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Regional Disparities in Health Indicators in Africa

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Abstract: ***The Regional disparities in health indicators in Africa, seven parameters used, thus, life expectancy, infant mortality rate, death rate, maternal mortality rate, HIV/AIDs prevalence, physician density and percentage public spend on health, to measure the disparities, choropleth and Dots maps using ArcGIS 9.3.1 , tables, graphs, and charts were used for data presentation and analysis. Large disparities were observed between the countries in all the parameters, with large number of the countries showing least performance, no single country fulfil the said target of 15% public spending on health by Abuja conference, large gap in the physician densities among others. The cumulative analysis of the parameters of each country (note: not all countries data for the all parameters are available) each is computed to find the relative deprivation values, Tunisia has the value of 0.915, while Central Africa Republic got 0.197, the difference of 0.718 between the highest and the least shows a significant disparities between the countries.***

Keywords: Disparities, health indicators, choropleth map, significant disparities, deprivation value.

1. Introduction

The magnetic force holding the overall happiness and well-being of human is considered to be the health condition of the individuals of the society. Multicultural, ethical continent of Africa display disparities in so many things. Governance, economic situations, stagnant technology, cultural and religious diversities are among the factors shielding most Africans to accept and to adjust to the theme of time, large dependency group, social tensions, literacy among others, recent advancement in the technologies in many parts of the world. Health development disparities continues to be among the major gaps that could be seen, thus, the issue of poverty in most of the developing countries especially of the African continent, make it difficult for them to address the issues of health condition of their citizens.

However, the changes have by no means been all over the world. The health disparities within and between countries have been increasing, certainly due to inequality in the adoption of new technology and unequal distribution of new health problems and vulnerability" (Von-Schirnding, 2002).

Former secretary to the United Nations, Mr; Kofi Annan expresses poverty as the major bottleneck of health in the developing countries.

Despite a number of UN, international, national and non-governmental organisations, programmes have been initialises to address African problems or developing countries in totality. The first earth summit 1972 and1992 i.e. RIO conference, with its agenda 21, Millennium development goals (MDGs) 2000and its eight goals are an example. In fifteen years from 1980-1995 Africa experiences a progress in the health development as pointed by Mwabu G. (1998) particularly in the indicators under his investigation. Danso K.(2007) stated that, disparity in health development between the developed world and Africa is largely as the result of the developed world economic debility and offers solution.

2. Study Area

Africa, second largest continent estimated population of 1.1 billion, Africa straddles the equator and stretches 8,050 km from Tunisia (Cape Blanc) in the north to South Africa (Cape Agulhas) in the south. It is connected with Asia by the Sinai Peninsula and is bounded on the North by the Mediterranean Sea, on the West by the Atlantic Ocean, and on the East by the Indian Ocean. The largest offshore island is Madagascar; other small Island found in both the Atlantic and Indian oceans. Africa is the third of the three continents that are known as the old world i.e. Europe and Asia that are together called Eurasia. Natural resource of Africa together with later civilization of its society resulted in the invading the continent by the European and consequent colonialism, 19th century was the marks of the scramble of Africa by the European at the Berlin Conference of 1884-85. The climate of Africa constitutes ranges of climatic types; tropical to subarctic on its highest altitudinal points. Northern half is primarily covered with desert or arid; while at central and southern Africa contain both savanna plains and rainforest regions. In transition, there is a convergence where Sahel and steppe vegetations dominate. The shifting of the Inter-tropical convergence zone (ITCZ), also known as the monsoon trough, results in a rainy season condition across central pocket of the continent to the south of the Sahara. The adjacent ocean's current in the north-western side of the continent and the south-western part.

Figure 1: 1 Countries of Africa

3. Data and Methods

The disparities in health indicators in Africa was done with the seven Parameter values thus: Life expectancy 2012 (HDR 2013), Infant mortality rate 2009(HDR 2013), Death rate male and female 2009 (HDR 2011), Maternal mortality rate 2010 (WDR 2014), HIV/AIDs prevalence 2009(HDR 2013), Number of physician par population (2005-2010 HDR 2013), Public health spending GDP 2010 (HDR 2013), were obtained from: World Development Reports (WDR), Human Development Reports (HDR), Africa Human Development Reports (AHDR) prepared or sponsored by United Nations (UN) and World Health Organisation (WHO). The obtained information was sorted for each indicator hierarchically to find the differences between the countries in each. As those indicators were already sorted and studied, we calculated the overall disparities that we can get by knowing the deprivation value of each country based on the available information, from this classification were generated 4 classes in health development indicators used, the resulted choropleth and Dots maps prepared using ArcGis 9.3.1 of the study area presented the countries with highest development, moderate development, moderate less development and less development countries in Africa. The produced map was analysed spatially as well as in economic policies of the countries in Africa.

