Population growth control in Rwanda:

Closing the Poor-rich Gap in Contraceptive Use

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Presentation Outline

- Introduction /Background
- Research questions
- Renewal of family planning (FP) in Rwanda
- Data and Methods
- Results
- Conclusion
- Policy Implications

Introduction

- Family planning is recognized as one of the most influential development interventions
- Yet in developing countries, sub-Sahara Africa, contraceptive use is still low 28,4% in 2015, (UN, 2015): 63.9% in Southern Africa, 16.7% in Western Africa.
- Much higher are the disparities within countries which reflect inequity: rural-urban and socioeconomic groups.
- Disparities in FP are due to three factors: client's preferences and behaviors; reproductive health care system factors (access, geographic distance, etc.), and provider-related factors (Kilbourne et al., 2006).
- Rwanda experienced similar poor-rich inequalities. However, with the last up-scaling FP program decade, inequalities diminished sensibly. How does this happen? Which factors have driven this exceptional behavior among the poor?
- According to literature, the differences in contraceptive use is due to the differences in the demand for children or/and to the differences in family planning services.

Research Questions

The paper aims to analyze the pathways through which the contraceptive gap between poor and rich is narrowing.

- To what extent the demand for children has evolved differently between rich people and poor?

- How the differences in trends are associated with the types and sources of contraceptives?

Renewal of FP attention in Rwanda

- Recognition of population growth as one major barriers to achieve its development
- Government decided to reposition family planning, a determinant factor of the success.
- Activities:
  - Massive public family planning campaign by All key personnel and leaders, ministries, several media channels, meetings with men and religious leaders, introduction of CHW service, mass mobilization through 'Umuganda'.
  - Improving quality of FP services and increase access to FP by augmentation of delivery points.
  - A range of modern contraceptive methods and to promote long-acting methods.
  - Construction of "secondary posts" in regions served by religious-affiliated health facilities

Data and methods: *Data and variables*

- Pooled dataset from 2005, 2010 and 2014/15 DHS
- Married women
- Dependent variable: use of any contraceptive method.
- Main predictor: socioeconomic status measured by educational level and household wealth index
- Other independent variables: ideal number of children and Desire for family limitation among women with few children (1 to 3 children) to assess the reproductive attitude change;
- Types and sources of contraceptives
- Control variables: *woman's age, number of living children, religion, rural-urban residence, and fertility preferences.*

Data and Methods: *Statistical Analysis*

- Descriptive statistics show patterns in contraceptive use, trends in reproductive attitude, and types and sources of methods used.
- Multivariate logistic regression estimates effects of predictors on contraceptive use and evaluates the poor-rich gap over time.
- To assess the change, I build three models :
  - Model 1: Three predictors (education, wealth index and years) and control variables.
  - Model 2: Model 1 + interaction education and survey year.
  - Model 3: Model 1+ interaction household wealth index and survey year.
- The STATA 13 command xtlogit is used to perform the logistic regression.

Results: Trends in Contraceptive use

(in % of married women using contraception)

Period	Education				Household wealth index			
	None	Primary	Secondary	S/N Ratio	Poor	Middle	Rich	R/P ratio
2005	11.1	17.3	41.2	3.7	12.9	14.5	26.1	2.0
2010	43.3	53.0	60.5	1.4	45.0	53.4	57.7	1.3
2014	48.4	54.1	55.4	1.1	48.4	55.1	56.6	1.2

Results: Trends in Contraceptive Use

- Pattern of narrowing of poor-rich inequalities.
- Increase is higher among women with no education than among those with secondary education or higher
- In period 2010-2014, increase is observed only among women with no education, decrease among better educated.
- As a result, better educated women were about 3.7 times more likely than those with no education to use contraception in 2005; the ratio dropped to 1.4 in 2010 and to 1.1 in 2014.

- Similar results with poor-rich women as measured by household wealth index.

Results: Trends of Effects of Education and Wealth on Use

	Model 1		Model 2		Model 3	
Variable	Coef.	P.V	Coef.	P.V	Coef.	P.V
Intercept	-6.29	***	-6.44	***	-6.35	***
Survey Year (ref. 2005)						
2010	1.69	***	1.88	***	1.75	***
2014	1.74	***	2.09	***	1.91	***
Education (ref. none)						
Primary	0.33	***	0.45	***	0.33	***
Secondary and above	0.70	***	1.55	***	0.70	***
Wealth index(ref. poor)						
Middle	0.25	***	0.26	***	0.12	
Rich	0.40	***	0.41	***	0.72	***
Education in 2010/2014 (ref 2005)						
Primary in 2010			-0.09			
Primary in 2014			-0.24	**		
Secondary in 2010			-0.94	***		
Secondary in 2014			-1.31	***		
Wealth index in 2010/2014 (ref 2005)						
Middle in 2010					0.22	*
Middle in 2014					0.11	
Rich in 2010					-0.31	***

Results: Multivariate results

- Multivariate analysis confirms the tendency of convergence.
- Model 1 shows a high CPR increase between 2005 (ref cat) and 2010 and 2014 and educational and wealth disparities in the use of contraception.
- Model 2 and model 3 showing interaction effects of education/ household wealth and years of survey display negative coefficients, indicating decline of educational and household wealth gaps.

