

Publications



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The Impact of Declining Groundwater Supply in the Northern High Plains of Texas and Oklahoma on Expenditures for Community Services

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Reduced availability of groundwater in the Northern High Plains of Texas and Oklahoma is expected to have repercussions throughout the regional economy due to the reduction in agricultural income. The decline in the economic base is expected to lead to an out-migration of population, It is presumed that the decrease in population and available income will result in reduced expenditures for community services.

This study establishes concepts for the empirical analysts and measurement of

service expenditures. Linear model forms are applied using a cross-sectional data set to develop service expenditure functions. Projections of future expenditure levels for selected community sizes are made using the estimated functional relationships.

The results of these projections indicate that reduced service expenditures will accompany the decrease in population and income due to the decline of available groundwater. Per capita service expenditures are projected to increase over time as total expenditures decrease. Generally it is estimated that per capita service expenditures will be higher in smaller communities in future time periods. Both total expenditures and per capita expenditures are projected to increase more in smaller communities relative to larger communities. These results suggest that the effects of the declining groundwater supply will have a more adverse impact on smaller communities in the Northern High Plains of Texas and Oklahoma.

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