Abstract

Climate change is today's difficulty and tomorrow's crisis. In this study, the effect of climate change on chosen products and land uses was investigated in four districts of Mazandaran province. To do so, first the time series change trends of temperature and precipitation variables was examined during 1981-2012. In addition, using regression analysis, the effect of annual mean temperature and precipitation, as the indices of climate change, on the performance and under-cultivation wheat, barley and rice farms was studied in farming years of 1981-2012. In the next step, the scenario effect of 1-degree temperature increase and 1-mm precipitation decrease on land use and performance of agricultural crops was analyzed using regression analysis and considering them in Positive Math Programming model (PMP). The results of regression analysis showed that there was a noticeable temperature increase and precipitation decrease. In addition, they showed that climate change has a significant effect on wheat, barley and rice performance. The results of PMP model analysis showed a change in land use to increase rice and barley cultivation. The findings show that the climate change effect is not necessarily negative on all crops, so we can pay attention to the positive effects as well and utilize them in optimum exploitation of resources and the region's facilities.

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Supervisor:
Dr. Ahmad Ali Keikha
Dr. Mahmod Sabuhi

Advisors:
H. Alireza Keikha
H. Alireza Sargazi

By:
Ahmad KHanlari

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