POPULATION DYNAMICS AND REPRODUCTIVE HEALTH FACILTIES AVAILABILITY IN THE EAST PROVINCE OF CAMEROON: A GIS APPROACH

SUMMARY

In Cameroon the limits of Health Districts (HD) and Health Areas (HA) are not in conformity with that of Divisions and Sub-Divisional administrative demarcations. This makes it difficult to compare and harmonized data from demographic censuses and health surveys, making planning of facilities in the health sector difficult for policy makers.
This study attained to harmonize the mismatch between administrative and public health demographic data; evaluate the spatial distribution of facilities and preventive and curative care, maternal land child care in HA and HD.
The methodology involved the used of vector and raster data as well as field survey in the East Province of Cameroon with particular attention in the Batouri and Bertoua Health Districts.
This conduct to the development of a spatial data base using GIS and Remote Sensing for health facilities and disease monitoring that will be updated continuously for Public Health decision making.

THE SCOPE OF THE STUDY

Administratively, the Republic of Cameroon is organized into ten provinces, consisting of 58 Divisions with 349 Sub-Divisions. Cameroon has undertaken Population and Housing Censuses in 1976, 1987 and 2005 respectively. Several surveys, such as the Demographic and Health Surveys, Household surveys have also been conducted. The data collected from these studies have respected the administrative demarcations of the country. According to the Ministry of Public Health (2005), the health sector in the country have a different administrative organization at the provincial level, it is divided into 170 Health Districts (HD), comprising of 1382 Health Areas (HA).The limits of Health Districts and Health Areas are not in conformity with that of Divisions and Sub-divisional administrative demarcations. This makes it difficult to compare and harmonize health data, complicating planning process for policy makers.
The study is limited to two Health Districts in the East Province of Cameroon, specifically Bertoua and Batouri although all the 13 Health Districts were covered but not in details as the former. It is hoped that eventually next steps will cover the entire country.

Justification of the study

Generally, the Public Health System operates in a decentralized framework with information moving from the HA to HD. However data is not routinely collected and analyzed and information feedback to the collection point have not been adequately developed. Equally, the information collected and analyzed has limitations in efficiency and performance in HD/HA, which has greatly influenced the activities of stakeholders such as NGO and religious net-works involved in Health programmes. Therefore, the health information system is not functioning optimally for monitoring and evaluation of health activities. This suggests the need for a viable health digitalized information system to be put in place in the Eastern Province of Cameroon.

The lack of proper information on HD and HA limits has led to the failure to provide the minimum range of services such as; preventive and curative care, maternal land child care, reference and counter reference services to the population of these regions.

PURPOSE OF THE STUDY

The aim of the study is to use GIS and Remote Sensing in managing Reproductive Health facilities in Cameroon for the socio-economic, cultural and sustainable development thought the assessment of the spatial distribution of populations at risk. Finally, the planning and targeting of interventions as well as the monitoring of diseases over time were customized and the output proposed for use in a Health Management Information System

HYPOTHESIS OF THE STUDY

A viable Public health Data Management System is lacking, so as to guide policy and decision making issues.

Specific Objectives

To develop a spatial data base for the storage of the information collected.

RESEARCH QUESTIONS

- What are the consequences of the data mismatch between administrative and Reproductive Health data?
- How can Remote Sensing and GIS be used to manage Reproductive Health facilities and services?
- Which are the problems associated in putting in place a Reproductive Health Data Management System using Remote Sensing and the GIS technology?

METHODS:

. The collection of reliable data following Health District demarcations is an important step in putting in place of a viable Health Information Management System in Cameroon to handle the ever increasing health

needs of the population. Therefore, the digital storage of collected information, through the development of a suitable data base of health infrastructures is a vital stepping stone to guide policy and decision makers in their planning process in the health domain.

RESULTS/OUTCOMES

This study contributed in putting place of a digitalized Health Management System in Cameroon through the use of the GIS Technology thought:

1. The division of the province into digitalized HD/HA, with spatial Health infrastructure established and the spatial distribution of infrastructure and diseases;
2. The Health data management system of the province will be improved upon. Impact of GIS-based findings on policy and decision (existing or new);

A positive impact on policy/decision-makers and the donors is visible in the health domain. They will increasingly be aware, of the benefits of GIS technology and have greater trust in the predictions of health problems. The stake holders will be able to; determine geographic distribution of diseases, analyze spatial and temporal trends, mapped populations at risk ,stratified risk factors, assessed resource allocation planning and targeting interventions, monitoring diseases and interventions over time.

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