In a country like Ethiopia that has poor social conditions and more than 50% of its population illiterate and under the poverty line, the level of communicable diseases is found to be the highest magnitude (CIA World Fact book, 2009). So the importance of this study is to reveal the effect of socioeconomic, environmental, demographic and health related variables on child mortality in rural Ethiopia. The data set used originates from the demographic and health survey (DHS) conducted in Ethiopia 2005. The analysis was conducted using Cox proportional hazards model which analyses the effects of covariates on child mortality and other statistical methods. The study shows that source of drinking water, birth order number, sex of child, breast feeding status, wealth index of household, father’s education, mother’s education and family size have significant contribution on child mortality. Since educated parents have enough Knowledge on how to care their children, parents should be educated as well as mothers should be encouraged to breast feed their children. Furthermore, marriage at the right age is recommended and integrated child care and family planning programs are paramount. Government should improve society services like providing clean water which contributes to better children health status.

**Key Words:** Child mortality, Cox proportional hazards model