Potential for establishing community – based water supply system for Medirigiriya DS division in Polonnaruwa district

Extended Abstract

NPGHK Wickramaarachchi[1]

Background

Water is the unique gift of the mother of nature. Although water is the most widely occurring natural resource on the earth basically water resource aquifer exists as surface water and the ground water resource. However, there are many kind of pollution in the earth and drinking water pollution dominates among other pollutions. The most critical problem at the country right now seems to be the drinking water problem in Polonnaruwa and surrounding areas in recent years. More than one million people in Sri Lanka or almost 120,000 families have been seriously affected by the drinking water problem in eight districts. These areas include Polonnaruwa, Hambanthota, Monaragala, Ampara, Vavuniya of districts (Wijerathna, 2012).

Medirigiriya Divisional Secretariat is located in Polonnaruwa district where these people are facing a severe drinking water problem. In addition to that lack of drinking water has gone on strict in areas of Welikanda, Dibulagala, Lankapura, Tammankaduwa and Manampitaya (Pullan, 2016). There are various reasons affecting to reduce the potable water in that area. Further these areas have increased social, economic & environmental impacts due to drinking water problem. The water capacity of the main tanks in the Polonnaruwa district has rapidly decreased as a result of the dry climatic conditions. Then water levels are below 20%. Some are even 10% or low (Munasinghe, 2015).The dry climatic conditions are prevailing for the two or three months which will be no rains until the end of September for August month and now it is getting to a burning problem.

Objectives

The study has identified general objective and four specific objectives to reach the general objective. The general objective of this research was to identify potential for establishing community - based water supply system for Medirigiriya division in Polonnaruwa district. In order to achieve above general objective the study was identified four specific objectives. The specific objectives of this study were to study the theoretical approaches to understand quality of drinking water; to identify management strategies used in resolving drinking water problem; to identify the causes of drinking water problem and to formulate management strategies to resolve the drinking water problem.

Methodology

In this study, the data gathered were primary data and secondary data. This review was used primary data by the interview, questionnaires and field survey. Also published books, newspapers, leaflets, magazine, reports, other documents and Websites related of community – based drinking water supply system were used for secondary data. Fifty five samples were selected by stratified random sampling method. Selected Grama Niladari Divisions were Wadigawewa, Meegaswewa and Mahathanakolawewa. The simple statistical analysis methods, GIS software, SPSS and EXCEL applications were used to data analysis. Then the collected data were presented by tables, graphs and maps.

Results

The study had identified mixed of chemical items as a major agent for lack of drinking water among human activities as well as had identified dry period and hardness water of agents as major agents among natural activities and anthropogenic activities have been especial evidence in this research. In this study have been recognized as suitable prevention methods waste drinking water treatment plants, septic tank system, governments and laws, several project and programs such as Gamidiriya, Mahaweli, Moragahakandha, Kalugaga projects and Other water plants projects. Unless in future, this study area will be foresee severe burning problem situation.

Conclusion & Recommendations

Drinking water problem is a major problem in the world. Drinking water problem is to manage the society's various activities in a manner that the Environmental Protection Agency and several drinking water management strategies. As a result of anthropogenic activities drinking water has been polluted massively.

It is required to take some activity to improve the water in Madirigiriya area such as appling

[1] Department of Environmental Management, Rajarata University of Sri Lanka, Mihintale, Sri Lanka.

concepts, strick laws, educationary people etc. for future generation.

Keywords: drinking water, dry climatic, impacts, human activities, management strategies

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