Bringing down the birth rate – family planning in the developing world

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Motivation for family planning programmes at government level

Land, population density, food supply, soil exhaustion and water resources (e.g. China).
Rate of population growth versus rate of economic growth.
Mismatch of labour force growth and job growth (e.g. Mexico).
Controversies on economic effects of rapid growth in 1980s, mostly resolved. And most couples now ‘neomalthusian’.
Dependency ratio, age structures - diversion of resources to ‘maintenance’ not investment.
Population momentum puts premium on prompt action.
Family planning programmes – huge experiments with uncertain outcomes.

Major scientific interest: successes and failures should throw light on human motivations to reproduce, and its rationality – especially ‘economic rationality of high fertility’.

Major practical / academic controversy – can family planning programmes have an autonomous effect? Or are they just an adjunct to development?

Major problems of isolating programme effect and measuring it in a highly multifactorial situation.

Ideological divide – Marx versus Malthus, complicated by influence of ‘religious right’ and RC Church. Importance of US Presidential elections.
Components of programmes

Development the best contraceptive? Or contraception the best contraceptive?

Politically / ideologically divisive issue (e.g. Bucharest 1974).

No doubt about huge increase in FP -10% to 60% in 40 years.

But just an adjunct to development?

Crucial role of female education?

Ultimate role of lower mortality?; inevitability of return to zero population growth?

Alternatives to fertility regulation – migration?

Some societies highly receptive to family limitation, others highly resistant.
Factors that *can* affect rapid fertility decline

Cultural, religious predisposition affecting female equality, late marriage. Buddhism, Islam, N. versus S. India.

Autocratic government, confusing effects of Marxism / Communism. Openness to contacts with outside world.

Rapid reduction of mortality.

Rapid economic development.

Rapid urbanisation.

Effective government.

Emphasis on education, media penetration, economic reform.

Well-funded and organised family planning policy.
**Contributions to future world population growth 2005 - 2050 (millions)**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1103</td>
<td>1593</td>
<td>489</td>
</tr>
<tr>
<td>Pakistan</td>
<td>158</td>
<td>305</td>
<td>147</td>
</tr>
<tr>
<td>Nigeria</td>
<td>132</td>
<td>258</td>
<td>127</td>
</tr>
<tr>
<td>Congo</td>
<td>58</td>
<td>177</td>
<td>120</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>142</td>
<td>243</td>
<td>101</td>
</tr>
<tr>
<td>Uganda</td>
<td>29</td>
<td>127</td>
<td>98</td>
</tr>
<tr>
<td>USA</td>
<td>298</td>
<td>395</td>
<td>97</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>77</td>
<td>170</td>
<td>93</td>
</tr>
<tr>
<td>China</td>
<td>1316</td>
<td>1392</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3312</strong></td>
<td><strong>4660</strong></td>
<td><strong>1348</strong></td>
</tr>
<tr>
<td><strong>World</strong></td>
<td><strong>6465</strong></td>
<td><strong>9076</strong></td>
<td><strong>2611</strong></td>
</tr>
</tbody>
</table>

Source: United Nations 2004-based projections
Going against the grain – is high fertility rational?

Material: Cash Returns / Wealth Flows / Private workforce (Caldwell)

Old age support.

Social prestige / affirmation of adult status.

Special needs of non-remarried women

Risk Insurance and ‘political’ support through extended family, lineage or clan

Important where ‘civil society’ or local institutional support weak or absent (Cain).

Usually no ‘welfare state’.
Values underpinning high fertility

Importance of ancestry / lineage.
Family honour / seclusion of women.
  (absence of gender equity; old men’s control of women and children)
Son preference.
High fertility as evidence of role fulfilment.
Other predisposing factors
  Complex households with weak conjugal bonds and shared child-care
  Familial, non-monetised mode of production.
  Communal, not individual land holding.
  Patriarchal inheritance.
Division of rural labour in Kivu province, Zaire, c. 1970.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult woman 15+</td>
<td>100</td>
<td>ploughing, sowing, water, wood, market, beer.</td>
</tr>
<tr>
<td>Adult man 15+</td>
<td>30</td>
<td>care of banana trees, clearing land</td>
</tr>
<tr>
<td>Girls 5 - 9</td>
<td>5</td>
<td>carrying, weeding, water</td>
</tr>
<tr>
<td>Boys 5- 9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Girls 10-14</td>
<td>55</td>
<td>helping mothers with all tasks</td>
</tr>
<tr>
<td>Boys 10-14</td>
<td>15</td>
<td>cattle tending, weeding</td>
</tr>
<tr>
<td>Old woman 55+</td>
<td>20</td>
<td>light work in fields</td>
</tr>
<tr>
<td>Old man 55+</td>
<td>5</td>
<td>work in banana groves</td>
</tr>
</tbody>
</table>