4. Result and Discussion

4.1 Life expectancy: from the result (fig2.1) Libya and Tunisia shows the highest life expectancy in the continent with average of 75 years and 74.7 years average respectively, in other hand the Sierra Leone and Guinea Bissau present the lowest with 48.1 and 48.6 years average respectively. Chandna (2011) attributed that limited medical Facilities created health hazard, hence created high tendency of dyeing before reaching certain age in life. The analysis by UN WPP 2006 revealed that less than five African countries are among 100 world highest life expectancy countries 2005-2010 statistics.

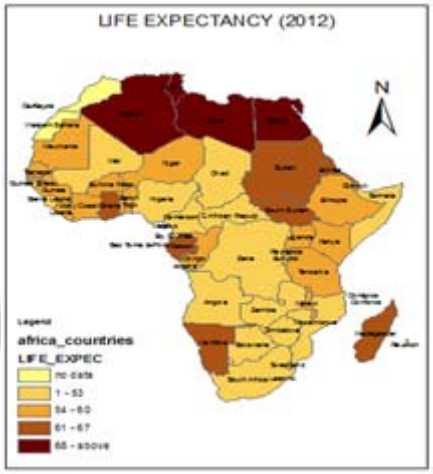

Figure 2.1: Life Expectancy

4.2 Infant mortality: the result show that Seychelles11/1000 child and Mauritius 15/1000 child are the least countries with the cases of infant mortality, while Congo Dr 126/1000 child and Chad 124/1000 child are the highest cases in the continent during the period (see fig 2.2). Economic situation (poverty) of the parent to take care of the number of the child they bear in terms of their health resulted in the subsequent death of the child at early age UNICEP report (2000). CEE India attributed the infant death rate case with less developed countries due to the vulnerability of the child to diseases and malnutrition that can be preventable in developed countries.

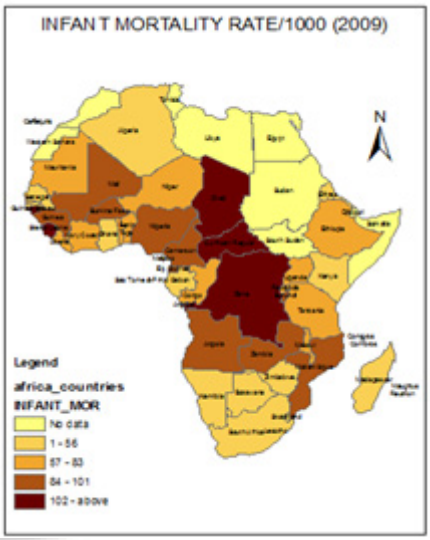

Figure 2.2: Infant Mortality Rate/1000

4.3 Death rate; gender wise death rate analysis (fig2.3a and 3b), shows that Morocco have 126/1000 males against 87/1000 females and Tunisia 129/1000 males against 70/1000 females as the least cases in the continent, the highest cases were found in Lesotho 676/1000 males against 573/1000 females and Swaziland 674/1000 males against 560/1000 females. Even though both the rates are high but it is still significant to note that in the case of female is more attributed to their health status at all the stages of their development.

