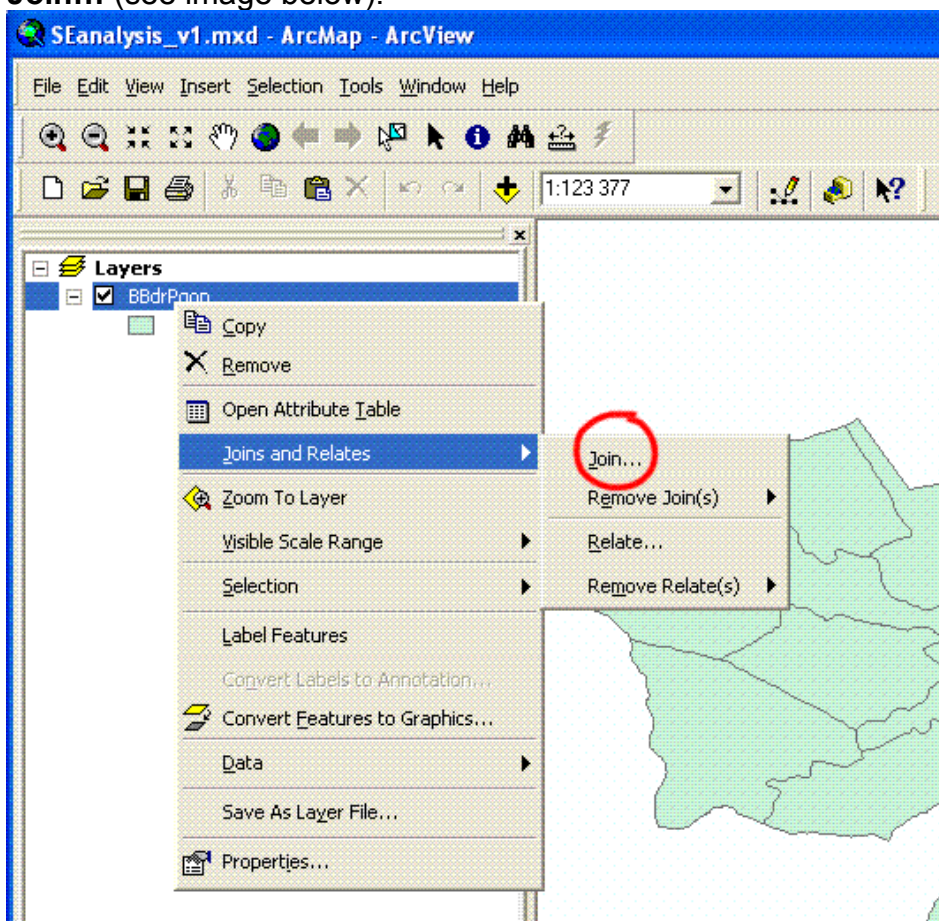
2.1 Start ArcMap.

2.2 Add the barangay layer to the workspace. (*C:\...\06_NeedsAnalysis\barangay.shp.*)

2.3 Save a new map document as *NeedsAnalysis_v1* in the folder:
C:\...\06_Workfolder

3 Joining the Attribute Table with the Barangay

- 3.1 In the table of content, right-click on the *barangay*, select **Joins and Relates > Join...** (see image below).



- 3.2 The *Join Data* window appears. In the first (un-numbered) list menu select *Join attributes from a table*. For the other list menus (number 1 to 3) select the following:

