The effect of fertility on Socio-economic wellbeing of households in northern Ghana

James Akazili, Mathilda Aberese, Raymond Aborigo, Cornelius Debpuur

Navrongo Health Research Centre

Outline of presentation

- Background
- Research objective and question
- Methods
- Results
- Conclusion
- Acknowledgement

Background

- The interrelationship between fertility and economic wellbeing has received considerable interest in demographic, economic and development literature (Arpino and Aassve 2008)

- The traditional micro-economic framework considers children as an essential part of the household's workforce as they generate income, as well as providing insurance against old age.

Background (cont...)

- The down side of the argument is that a large number of children hampers investment in human capital (Moav 2005)

- Rural areas in developing countries have poor access to both education and contraceptives, both limiting the extent to which couples are able to make choices about fertility outcomes (Easterlin and Crimmins 1985)
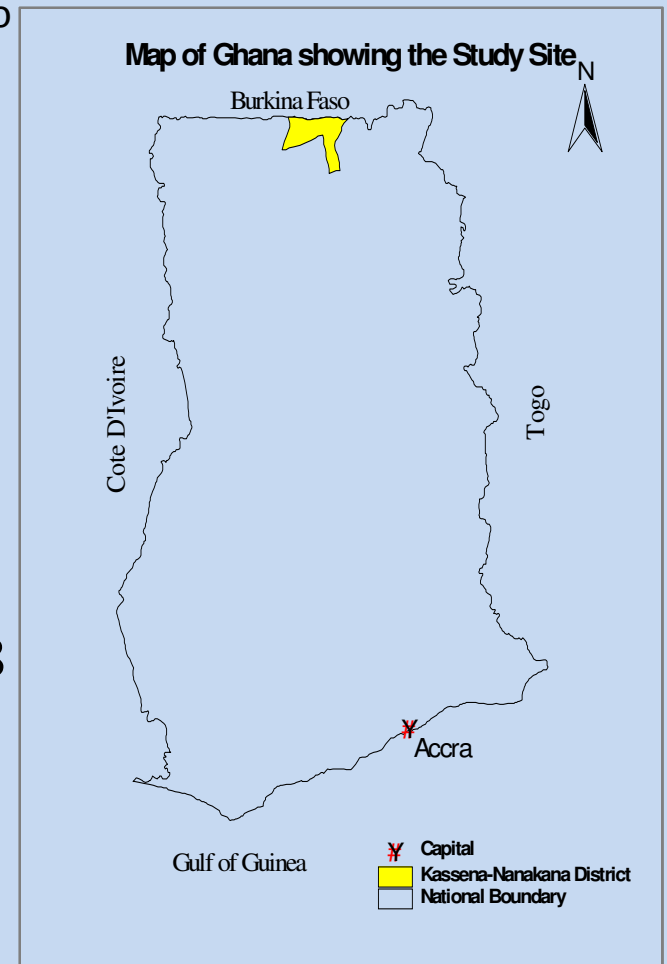
Background (cont...)

- As households attain higher levels of income and wealth, they also have fewer children, due to a quantity-quality trade-off, as suggested by Becker and Lewis (1973)

- The extent to which these theoretical concepts apply to Ghana is less clear

- An important consideration is that Ghana has experienced a considerable decline in fertility over the past two decades

Research objective and question

- Using demographic surveillance data from the Kassena-Nankana Districts of northern Ghana, this study explores the effects of number of children (Under 15 yrs) on household economic wellbeing.

- What is the effect of number of children on household economic wellbeing?

