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**TITLE: Population Dynamics, Food/Nutrition Security and Health in Ethiopia: Delicate Balance of Vulnerability & Resilience.**

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**\*\*Paper includes maps, graphs and photograph**

**I. Introduction and Background:** Ethiopia has suffered repeated droughts, famines, epidemics, wars, and instability in the past 35 years. Demographically the population had been growing rapidly at an annual rate of up to 3% in the 1990s, to a total of 80 million in 2009, while 84% still live in often densely populated and environmentally fragile rural areas. There are now nearly 15 million food insecure people in mid-2009 requiring humanitarian assistance (MoARD; FEW/NET), while 48% of the children under five are stunted and 27% of women are malnourished (DHS, 2005).

**II. Key Questions and Objectives:** Where is Ethiopia in the process of the demographic transition, and how is this affecting health and nutrition outcomes? In spite of the rapid population increase, rural land pressure, environmental degradation, climate variability and highly levels of food insecurity, why are many of the social and health-related MDGs on track to be met by 2015?

The paper will analyze the demographic processes and structures and their interaction with social change and the spread of rural health and education services in the context of socio-cultural resilience (see conceptual framework). The objective is to look at the complex balance between macro demographic vulnerability and micro resilience and local response.

**III. Methods:** Mixed methods- Multiple national surveys 1990-2005; national censuses 1984, 1994,2007; national surveillance, remote sensing and early warning systems, 1994-2009; quantitative and qualitative research; key informant assessments, 2008-09, and outcome monitoring and evaluations.

**IV. Results:**

**A. POPULATION GROWTH**

1.1 Ethiopia has entered the second stage of the demographic transition: rapid declines in under-five mortality and low HIV/AIDS prevalence have combined with an incipient decline in fertility and rising age at marriage to lower the annual rate of population growth from a high of 3% in the early 1990s to 2.6% since 1994- results (adjusted) from the 2007 National Census (CSA, Dec., 2008) (see graph)

- 1.2 Factors propitious for imminent reduction of high rural fertility: reduced desire for additional children; higher age at marriage; increased use of modern, convenient methods; increased accessible ante-natal and post-neonatal care; as well as rising cost of children

## **B. DISTRIBUTION AND DENSITY**

- 1.3 Unbalanced rural-urban population distribution- in spite of anecdotal evidence to the contrary, there has been a reduction in proportion of migrations patterns that are rural-urban (from 19.7% to 17.8% between 1999 and 2005-NLFS), compared to rural-rural and urban-urban; an increase in temporary and circular migration as livelihood strategy; and a rapid increase in larger agricultural market villages and along roadside; high cost of urban living, rapid food price inflation and inadequate urban skills sets
- 1.4 Shrinking farm land per household: declined from .5 to .2 hectares in past decade (CSA, 2003); average rural household now buying most of their food; greatest concentration of the highly affected (over 25% of the population) requiring humanitarian assistance is both highly-eroded mountains and in sparsely-settled agro-pastoral lowland (FEWS, 2009; see map)
- 1.5 Growing Youth Bulge: proportion of total population in 15-24 category growing disproportionately; large city unemployment in 2005 remains high at 34%, with women at 45% (NFLS)

## **C. MDG GOALS**

- 1.6 Positive and negative MDG indicator trends 1990-2008 - those on-track to achieve 2015 targets include underweight (indicator #1.8), net primary enrolment (#2.1), under-five mortality (#4.1), HIV/AIDS prevalence (#6.1), ARV access (#6.5) ; those off-track include- absolute poverty (#1.1), gender education disparity (#3.1), maternal mortality (#5.1), improved drinking water (#7.8) (see graph)
- 1.7 Growing inequality in fertility, but decreasing inequality in family planning, 1990-2005: in rural-urban, illiterate-literate and poor-wealthy

## **D. FOOD SECURITY AND NUTRITION**

- 1.8 Major socio-ecological inequalities in stunting and its trends- highland greater than lowland, rural greater urban; most reductions in 2000-2005 occurred Addis Ababa, in secondary educated and with ante-natal use
- 1.9 The most vulnerable households in drought prone areas are associated with population-related factors, such as those with very small landholdings, female-headed, oxen-less and lack of adult labor mobility
- 4.10 Rise in vulnerable (highly affected) population in need of humanitarian assistance- from an average of 2 million in the 1970s, to peaks of 8 million in 1985 and 1992, and 14 million in 2003; by mid 2009, in spite of generally adequate rainfall in last five years, the estimate for the hungry season is up to

nearly 15 million, divided roughly into 6 million chronically food insecure and 9 million seasonally insecure (MoARD and FEWS, 2009).

**V.** **Discussion:**

5.1 Social change is occurring more rapidly than agricultural and economic development: rising age of marriage, female education, lower desired family size, acceptance and use of family planning, urban contacts and rural extension worker penetration into inaccessible areas

5.2 The structural vulnerability (including land pressure) of rural households and their traditional coping mechanisms are being replaced by more productive responses, in terms of agricultural diversification, off-farm employment and labor mobility, and petty trading (Ali, 2008)

5.3 A mix of positive and negative factors contribute to the transition: Perception of increased vulnerability and food price inflation, along with rising aspirations, education and communication influenced improved maternal and child health and family planning practices

5.4 No reduction in multiple high risk fertility behavior: the relative risk ratio rose from 1.4 to 1.8 (maternal age, birth spacing and parity) in 2000-2005 (CSA and ORC).

5.5 Technological and institutional change: while most regions in Ethiopia are highly vulnerable to climate variability, several are not (eg., SNNPR, with capacity for irrigation, markets, road infrastructure, literacy and cultural and technological adaptation, Temesgen, 2008).

5.6 Program Evaluations: have demonstrated that certain large scale interventions can, when well implemented and comprehensive, lower fertility, early age at marriage, mortality and food insecurity, and greatly increase program coverage of the highly vulnerable (USAID/ESHE, 2008; Gilligan, 2008; Teller, 2009)

**VI.** **Conclusions:**

Both Malthusian and Bosrupian theories of population, hunger and mortality seem to be operating in the country, in different ways and at different. Both natural and man-made shocks and crises have increased in periodicity, while preventive, preparedness and infrastructure have also increased to strengthen local adaptive capacity. There is a very complex web of multi-level factors balancing agro-economic and climatic vulnerabilities with socio-cultural and institutional change. A very high proportion (84%) of the population remains in rural areas with shrinking and eroding arable and grazing land per capita, less able to feed and nurture itself than the urban population. With nearly 20% of the population remaining chronically vulnerable to food insecurity during the lean half of the year, population pressure appears to remain a barrier to national development (MoFED, 2006)

**VII.** **Policy Implications:** Population in Poverty Reduction, Food Security and human development programs

- a. Population Policy- poverty reduction; human development (education, employment); urbanization; gender and environment

- b. Health Extension and RH/FP- community-based packages; adolescents
- c. Food Security and Nutrition Programs- PSNP; NIP
- d. Research, training, M&E and information systems- for evidence-based policy-making

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*\*\*Maps, graphs, tables and pictures not included here*