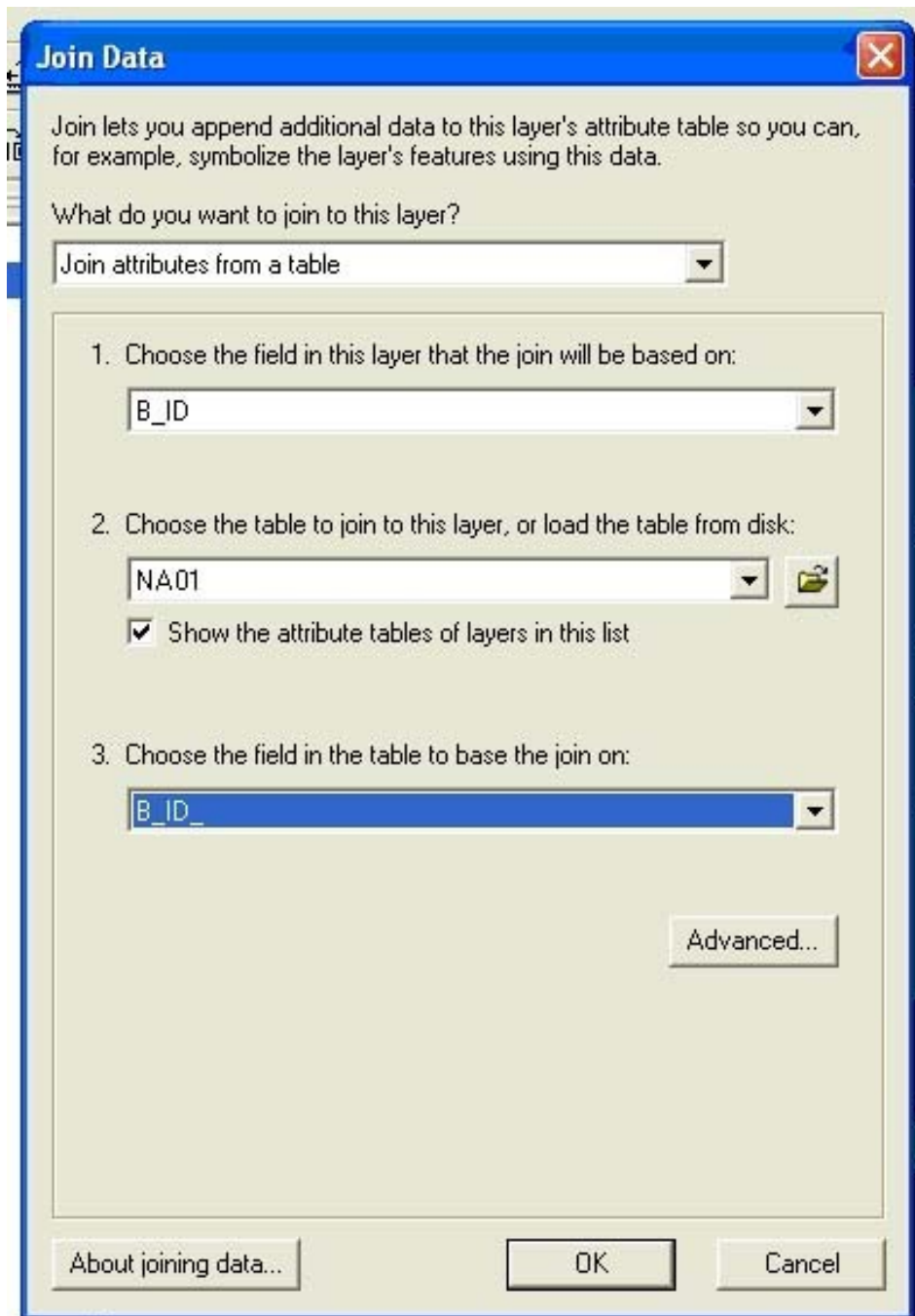
1: *B_NM*

2: *ND01*

3: *B_ID*

(Also refer to the image below.) Click **OK**.

3



4 Improving (Cleaning) the Joined Table

There are many columns in the attribute table and it is hard to interpret it. Several columns are of no interest for the socioeconomic analysis and some that are of interest are hard to understand. Therefore we will make the not needed columns invisible and add better alias for the columns of interest. Then, both the table itself and the map legend will be easier to understand.