Methods (study site)

- Located between latitudes 10.5^o and 11.0^o N and Longitudes 1.0^o and 1.5^o W
- Agriculture is the main stay of the local economy (90% farmers)
- Out-migration (especially the youth)
- Population about 150,000
- Proportion of children <15 (36.8%)
- Proportion of rural population is 82%
- The district was split into 2 (E & W) in 2008
- The district is home to NHRC
- Demographic surveillance since 1993

Map of Ghana showing the Study Site N

Burkina Faso

Cote D'Ivoire

Togo

Accra

Gulf of Guinea

¥ Capital
Kassena-Nanakana District
National Boundary

Methods (Data)

Dependent Variable

Socio-economic wellbeing (using household assets)

Primary determinant

Children under 15 years

Confounders

Household size

Health insurance status of household

Age of household head

Education of household head

Ethnicity of household

Religious status of household head

Location of household

Number of households
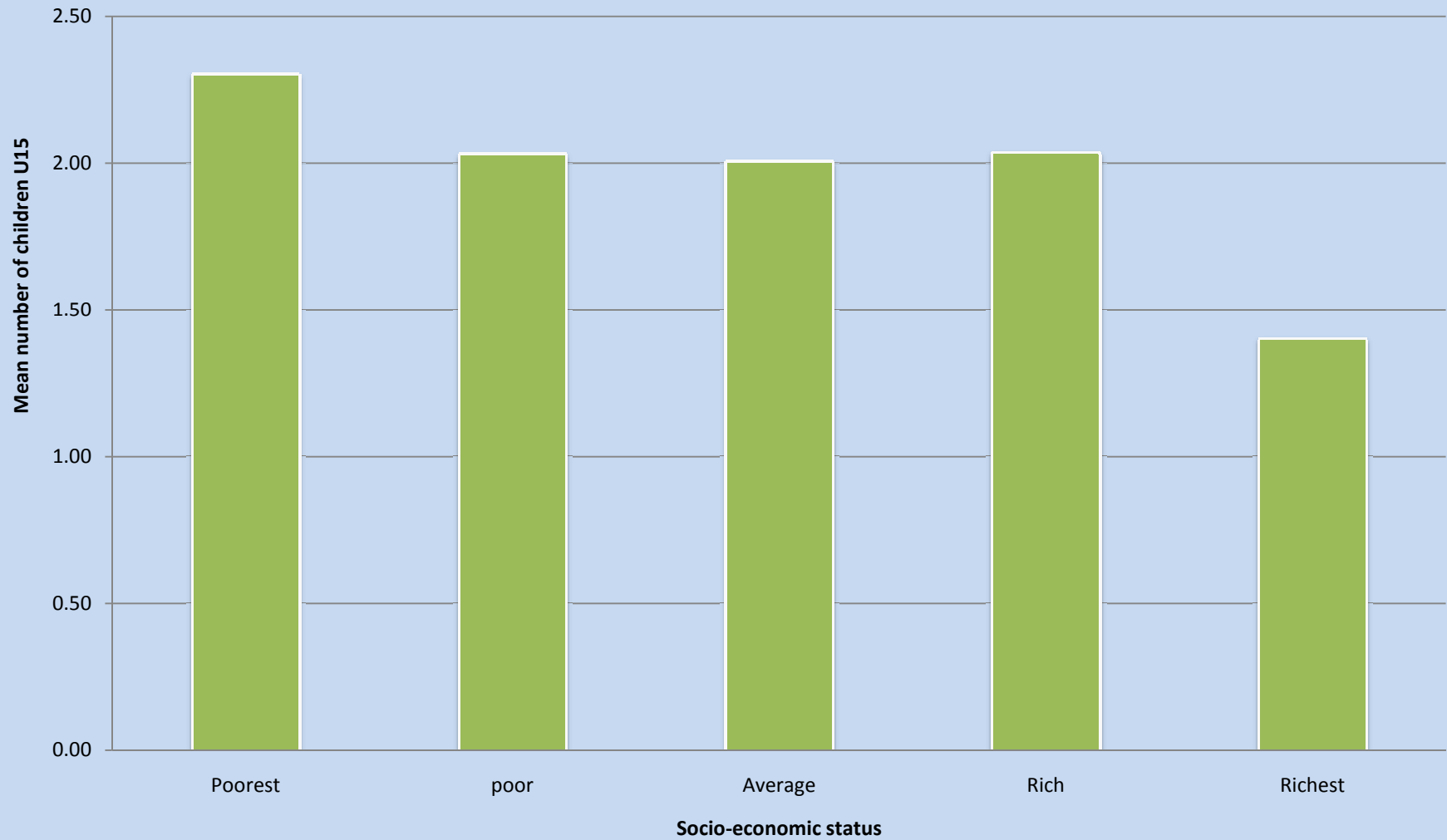
26,600

Methods (Model specification)

