Household Member Activity Complementarity as an Explanation of Large Households in Africa: A case study of Tanzania 2005-6

Report to NUFU Project of Statistics Department, University of Dar es Salaam

7 March, 2007

C. Lwechungura Kamuzora

University of Dar es Salaam Tel: off: +255-22-2410500 x 2450
Statistics Department /Demography Unit Fax: +255-22-2410078
P.O. Box 35047 res: +255-22-2843470
DAR ES SALAAM Tanzania Mob: +255-754275247

Email: Kamuzora@udsm.ac.tz Kamuzora@yahoo.co.uk

0.0 Introduction

The persistence of high fertility in especially sub-Saharan Africa (Caldwell, 1987) _only declined by one child, from about 7 in the 1950's to a little less than 6 in Year 2000 (United Nations, 2004) _ and the accompanying similar

large household, especially in a situation of nearly abject poverty conditions (the rich get richer and the poor get children) has elicited much interest and a wide range of explanations. Most interesting has been the polar difference between the neo-classical school seeing lack of knowledge of means of contraception in contrast to a systemic outlook by the other side, with the value of children to families being the basic explanation (Cain, 1977; Caldwell, 1977; Kamuzora, 1984).

A *homo sapiens* basis, especially that people live sustainable life in corporate household units, brings up an idea of complementarity _that each member is of critical value_ that makes for no need of fertility limitation. Interest in this line of pursuit arises from convincing evidence in Africa, of less poverty with higher household size.

Evidence of declining poverty with larger household size in Africa is not new. Analysis of Demographic and Health Surveys across Africa (Kamuzora, 2001), sequel to prompting surveys, e.g. (Kamuzora and Gwalema, 1998; Kamuzora and Mkanta (2000), has been a major corroborative source. This seemingly strange result compels for seeking more independent evidence. Readily available has been the Tanzania 1988 Census, which is a large sample of a little more than 900,000 households. This contains household variables, namely type and quality of housing and sanitation, that are argued to be close proxies of poverty level: interesting results emergeshowing less poverty with higher household size (Kamuzora, 2006), corroborating findings of earlier surveys. However strange this may look, valid explanations are given, both empirically and perhaps most importantly, theoretically, being the context of

labour intensive technology of African economies, and the life cycle of household formation.

1.0 Data and Methods

A time use survey (recording a household member's activities of the day) has been conducted in all regions of mainland Tanzania over the 2005-06 period. A limitation, due to time and financial resource constraints, was that only the head, spouse and other two adult members of opposite sex were covered. With the aim of this paper being complementarity of household members' activities, a profile of activities for eight time periods of the day (see Table 1 below), from morning to evening is presented. Specifically, four activity groups, namely, economic, domestic, social, and leisure are made; observed then is the activity distribution of household members in each of the eight time periods; i.e. in each period (e.g. 6 to 8 a.m. percent of members reporting to be in one of the four activity categories). Thus a day's profile, of extent of a member's involvement in each activity group during each of the eight periods of the day is had.

The profiles of four main groups of members, namely male heads of households, their (female) spouses, female heads and the other, male and female adult members, are dealt with. Thus complementarity, (at each time period can be discerned.

2.0 Results: work activities

Relevantly, focus is on work activities, which are economic and domestic; as described above four household groups are involved: male heads of households, their (female) spouses, female heads, and the others, namely male and female adult members.

2.1 Work of Male, Female Head, and Spouse

In Figure 1, detailed in Table 1, are shown work profiles of the three groups of household members; that is male and female heads and the female spouse, for each of the eight periods of the day, shown as percent of members involved in the two work categories (economic and domestic) put together.

Figure 1: Work Day Profile of Male, Female Head, and Female Spouse: percent of involved by period of day

