**Identification of Public Health Problems Resulting from Climate Change and Preparation of Guidelines for its Prevention in Nepal**

Date: 2011

**Background**

The varying effect of climate change has its impact on the economic, social and cultural development of the country. Displacement of the people from multiple extreme climatic conditions has urged the emergency of developing the best adaptation and mitigation measures to minimize the effects of climate change to the development of nation. Health is another specific sector that has the direct impact resulting from climate change. The study was carried out to identify the public health problems resulting from climate change and also the preparation of guidelines to prevent the public health problems from climate change in the context of Nepal.

**Methods**

An exploratory descriptive study was carried out and retrospective data analysis was made collecting climatic data and health facility data of malaria and diarrheal diseases from Health Management Information System and DHM. Time series analysis is made to show the relationship between the climatic events (temperature, rainfall) with the occurrence of diarrhea and malaria. Qualitative information was gathered through Focus Group Discussion and In-depth interview with the health workers and local community to explore the effects of climate change on the health of the people. Ten districts were selected for the study out of which time series analysis was made in six districts (two districts each from terai, hill and mountain were analyzed in average having the similar geographical distribution) covering the three ecological regions because of limited data in other study districts.

**Results**

Regression analysis in terai region shows that with rise of minimum temperature diarrheal and malaria disease seems to be increasing whereas diarrhoeal disease seems to be decreasing in rise of rainfall. Similarly in hilly region with rise in the maximum temperature malaria cases decreases and increase with rise of minimum temperature. Increase in rainfall also shows the increase in diarrheal numbers. Himalayan region time series analysis shows that rise in minimum temperature trend of malaria cases also increases and diarrheal disease also increases with rising rainfall. Nepal Government do not have specific policies on climate change and health but newly formed plan such as Nepal Health section Implementation Plan 2010-2015 have address issues related to climate change and health in its five years periodic programs of health of sector and three years interim approach paper 2010-2013 has also tried make the development work climate resilient. The qualitative data collected from the health professionals and community people shows that impact related to climate change are emerging and vary from east to west and south to north because of micro-climatic variation within the country. The prevalence of water borne diseases such as diarrhea, typhoid, dysentery, enteric fever, viral fever, skin diseases has increased which are also associated with poor quality and quantity of available water and low sanitation coverage and hygiene.

**Conclusions**

The recording and reporting system of climate sensitive diseases should be strengthened at health facility level; entomological study should be carried from where indigenous malaria cases are reported and in other suspected new places too. The water supply and sanitation coverage need to increase and should ensure the quality of supplied drinking water implementing water quality surveillance. Public health are the most sensitive and important indicator of the nation development and thus to safeguard it comprehensive policy and programs also should be brought forth.

**Keywords:** climate change; diarrhoeal diseases; guidelines; malaria; public health problems.