- 4.1 Rename the layer 'Socio Services by Barangay'. (Go to the table of content, right-click and select **Properties** to open the *Layer Properties* window. Go to the **General** tab to rename the layer. Don't close this window yet!

- 4.2 Open the attribute table. (Right-click on the layer in the table of content and select **Open Attribute Table**.) When the table appears note all the strangely named columns and the amount columns making it more difficult to interpret the table .
 - 4.3 Go back to the *Layer Properties* window. Select the **Fields** tab. (*Field* indicates a table column.)
 - 4.4 You will now choose which fields will be visible and assign a proper alias to them. Simply select the checkbox before the field name and type the alias in the *Alias* column.
- The following fields should be selected and assigned alias:

BdrPgonUTM.NAME – ‘Barangay Name’

BdrPgonUTM.PSGC – ‘Barangay ID’

ND01.sch – School

Etc...

To make an alias type in the box for alias and to make a column invisible there should be no tic in the box for visible below.

6

Attributes of BBdrPgonUTM

Barangay Name	Barangay ID	Administrative	Barangay Hall	Health	Education	Protection
As-is	041011001	Yes				
Berinyan	041011004	Yes				
Niyugan	041011014	Yes				
Leviste	041011012	Yes				
Balakilong	041011002	Yes				
Paliparan	041011015	Yes				
Dayap Itaas	041011010	No				
Molinete	041011013	Yes				
Poblacion 1	041011016	Yes				
Poblacion 4	041011019	Yes				
Sta. Maria	041011023	Yes				
Poblacion 2	041011017	Yes				
San Gregorio	041011022	No				

Layer Properties

General | Source | Selection | Display | Symbology | **Fields** | Definition Query | Labels | Joins & Relates

Primary Display Field: []

Choose which fields will be visible. Click in the alias column to edit the alias for any field.

Name	Alias	Type	Length	Precision
<input type="checkbox"/> BBdrPgonUTM.FID	BBdrPgonUTM.FID	Object ID	4	0
<input type="checkbox"/> BBdrPgonUTM.Shape		Polygon		
<input checked="" type="checkbox"/> BBdrPgonUTM.NAME	Barangay Name	String	20	0
<input type="checkbox"/> BBdrPgonUTM.ACTAREA	BBdrPgonUTM.ACTAREA	Double	10	10
<input type="checkbox"/> BBdrPgonUTM.NEWAREA	BBdrPgonUTM.NEWAREA	Double	10	10
<input checked="" type="checkbox"/> BBdrPgonUTM.PSGC	Barangay ID	String	10	0
<input checked="" type="checkbox"/> NA01_v5.DID	NA01_v5.DID	Long	4	9
<input type="checkbox"/> NA01_v5.B_ID_	NA01_v5.B_ID_	String	17	0
<input type="checkbox"/> NA01_v5.B_NM	NA01_v5.B_NM	String	9	0