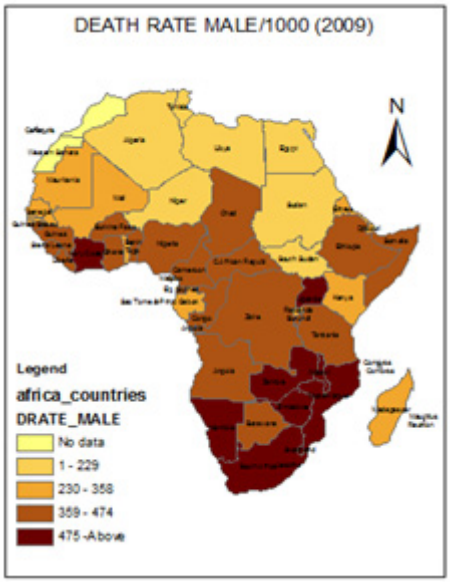

Figure 2.3a: Death Rate Male

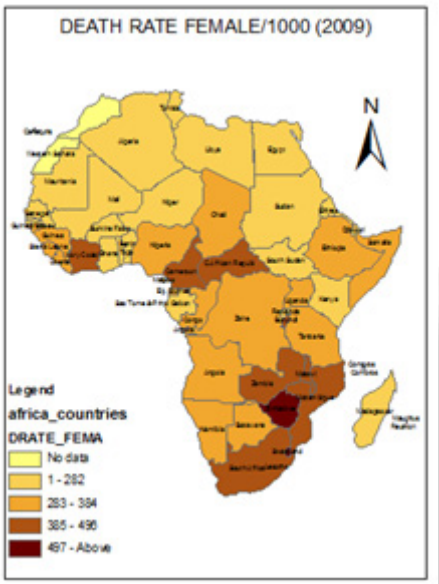

Figure 2.3b: Death Rate Female

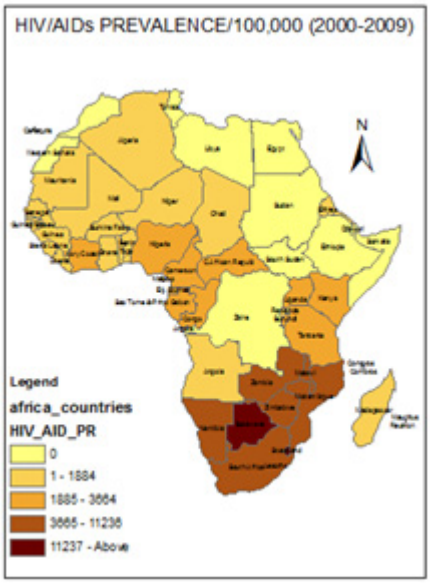

Figure 2.5: HIV/AIDs Prevalence

4.4 Maternal Mortality Rate: among the universal indicators of health, one of MGDs goals. Reportedly Tunisia was positioned the least with less cases of maternal mortality of 56/100,000 maternal records, from the fig 2.4 below, followed by Libya with 58/100,000 cases, meanwhile the highest cases was found in Chad 1100/100,000 cases and Somalia 1000/100,000 cases. No doubt report by WHO (2010) mentioned sub-Sahara Africa specifically having over 50% of the world maternal death occurrences among the MDGs developing regions.

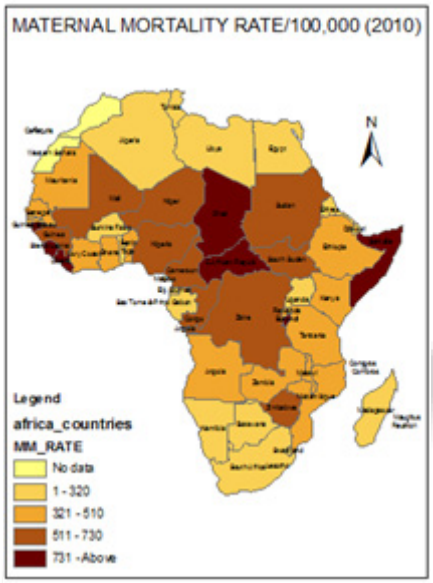

Figure 2.4: Maternal Mortality Rate

4.5 HIV/AIDs prevalence is said to be highest in African continent, the result from the analysis of the prevalence in Africa(fig 2.5) shows that Botswana and Swaziland have the highest prevalence of 16,354 and 15,605 out of 100,000 populations respectively; Comoros Island was found having the least of 32/100,000 population.

4.6 Physician Density: from the fig 2.6 below, among the countries of Africa Maghreb states have the highest densities; countries of Malawi, Rwanda, Ethiopia, Sierra Leone and Niger Republic have less than 3/100,000 physician density in each. Kinfu et al (2009) mentioned that the problem of under physician population is so much that many countries have not enough human capacity to absorb, allocate and efficiently use the additional funds that are considered necessary to improve health in less developed countries. Kaseje D. (2006) have stated almost similar problems, but he added that the concentration of little workers in few urban areas of such developing countries. In a nutshell all the categories of health personnel are lacking.