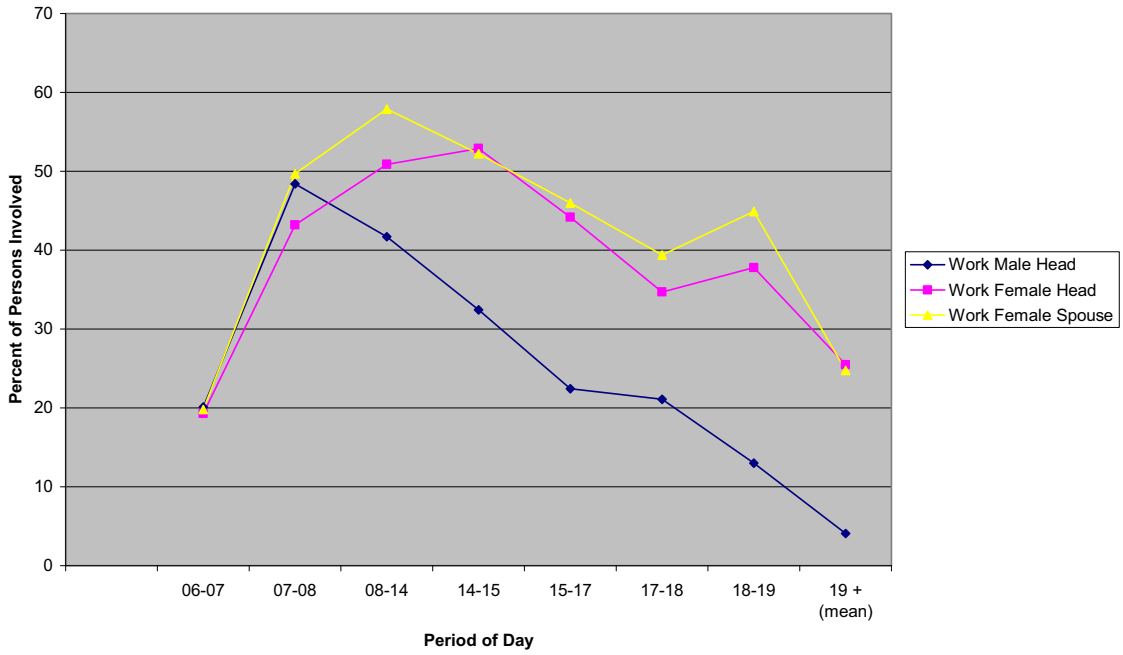


Table 1: Work Day Profile of Household Members (percent persons involved by period of the day)

Period in Day	Work Male Head	Work Female Head	Work Female Spouse
06-07	20.1	19.3	19.8
07-08	48.4	43.2	49.7
08-14	41.7	50.9	57.9
14-15	32.4	52.9	52.2
15-17	22.4	44.2	46.0
17-18	21.1	34.7	39.4
18-19	13.0	37.8	44.9
19 +			
(mean)	4.1	25.5	24.7

Females, nearly 50 percent, are engaged in work throughout the day (from 7 am to beyond 19:00 hours), while work for the male head peaks only between 7 am and 15 hours, and they range only from less than 50 to just above 30 percent. This indicates that work complementarity between males and females

is doubtful. Let us break down work into economic and domestic categories. This is show in Figure 2 and detailed in Table 2.

Figuree 2: Male, Female Head, Spouse Econ and Dom Day Profile (percent persons involved by period of day)

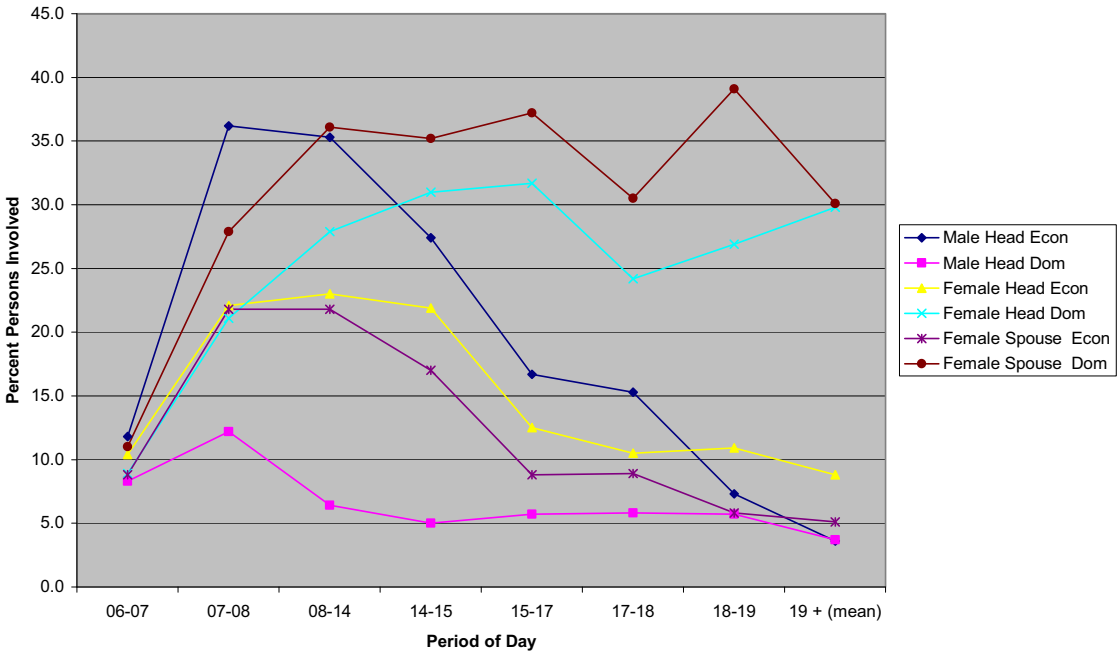


Table 2: Work Day Profile of Male, Female Head and Female Spouse

(percent persons involved by period of the day)

