*__Mapping and Comparing World Development__*                          Dr. Tracy H. Allen
Sustainable Development in Developing Countries

**Project Overview**

This project requires you to 1) create a map of Africa illustrating the spatial distribution of per capita GNI PPP development; 2) write a ½-page to 1-page discussion of the spatial patterns of GNI in Africa as they are found on your map; and, 3) write a two page report comparing and contrasting two maps: World GNI PPP and World Happiness Index (A Global Perspective of Subjective Well Being).

**Part I:  Mapping Per Capita GNI PPP in Africa with Discussion**

You will be making one of the most common and useful map types known to Cartographers -- a choropleth map.  This map type uses different shades of color in order to depict thematic variables or levels or proportions of a single thematic variable. The purpose of the mapping portion of this exercise is to: 1) provide an understanding of the regional variation and distribution of "wealth" in Africa; 2) establish a foundation by which the wealth of the world and Africa can be accurately compared; 3) teach the skills of map making.  You will construct a map of Africa illustrating per capita Gross National Income (GNI) adjusted for Purchasing Power Parity (PPP).  The GNI illustrates the total market value of all the goods and services produced by a given country during a specific year - including its net income form abroad.  Per capita GNI denotes that the total market value of each country has been divided by the total population.  The chief purpose of the GNI is to indicate a nation's comparative wealth.  Because GNI estimates do not account for assessments of relative price levels in different countries or of the value of bartering, the International Monetary Fund and the World Bank now use GNI adjusted for PPP.  PPP takes account of what money actually buys in each country.  It is a measure used to indicate the relative purchasing capacity of different countries' currencies over the same types of goods and services. Because the cost of goods and services vary greatly from one country to the next, PPP allows a more precise comparison of actual living standards across countries and a much clearer picture of the world economy.  The relative importance of developing countries in the world economy nearly doubles.  However, be aware that the significance of per capita GNI PPP as a comparative tool is still limited because it does not account for varying cultural values on the definition of wealth.  The notion of wealth to a Berber camel herder in Algeria is quite different from that of a Wall Street businessman. Also, be aware that PPP is an estimate and not all items can be matched exactly across countries and time.

*A Step by Step Guide for Making a Choropleth Map:*

1)      Go to the Population Reference Bureau's website at http://www.prb.org/ and download or print the **most recent** World Population Data Sheet.  Study the per capita GNI PPP data for Africa under the Demographic Data for the Countries and Regions of the World section.  GNI per capita PPP is the thematic variable that you will map.

2)      Divide the data into ranges or categories.  Each range will later be mapped and represented in a legend.  On a piece of paper arrange the data from lowest to highest.  Divide the data into a system of natural breaks.  Think about how the data naturally "clumps" together.  Each cluster could then represent a category within your legend.  Another way of dividing the data into categories is to conform the data to a normal curve.  The bulk of the data would fall into the medium ranges, while less of the data would fall into the low and high ranges. Regardless of the method you choose, divide the data into **five** ranges.  Choose the ranges, such that they best represent the data set. In other words, **do not choose a category with no or little data in it.**  If a range has fewer than three countries, I will count off for not properly thinking out your map.  Also, do not put too many countries into one range.

3)    Construct a legend representing your ranges.  The legend must start with zero in the lowest range.

4)    You will notice that not all countries in Africa have data available.  Do not assume that the no data means zero.  No data means that no value can be assigned, but some vale does exist.  So, construct a sixth "range" and call it "no data available" in the map legend.

5)    Color the countries according to your ranges.  Use lighter colors that are different enough to clearly illustrate one range from the next. Base maps for the region are provided on the following two pages. The first map is a practice map and the second map is for the final product that will be handed-in.  **Do not use a pattern/texture (dots, lines, or hachure) as a means to delineate your ranges,** unless you use a ruler and neatly draw lines no more than 1/4 inch apart.  Do not mix pattern and shading.  Take your time and map the data accurately and neatly.   A messy or cluttered map is not very useful.  The neatness factor of your map counts toward your grade.

6)    If the country is too small to be seen at the map scale, do not worry about coloring it.

7)    Along the top of the map layout include a **descriptive** title - certainly something beyond "A Map of Africa".  The title should explain what is on the map.

8)    Near the bottom of the map layout provide a source from which the data came (do not say the data came from your instructor).  The source of the data used in this exercise was:

      Population Reference Bureau. 2012.  *2012 World Population Data Sheet.* Washington, DC. Retrieved the date, followed by the web address where the Population Data Sheet is found.    Include the full correct bibliographic source or you will lose points.  The source must appear on your map.  If you do not credit the source of information from which the maps were made, you are inadvertently plagiarizing.

9)    The map is complete.  You may add artistic touches making it visually pleasing, but do not clutter or detract from clearly conveying the map's purpose.  Do not label the country names on the map.

10)   Finally, write a ½-page to 1-page, double spaced, and typed discussion of the spatial patterns of GNI PPP in Africa as they are found on your map.

## Part II:  Comparing and Contrasting World per capita GNI PPP and Happiness

Write a two-page double-spaced, & typed analysis comparing and contrasting two maps: World GNI PPP and World Happiness Index (A Global Perspective of Subjective Well Being). The GNI map is located at http://employees.oneonta.edu/allenth/developing%20regions/GNP%20world%20map.pdf And, http://filipspagnoli.files.wordpress.com/2008/10/world_map_of_happiness.jpg is the location of the World Happiness map.  Both sites are reliable sources as they are simply reporting on data generated by the United Nations, World Bank, and Population Reference Bureau.  Study both maps before writing. Discuss patterns, similarities and disparities between the maps.

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