

Exploring the new approach for assessing spatial variation of household capacity for adaptation to increasing drought in the dry zone of Sri Lanka

Extended Abstract

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Background

This research proposes a new approach for assessing spatial variation of household capacity for adaptation to increasing drought in the village tank eco-systems of the dry zone of Sri Lanka. Drought is commonly defined as a deficiency of precipitation from expected amount that extends over a season or longer and results in a shortage of water that is insufficient to meet the demands of human activities and the environment (Hayes, 2012). Drought differs from many other natural hazards such as flood, hurricanes, and tornadoes because it's slowly moving natural hazard. It affects to a wider region throughout a long period, It is called 'creeping' hazard. There are various methods for assessing the impacts of drought; however, some of them are not possible to apply at the ground level or not much useful in terms of assessing the drought. This paper attempted to find out an appropriate methodology for assessing spatial variation of household capacity for adaptation to increasing drought in the village tank eco-systems of the dry zone of Sri Lanka with the application of five capital approaches. Especially, drought management based on household decisions and in turn, household decisions are based on their capacity for adaptation for the drought. Decisions are taken by individual (Smith, 1996). Individual capacity is a very important aspect of drought management. This research propose methodology for assessing individual capacity for assessing spatial variation of household capacity for adaptation to increasing drought in the dry zone of Sri Lanka

Objective

The general objective of this study is to find out the suitable approach for assessing spatial variation of household capacity for adaptation to increasing drought in the village tank eco-systems of the dry zone of Sri Lanka. This paper examines the various

droughts assessing methods and proposes most suitable methodology for drought adaptation.

Methodology

This study was conducted analyzing literature pertaining to drought assessment methods. This paper examines the various methods for measuring household capacity. In this study examine the different approaches and discuss how the FCA is more appropriate to assessing spatial variation of household capacity for adaptation to increasing drought in the dry zone of Sri Lanka. When it compares with other approaches five capital approaches according to the objective and analysis if it is used find what the important drought assessing method is. And also compare various droughts assessing method for drought management related to study aim. And according to the usability for study purpose there are many studies available in developed country according to the five capital approach but developing country there aren't used drought assessment method in developing tropical country Study area

Result

There are some various methods available to assess the drought such as Vulnerability Assessment Method (VAM), Reconnaissance Drought Index (RDI), fuzzy rule-based approach, Standardizes Precipitation Index(SPI). Most of the methods do not interest household capacity. The VAM method depends on primary variable exposure, sensitivity, and adaptive capacity. Exposure is based on frequency and severity of drought. Sensitivity is the susceptibility of the water user to the effects of the drought. Adaptive capacity is the ability of a water user to manage or reduce adverse effects of a drought, through actions taken before, during, or after the drought. Exposure and sensitivity determine the potential impact (Fontaine, 2007). Reconnaissance Drought Index, RDI, may be calculated by the following expressions (George Tsakiris, May 2007). This method not interests to assessing household capacity this five capital approach interest household capacity like a bottom-up approach. In this methodology cover every side of householders that's why this methodology suitable for assessing spatial variation of household capacity for adaptation to increasing drought in the village tank eco-systems of the dry zone of Sri Lanka.

Conclusion

There are various methods for assessing drought but those are not interesting to find out household

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capacity. This five capital approach most suitable for assessing to drought. Five capital approaches covered every aspect of the households.

Keywords: Five capitals, bottom up, creeping disaster, VAM method, household

References

Fontaine, M. M. 2007. *Assessing Vulnerability to Natural Hazards*.

George Tsakiris, H. V. May 2007. *Regional Drought Assessment Based on the*.

Hayes, M. 2012. *Drought Preparedness and Mitigation Strategies*. Lincoln.

Smith, k. 1996. *environmental hazardous*. USA London.