Period in Day	Male Head Econ	Male Head Dom	Female Head Econ	Female Head Dom	Female Spouse Econ	Female Spouse Dom
06-07	11.8	8.3	10.4	8.9	8.8	11.0

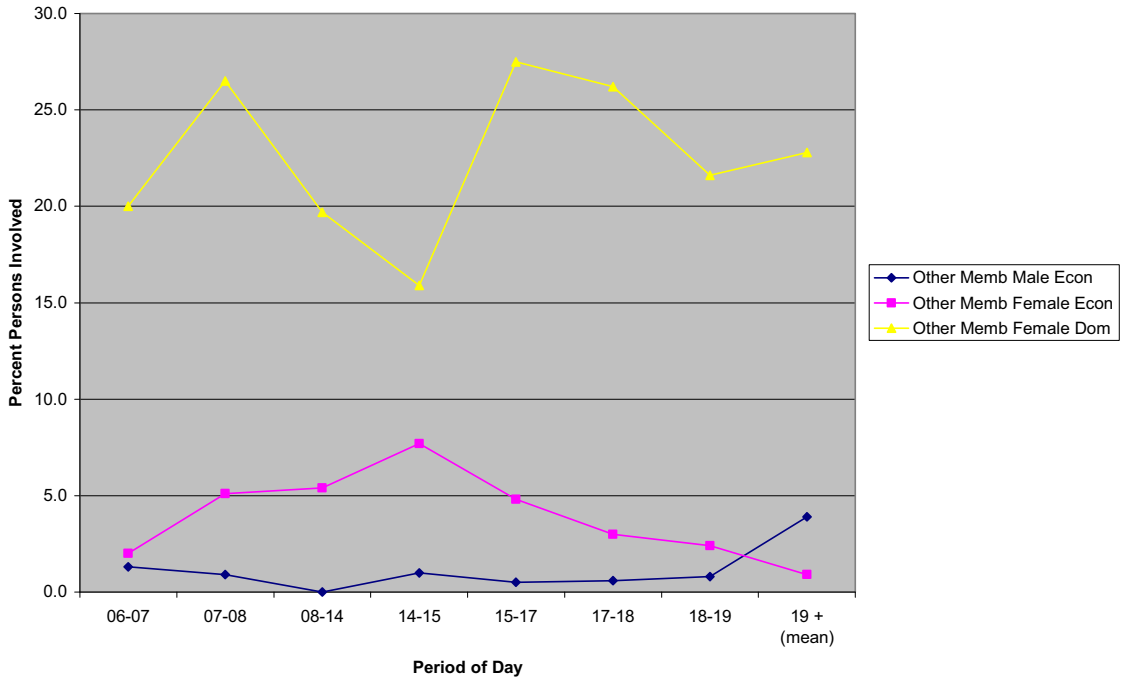
07-08	36.2	12.2	22.1	21.1	21.8	27.9
08-14	35.3	6.4	23.0	27.9	21.8	36.1
14-15	27.4	5.0	21.9	31.0	17.0	35.2
15-17	16.7	5.7	12.5	31.7	8.8	37.2
17-18	15.3	5.8	10.5	24.2	8.9	30.5
18-19	7.3	5.7	10.9	26.9	5.8	39.1
19 + (mean)	1.7	2.3	3.7	21.8	2.8	21.9

The breakdown of work activities into two categories, namely economic and domestic, for each of the three types of household members, brings in six curves on the figure: however it is not difficult to make observations on, because they cluster into only two points of focus. One is, as expected, high involvement of females in domestic activities throughout the day in contrast to very low for males; the second cluster is not so higher involvement of males than females, except briefly in the mornings between 7 am and 2 pm. A heavy burden of females _as the cornerstone of household survival, observed widely (Bryceson, 1995; Kamuzora, 2000)_ is established.

More relevant though, for this paper, is it points to little or lack of complementarity. An arising question is whether this is done by the other members. This is explored next.

