# Accounting for the disparity in the fertility transition in Ethiopia: A multilevel and decomposition approach

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## Extended Abstract

Until recently, only sub-Saharan Africa was lagging behind in the path towards fertility transition. However, recent data for some of the countries in the region indicate that fertility has begun to decline. One of such countries is Ethiopia. According to the ETDHS, 2000, fertility transition is taking place in Ethiopia at a faster pace than that predicted by the UN, experiencing a reduction in total fertility rate of on average 0.8 children per woman per decade between 1984 and 2000. Yet, a woman in the rest of Ethiopia expects on average about 6 children (TFR=5.9), while on the other hand, one of the regions of Ethiopia - Addis Ababa, has approached below replacement fertility level (TFR=1.94).

Ethiopia, which has serious economic problems (ranking 168th out of 173 countries in the 2002 'Human Development Report'), is also one of the sub-Saharan African countries with challenging population problems caught in a vicious cycle making it difficult to reduce the number of people living in extreme poverty while being overwhelmed by the ever-growing numbers of people needing basic services. On the other hand, the first Demographic and Health Survey (ETDHS 2000) has revealed that a unique fertility transition is taking place in Ethiopia. For instance, the fertility level of the capital city – Addis Ababa has reached below-replacement level, which is an uncommon phenomenon in the context of fertility transition in sub-Saharan Africa. Much as it is a surprise, it is also a challenge to researchers to provide possible explanations and its implication in view of existing demographic transition theories.

The fertility differential between Addis Ababa and the rest of Ethiopia has been presented in recent studies to have been influenced, among others, by the postponement of marriage, modernization factors such as education, urban life as opposed to the country side, better access to media and family planning services in Addis Ababa in contrast to that of the rest of Ethiopia (Sibanda et al, 2003; Desta et al, 2003). But these studies fall short of identifying regional/community level variability and quantifying the gap between the two major regions in terms of the imbalance in the provision of the above basic services.

This study uses multilevel modeling and decomposition methodologies to examine actual family size and fertility intentions. While the former method can be used to identify contributions of community and contextual variables, the later can be used to quantify differences between two groups into a part that is explained by characteristics and a part due to the same characteristic having a different effect depending on which population the respondent belongs to.

The preliminary analysis results of the multilevel analysis indicate that after taking account of community, contextual and individual variables, the variability of actual family size between zones (provinces) in the 'Rest of Ethiopia' is twelve and three times higher than the variability between clusters and households respectively. On the other hand, the variability is reversed in the case of Addis Ababa where variability of family size between clusters is three times higher than in zones. This is an interesting result as zones boundaries in the capital city are determined based on proximity unlike the case in the 'Rest of Ethiopia' where zones represent distinct cultural and community values.

The preliminary results of the decomposition approach indicate that there exists a 28% overall gap between Addis Ababa and the 'Rest of Ethiopia', of which the gap explained due to the difference in imbalance/inequality is about twice that explained due to the characteristics, which could in turn be explained in terms of the various factors such as migration, average education, household assets, occupation, family planning etc.