Figure 2.6: Physician Density

4.7 Public spending on Health/Funds allocation to health, Lesotho and Botswana are only countries targeting 50%, the standard set by the African countries during the Abuja Conference 2001 of 15% allocation on health for each country budget, 8.5% and 6% respectively (See fig 2.7.)Harmonization for Health in Africa (HHA) report, the problem of poverty, low investment in health and awareness

resulted to an increasing burden of diseases. These have set barrier to the achievement of the health Millennium Development Goals (MDGs) in the developing countries. Africa is considered the continent with highest number of countries recording the least spending on health, thus, considered the most wanted to spend more. Rubenstein (2012) Total spending/allocation on health care exceed 8% of GDP in Developed Countries, compared to less than 6% in Developing Countries. Some of that additional expenditure on health is reflected in more hospitals, doctors, and nurses per capita in MDCs. Castro et al (2000) argued based on the overview of several African countries regarding health development, which said, it does not present any promising encouraging image, despite that spending on social services is usually justified, but most of the curative health subsidies in the region are not particularly well targeted on the poorest".

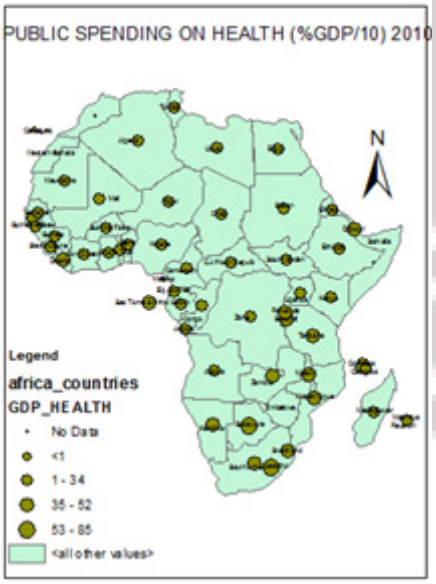

Figure 2.7: Public Spending on Health (%GDP/10)

5. Conclusion

From the analysis of the overall performance of each country based on the seven indicators under investigation, figure 3, relative development deprivation index show the greater disparities between the countries, such that the highest relative deprivation index was approximately 0.915 for Tunisia, while the Central Africa Republic that occupied the last position was approximately 0.197, with the range of 0.718 which is a huge disparity, more than 30% of the countries fall below 0.4 deprivation index value, 15% between 0.4-0.49 values, while only 20% are above 0.7 deprivation value. Spatially the countries at the centre are less developed than mostly of the coastal or specifically the Mediterranean coast countries of Africa, another issue of landlocked of some of this countries and civil wars in even those at the coastal, however Rodney (1973) attributed the underdevelopment of Africa as a result of over exploitation by European, though this argument may not necessarily be an acceptable at this time (21st century).

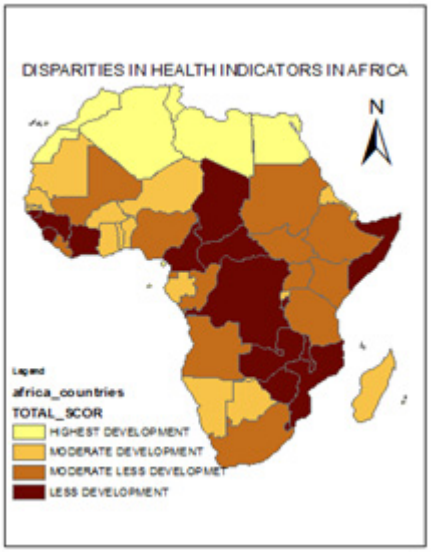

Figure 3: Disparities in Health indicators in Africa

Provision and maintenance of health care facilities needed the attention not only individual, but by the Government as a sole concern through building the hospital wherever population is there, providing the same with necessary facilities and the Personnel who will provide the services, diseases that if given simple treatment are curable, can be taken care and consequently life expectancy can be improve, child mortality, overall death rate, maternal mortality can be reduce. HIV/AIDs prevalence that needs not only hospital attention but also societal orientation, creating awareness to stop the spread involved the effort of all.

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