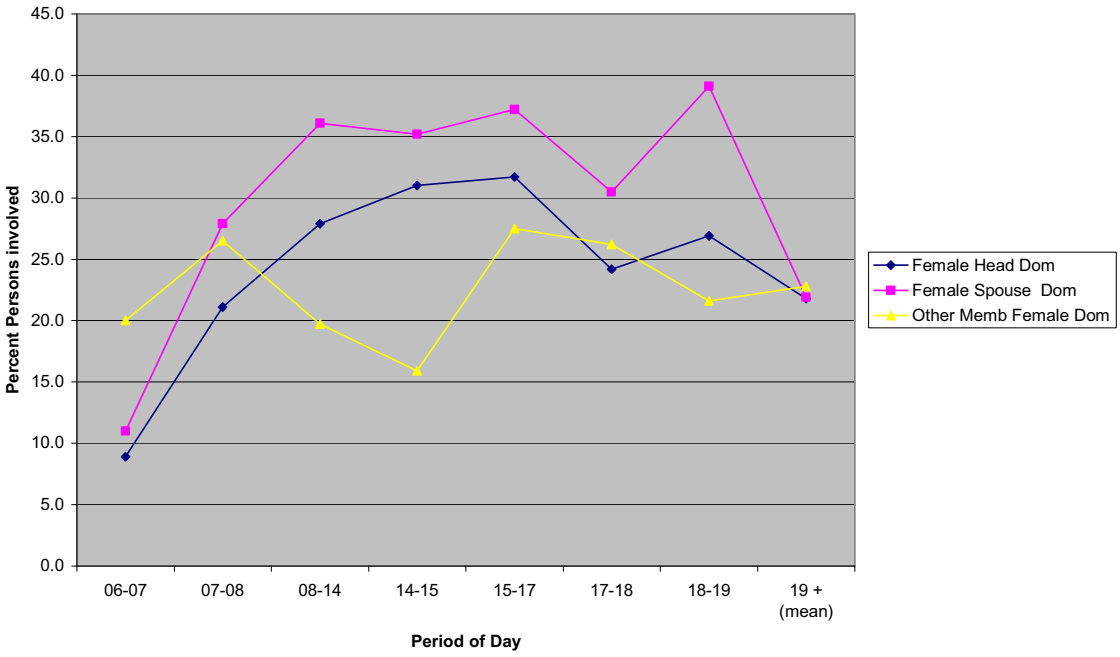
In Figure 3is involvement in work by the other, male and female adult members of the household.

Figure 3: Other Male, Female member Econ, Dom Day Profile



A glaring fact observed first is little involvement by the male member in work activities _indeed none in domestic work. It is the female member who is highly involved, though virtually only in domestic work. She seems to be the one complementing her 'mother'. This is indicated by almost equal involvement in domestic activities (see Figure 4 below) for the three types of female household members, namely the female head, spouse and other member

Figure 4: Domestic activities day Profile of Female Head, Spouse and Other Member of Household



3.0 Conclusion

The most critical aspect of this study is whether the evidence so far from the time use survey answers the research question whether the household members' reports indicate complementarity of activities. Male heads of households most _33 to less than 50 percent_ involve in work for a relatively short period of the day: 8 am to 2 pm (adult male members are worse: virtually no work), in contrast to their female counterparts at more than 43 percent between 8 and 5 pm peaking even to over 50 percent during most of this period. Complementarity is only indicated only by the female adult member.

It is possible that complementarity has to do with younger children, missed by this study, thus a limitation.

4.0 References

Bryceson, D.F. (ed.), 1995: Women Wielding the Hoe: Lessons from Rural Africa for Feminist Theory and Development Practice (Oxford and Washington D.C.: Berg Publishers).

Caldwell, J.C., 1977: "The economic rationality of high fertility: an investigation illustrated with Nigerian data." Population Studies 31(1): 5-27.

Caldwell, J.C., 1985: "Strenghts and limitations of the survey approach for measuring and understanding fertility change: alternative possibilities" in Cleland and Hobcraft (eds).

Caldwell, J. C., I. Orubuloye and P. Caldwell, 1992: 'Fertility decline in Africa: A new type of transition?' Population and Development Review 18 (2): 211-42.

Caldwell, J.C., Barkat-e-Khuda **et al.**, 1999: 'The Bangladesh fertility decline: an interpretation.' Population and Development Review 25 (1): 67-84.

Filmer, D. and L.H. Pritchett, 2001: 'Estimating wealth effects without expenditure data __or trears: an application to educational enrollments in states of India.' Demography 38 (1): 115-132.

Kamuzora, C.L. and S. Gwalema, 1998: "Labour constraints, population dynamics and the AIDS epidemic: the case of rural Bukoba District, Tanzania". REPOA Research Report No. 98.4. (Dar es Salaam: REPOA, June 1998).

Kamuzora, C.L. and William Mkanta, 2000: Poverty and family size in Tanzania: multiple responses to population pressure? Research Report N0. 00.4 (Dar es Salaam: REPOA).

Kamuzora, C.L., 2001: "Poverty and family size patterns: comparison across African countries." REPOA Research Report No. 01.03 (Dar es Salaam, 2001 (A version presented at IUSSP General Population Conference Salvador Brazil August 18-24, 2001 Session 10.

United Nations, 2005: World Population Prospects: The 2004 Revision (New York: United Nations).