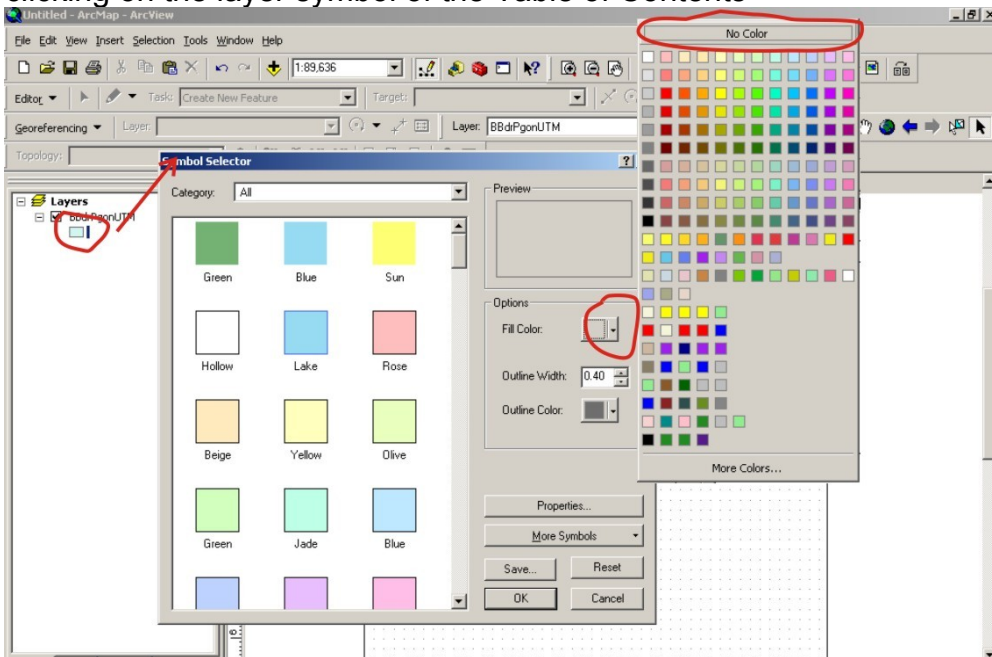
Select All | Clear All | Only Selected fields will be visible

OK | Cancel | Apply

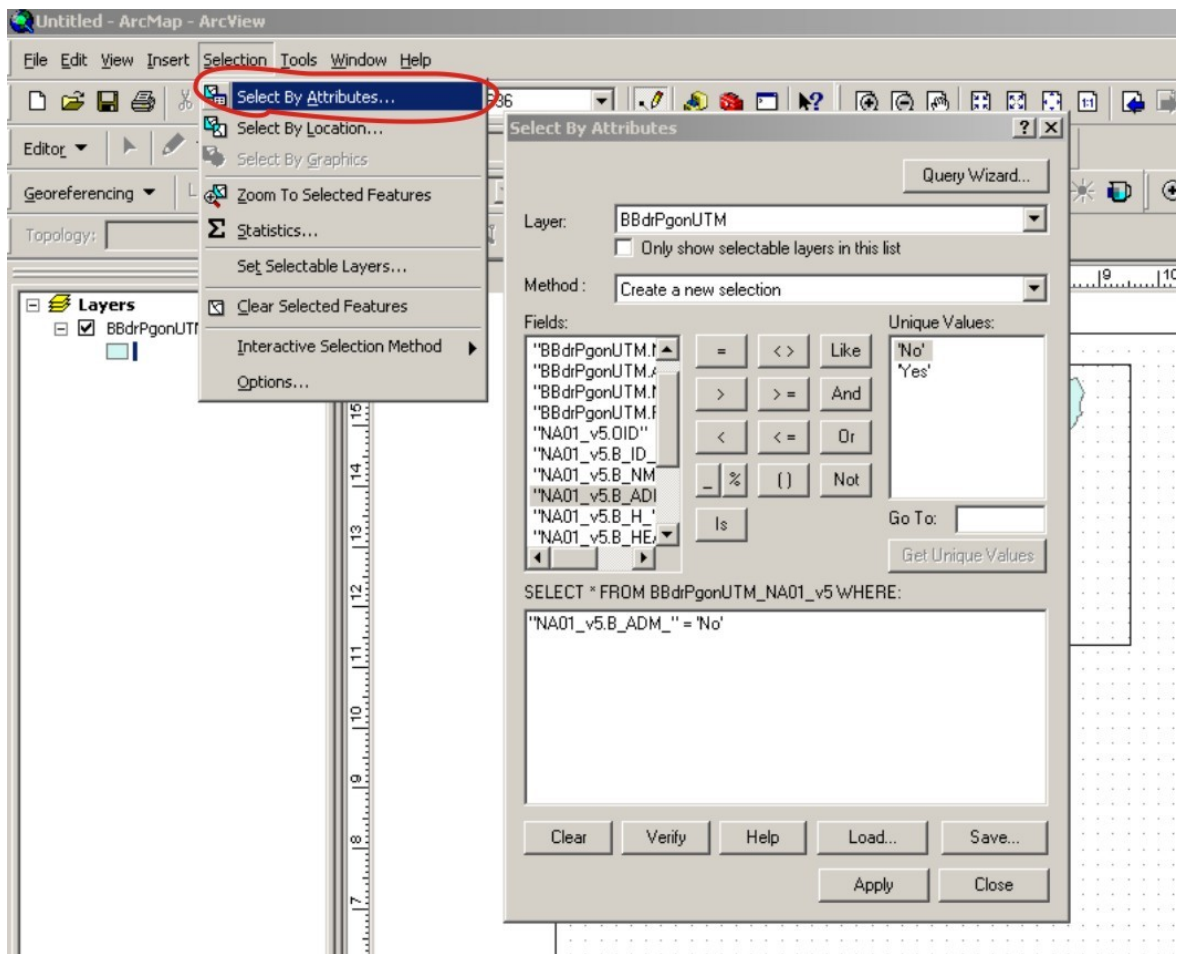
The result after the cleaning will look like this:

Barangay Name	Barangay ID	Administrative	Barangay Hall	Health	Education	Protection	Recreation	Social Welfare
As-is	041011001	Yes	Yes	Yes	Yes	Yes	Yes	No
Berinyan	041011004	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Niyugin	041011014	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leviste	041011012	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Balaklong	041011002	Yes	No	No	No	Yes	No	Yes
Palparan	041011015	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dayap Isas	041011010	No	Yes	Yes	No	Yes	Yes	No
Molnete	041011013	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poblacion 1	041011016	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poblacion 4	041011019	Yes	No	Yes	Yes	No	No	No
Sta. Maria	041011023	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poblacion 2	041011017	Yes	Yes	Yes	Yes	Yes	Yes	Yes
San Gregorio	041011022	No	Yes	Yes	Yes	Yes	Yes	No
San Gabriel	041011021	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bugaan West	041011007	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Poblacion 5	041011020	Yes	No	Yes	Yes	Yes	Yes	Yes

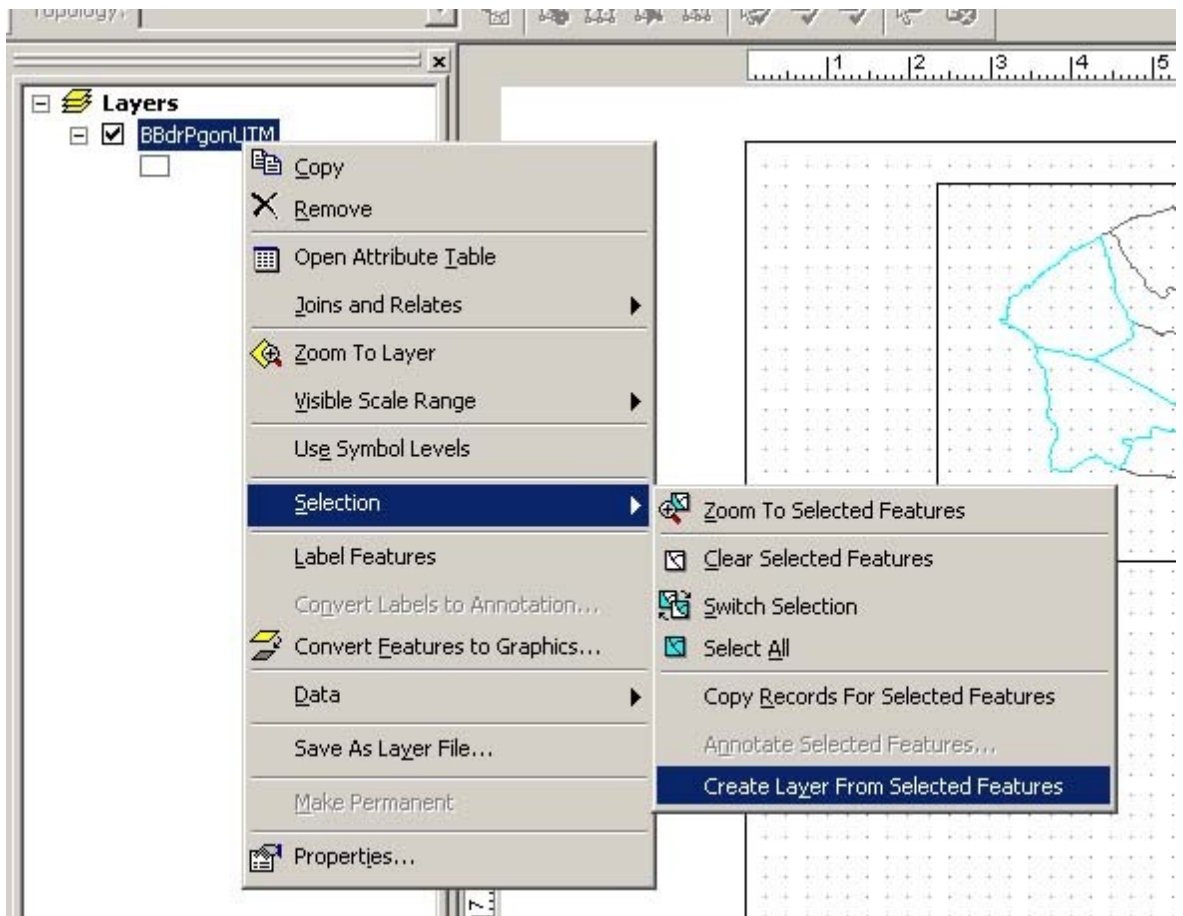
For better contrast, set the outline color of the Barangay Layer to white by double clicking on the layer symbol of the Table of Contents



