

Climate Change 2019 : Extended Abstract Title: Effects of Climate Change and Human Activities on Ecological Carrying Capacity and Ecological Security for Ecological Conservation and Construction Program Region at Different Implementation Periods in the Three-River Headwaters Region

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Abstract Title : Effects of Climate Change and Human Activities on Ecological Carrying Capacity and Ecological Security for Ecological Conservation and Construction Program Region at Different Implementation Periods in the Three-River Headwaters Region

Abstract :

The Three-River Headwaters Region (TRHR) locates in the hinterland of the Qinhai-Tibet Plateau and is sensitive to the global climatic change. Due to climate changes and human activities, the ecosystems of TRHR degenerate seriously in recent decades. In order to restore the ecosystems and combat the effect of global warming in TRHR, Chinese government started the Ecological Conservation and Construction Program (SECCP) and planed to invest RMB 23.56 billion yuan from 2005 to 2020. This study aims to analyze the effects of climate change and human activities on ecological carrying capacity and ecological security, and evaluate the changes of ecological carrying capacity and ecological security at three different implementation periods, the pre-SECCP (2000-2004), the early-term (2005-2009) and the medium-term (2010-2015) period. In this study, we integrate the analytic hierarchy process and the indicator system method Which containing the dynamic data accessed by climatic observation, field investigation, socioeconomic statistics, remote sensing parameter inversion and model simulation. The assessment results of ecological carrying capacity and ecological security are basically in line with the actual in the TRHR. The reasonable assessment of ecological carrying capacity and ecological security made in this study have crucial guiding significance for SECCP in TRHR.

Note : This work is partially presented at 6th Global summit on Climate Change on October 21-22, 2019 Amsterdam, Netherlands