The study used the bivariate and multivariate - ordered/ordinal Logit regression model is used and the results are interpreted using the odd ratios

$$\text{Logit } (P_{ij}) = \alpha_j + \beta\chi_i$$

Where α_j indicates the logit of the odds of being equal to or less than category $_j$ (when all independent variables are zero) tells how one-unit increase in the independent variables increase the log odds of being higher than category $_j$
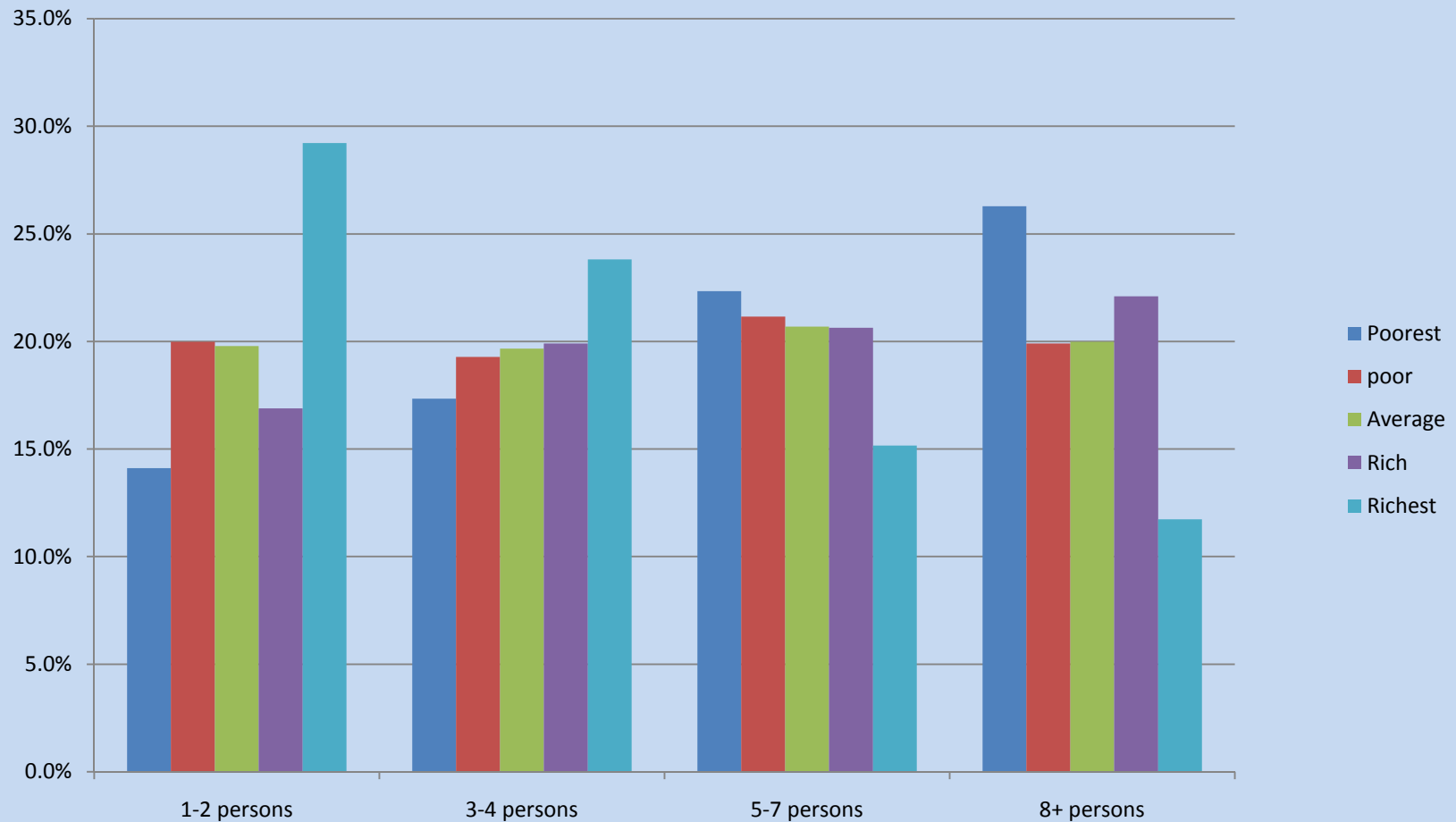
Results (Descriptive stats)
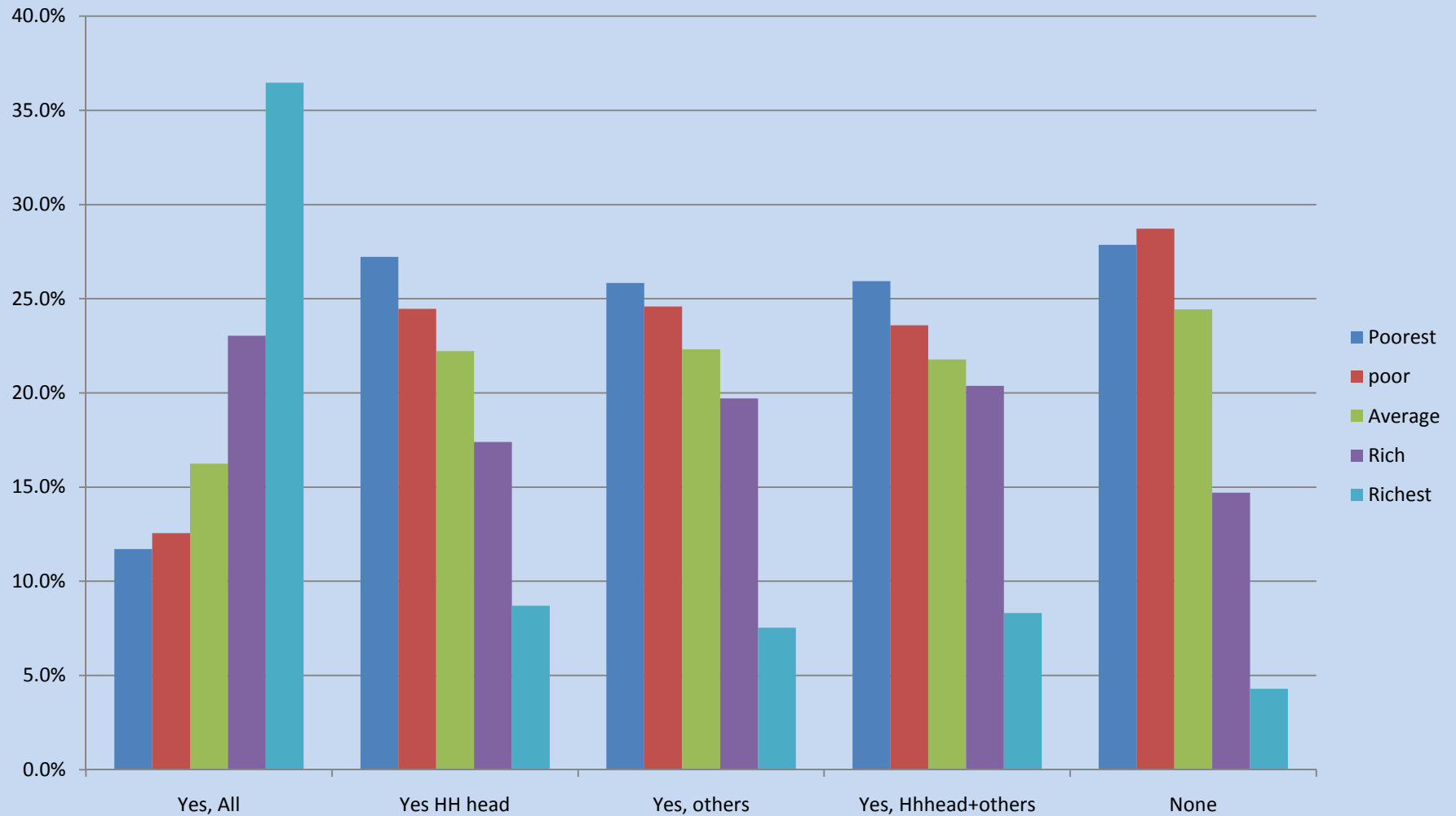
Under 15years by household SES