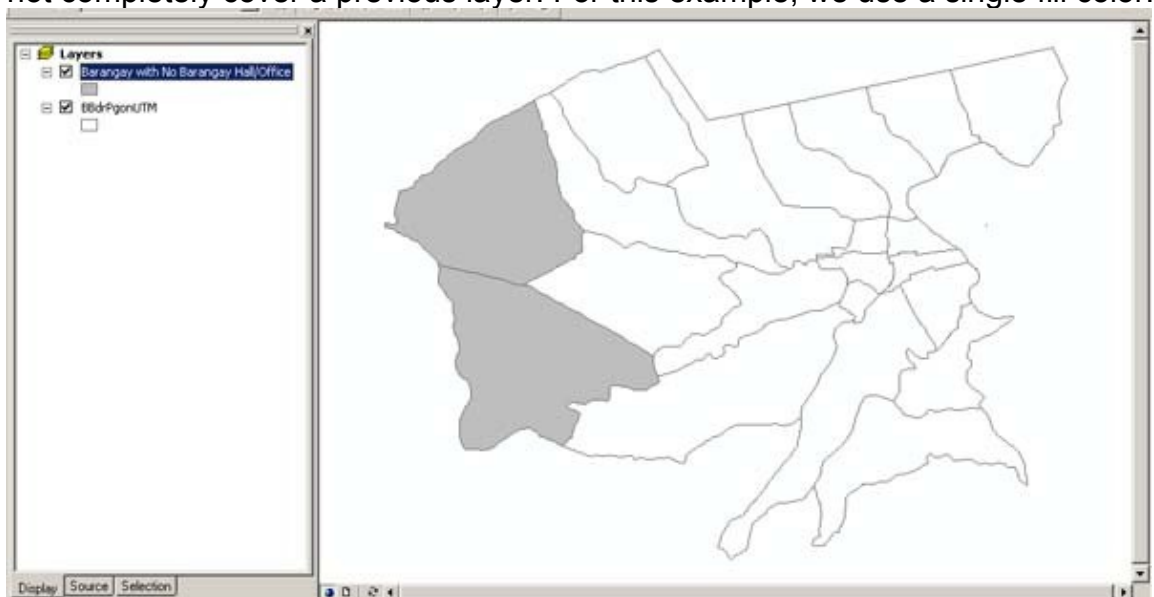
In order to display the different Needs for each barangay, we have to single out the sub sector needs of each barangay and create a new layer so that it can be displayed together with the other needs.
Let us start by choosing barangays with no barangay halls/office.