Results: Trends in Desired fertility and family limitation

Mean ideal number of children			
Education	2005	2014	Change 2005/14 in % points
No education	4.7	4,0	-0.7
Primary	4.4	3.6	-0.8
Secondary	3.5	3.3	-0.2
Household Wealth			
Poor	4.5	3.6	- 0.9
Middle	4.5	3.7	-0.8
Rich	4.2	3.6	-0.6
Proportion of women with 1-3 children desiring to limit childbearing			
All	27.3	30.3	3.0
Education			
No education	30.1	37.5	7.5
Primary	25.1	30.1	5.0
Secondary+	33.6	26.3	-0.7
Household Wealth			
Poor	26.0	30.2	4.2
Middle	24.5	30.6	6.1
Rich	31.3	29.9	-1.4

Results: Trends in Desired Fertility and Family Limitation

- Over10 years, desired family size declined in all socioeconomic groups with higher decline among women with no or little education
- Excess desired fertility of 1.2 children expressed by women with no education in 2005 drops down to 0.6 children in 2010, and 0.7 in 2014.
- Wealth index: 0.3 more desired children of poor over rich observed in 2005 disappears in 2010/2014.
- Desire to limit childbearing
- Across years, women were more likely to limit their offspring at a low parity.
- Uneducated women increased by 7.5% versus -0.7% for those with secondary education or more.
- Poor women stating not wanting an additional child increased by 4.2 percentage points among poor while it slightly decreased among rich (-1.4).
- The poor-rich gap which was 5 percentage points vanishes in 2014.

Trends in Methods Used

Variable/ Category	Short Acting			Long Acting/permanent		Traditional	
	2005		2014	2005	2014	2005	2014
All	54.2		67.5	6.4	20.0	39.5	12.5
Education							
None	49.4		67.4	4.6	17.3	46.0	15.3
Prim	53.6		70.0	3.8	18.7	42.6	11.3
Second+	59.5		56.3	14.4	28.5	26.1	15.2
Ration N/Sec	0.8		1.2	0.3	0.6	1.8	1.0

Types of Methods Used

- A dramatic decrease of traditional methods and an increase of modern methods.
- Short term effects increased between 2005 and 2010 and went down thereafter while LAM make a continuing increase. These changes suggest a shift to more effective methods.
- Decline of traditional methods is important among less educated (-67%) than among the better educated (-42%)
- Use of modern methods raised more among less educated population, especially for LAM

Trends in Sources of Contraceptives

Variable/ Category	Public		Community		Private	
	2005	2014	2005	2014	2005	2014
All	71.7	59.9	0	32.6	28.2	7.4
Education						
None	84.2	55.8	0	41.2	15.8	3.0
Prim	73.9	59.9	0	34.5	5.7	5.6
Second+	59.6	63.9	0	15.3	30.4	20.8
Ratio Sec/None	1.4	1.0	0.0	2.6	0.5	0.14

Results: *Source of contraceptive Methods*

- Public sector remains the main provider of contraceptives
- Private sector has dramatically declined
- Decline of public and private sources due to Community Health Workers service (CHW).
- Public sector diminished only among less educated population.
- CHW rose from 0 in 2005 to 11.9% in 2010 and 41.2% in 2014 among women without education. The corresponding proportions for women with secondary education or more are 0 in 2005, 6% in 2010 and 15% in 2015.
- Although in declining, private sector remains an important provider among the better educated people.

Conclusion

- Higher uptake among the poor population is due to following factors:
  - Mindset change: decline of desired fertility. Why?
  - lack of sufficient land in rural areas.
  - Improvement of reproductive health services
  - Community health workers (CHW) since 2007
  - Improvements of FP services: Multiplication of FP delivery points, Diversification of contraceptive methods

Policy Implications

- Increase in CPR among the poor is due (needs) to a number of innovative and contextual strategies.
- To engage poor people in FP, Governments should design country specific strategies.
- Community Health Worker service, more than other health systems, succeed among the poor people and rural residents
- Reaching poor and rural populations in Sub-Sahara Africa leads to reach the whole country.
- To curb the current high population growth and improve the population living conditions to achieve a number of Sustainable Development Goals, governments should invest more in rural areas.