Results (Descriptive stats)

Household size by household SES

Results (Descriptive stats)

Insurance status according to household SES

Results (ordered logit regression results)

Index	Odds Ratio	SE	P-value	95% conf. Interval
Under 15	0.96071	0.006760	0.000	0.94756- 0.97404
Kasenas	1.00000			
Nankana	0.94906	0.024892	0.046	0.901504 - 0.999120
Builsa	0.71703	0.064344	0.000	0.601381 - 0.854910
Other	3.95291	0.504885	0.000	3.077496 - 5.077350
Traditional	1.00000			
Catholic	2.40080	0.083572	0.000	2.242461 - 2.570315
Other Christians	1.61348	0.054043	0.000	1.510956 - 1.722953
Islam	3.19607	0.210088	0.000	2.809727 - 3.635538
other	1.63872	0.308896	0.009	1.132542 - 2.337112
Yes, All	1.00000			
Yes HH head	0.50303	0.029576	0.000	0.448278 - 0.564470
Yes, others	0.53799	0.017921	0.000	0.503987 - 0.574287
Yes HH head & others	0.61555	0.025407	0.000	0.567716 - 0.667419
None	0.48613	0.016470	0.000	0.454904 - 0 .519512
No educ	1.00000			
Primary	1.10388	0.034811	0.002	1.03772 - 1.174265
JSS/middle	1.67252	0.067533	0.000	1.545259 - 1.810264
Secondary	2.71343	0.161581	0.000	2.414514 - 3.049340
Tertiary	7.28545	0.506741	0.000	6.356979 - 8.349529
Rural	1.00000			
Urban	11.9129	0.563357	0.000	10.85838 - 13.06986
15-29 years	1.00000			
30-39 years	1.004363	0.067809	0.945	0.8798776 - 1.146461
40-49 years	0.923567	0.059894	0.220	0.8133312 - 1.048744
50-59 years	0.838619	0.054180	0.006	0.7388765 - 0.951827
60-69 years	0.763206	0.050723	0.000	0.669993 - 0.869386
70+ years	0.750347	0.051461	0.000	0.6559711 - 0 .858300

Conclusion

- Significantly more children (U15) are found among the poorest segment of households in the districts. This finding is similar to results from Vietnam and Nepal (Arpino and Aassve 2008).

- Household size was also significantly related to household SES: Larger households tend to be poorer

- In terms of religion, traditional worshippers are more likely to belong to poorest households compared to Catholics and other religions

Conclusion (cont...)

- Contrary to popular believe that the NHIS is pro-poor, the results indicate that a household that has none of its members insured with the NHIS is significantly more likely to belong to the poorest socio-economic group.

- Unsurprisingly, households whose heads have no education and primary education are more likely to be in the poorest socio-economic group

- Urban households and households with younger household heads are significantly more likely to be in the richest socio-economic group compare to their rural counterparts

Recommendation

- More research particularly qualitative is needed to understand the dynamics and interrelationship between fertility and socio-economic wellbeing of households

- Other research sites could also undertake similar analysis for better comparison of the results or findings

Acknowledgement

- The chiefs and people of the Kassena-Nankani districts

- The director and staff of the Navrongo Health Research Centre

- Indepth Network

Thank you