Right-Click on the theme and choose the following options











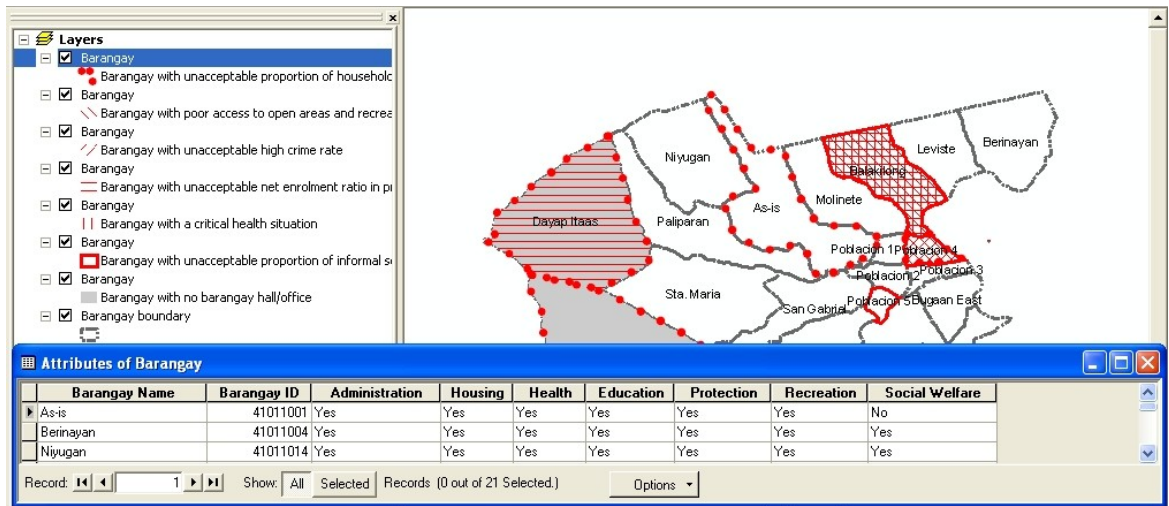
We name the new layer “Barangay with no Barangay Hall/Office”. We now change the symbology. Though the symbology would be dependent on how many criterias are to be evaluated, the idea for this example is to combine symbology that would not completely cover a previous layer. For this example, we use a single fill color.



Do the same with the other examples applying these symbology:

SOCIO SERVICES BY BARANGAY

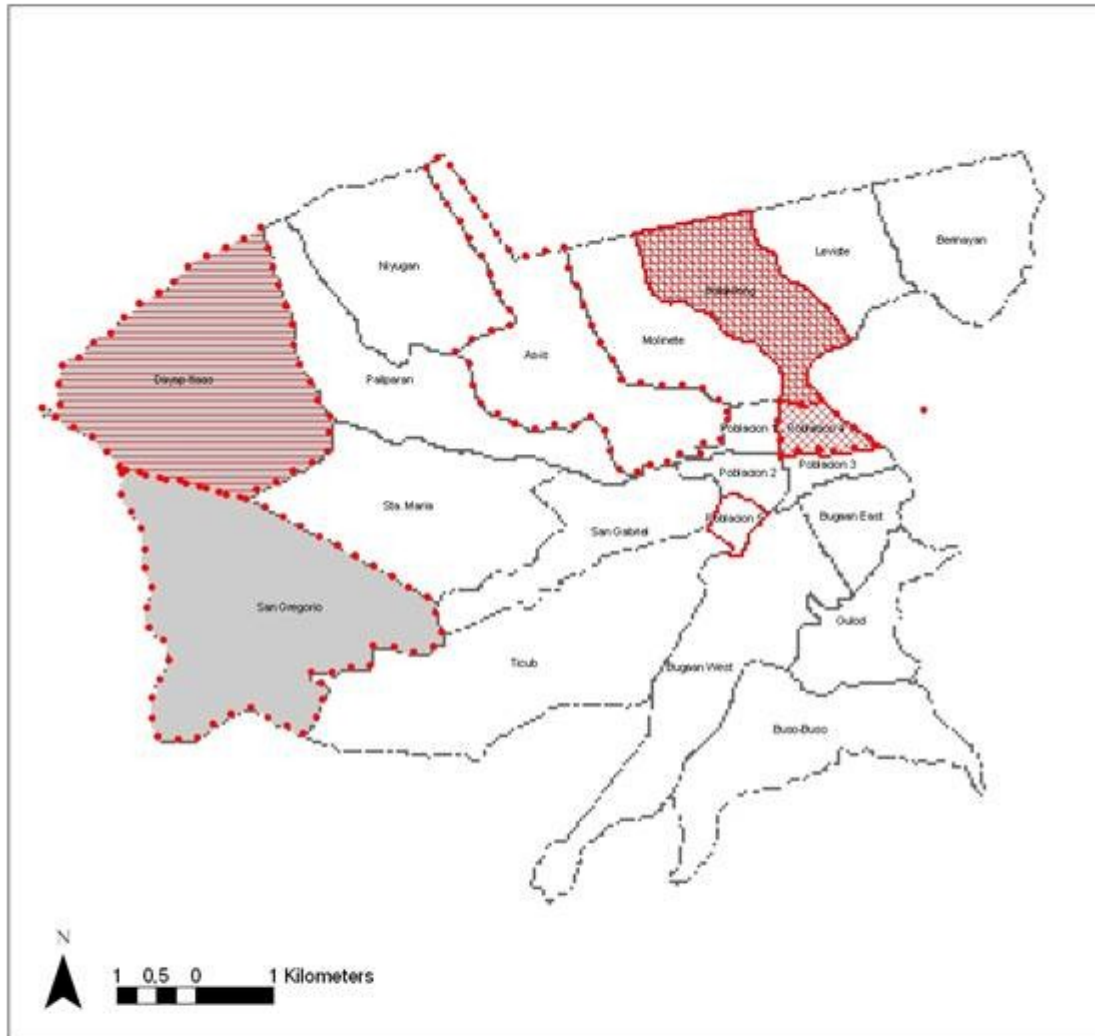
-  Barangay with unacceptable proportion of households with income less than poverty threshold
-  Barangay with unacceptable net enrolment ratio in primary education
-  Barangay with poor access to open areas and recreational facilities
-  Barangay with a critical health situation
-  Barangay with unacceptable high crime rate
-  Barangay with unacceptable proportion of informal settlers
-  Barangays with no Barangay Halls/Office
-  Barangay Boundary











The Layout format of this IP that can be used in a display or be inserted in a report will look like this. In order to prepare this and make a print out you need brush up your knowledge about the Layout View.

Providing the data has been captured for the other tables: ND02 Eco Services by Barangay; ND03 Infrastructure provision by Barangay; ND04 Socio Condition by Facility; ND05 Infrastructure Condition by Utility the same approach can be applied.

CLUP NEEDS ANALYSIS



SOCIO SERVICES BY BARANGAY

-  Barangay with unacceptable proportion of households with income less than poverty threshold
-  Barangay with poor access to open areas and recreational facilities
-  Barangay with unacceptable high crime rate
-  Barangay with unacceptable net enrolment ratio in primary education
-  Barangay with a critical health situation
-  Barangay with unacceptable proportion of informal settlers
-  Barangay with no barangay hall/office
-  Barangay boundary