Oeuvre pour la lutte contre le bwaki et la protection de l'enfance
Analyse de la Malnutrition au Bushi 1971.
Familial Systems of support

Familial systems of support, Thailand 1986

<table>
<thead>
<tr>
<th>Category</th>
<th>All</th>
<th>All with living children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent co-resident with child</td>
<td>77</td>
<td>80</td>
</tr>
<tr>
<td>Percent co-resident or daily contact</td>
<td>88</td>
<td>91</td>
</tr>
<tr>
<td>Percent receiving material support from non co-resident child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food / clothes</td>
<td>56</td>
<td>63</td>
</tr>
<tr>
<td>Money</td>
<td>58</td>
<td>65</td>
</tr>
</tbody>
</table>

Population policy: the remaining governmental unbelievers as of 2009
Those with a policy not to intervene, to maintain, or to increase fertility (pronatalist)

Some Tropical Africa (mostly West, Francophone)
Benin (changed mind from 2005-2009)
Brunei (fertility too low, but no policy)
Cote d’Ivoire (up to 1996)
Sierra Leone (TFR too high but no policy)
Gabon (pronatalist)
Libya (up to 2009)
(Somalia)
Some Middle East
Israel (pronatalist)
Kuwait (TFR too low; maintain)
Oman (until 2005)
Saudi Arabia (but was pronatalist)
United Arab Emirates

A few Latin America (varies with regime change)
(Brazil; 1979 compromise)
Bolivia
Paraguay (2009: TFR too high. no intervention)
Uruguay

A few Asia and Pacific
(Afghanistan)
Burma (Myanmar)
Malaysia
Mongolia (pronatalist)
Population policy; some governmental revisionists

China 1960s
Indonesia 1964
Mexico 1973
Vietnam 1972
(Brazil 1979)

Malaysia 1984
Iran 1979
Chile 1979
Bolivia 1976

Iran 1988-9
<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>TFR</th>
<th>% want no more</th>
<th>% with unmet need</th>
<th>Ideal family size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>2005</td>
<td>3.4</td>
<td>57</td>
<td>25</td>
<td>3.3</td>
</tr>
<tr>
<td>Cameroon</td>
<td>2004</td>
<td>5.0</td>
<td>21</td>
<td>20</td>
<td>5.7</td>
</tr>
<tr>
<td>Chad</td>
<td>2004</td>
<td>6.3</td>
<td>8</td>
<td>21</td>
<td>8.9</td>
</tr>
<tr>
<td>Congo (Brazzaville)</td>
<td>2005</td>
<td>4.8</td>
<td>19</td>
<td>16</td>
<td>5.1</td>
</tr>
<tr>
<td>Ghana</td>
<td>2008</td>
<td>4.0</td>
<td>37</td>
<td>35</td>
<td>4.3</td>
</tr>
<tr>
<td>Guinea</td>
<td>2005</td>
<td>5.7</td>
<td>22</td>
<td>21</td>
<td>5.6</td>
</tr>
<tr>
<td>Niger</td>
<td>2006</td>
<td>7.0</td>
<td>9</td>
<td>16</td>
<td>8.8</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2008</td>
<td>5.7</td>
<td>20</td>
<td>20</td>
<td>6.1</td>
</tr>
<tr>
<td>Mali</td>
<td>2006</td>
<td>6.6</td>
<td>20</td>
<td>31</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Demographic and Health Surveys 2009
India’s family planning programme.

Srinivasan 2006

Very early - began 1952. clinic approach assumed unmet need.
   But inconstant government support, change of favoured method, top-down target-oriented approaches.
Huge regional variations in motivation and acceptance.
1965 IUD campaign. 900,000 acceptors 1966-7, halved by 1970s. HITTS approach
1977 election. ‘recoil’ phase only 900,000 sterilisations 1977-8
Election 1980 return of ‘family planning’. sterilisation now aimed at women; 2 million 1980 – 81
1995 Reproductive Health and Child Health approach.
48% overall use of FP of which 85% sterilisation, 7% condom, IUD, pill.
The importance of sub-national diversity: Heterogeneity of fertility rates in India 2007-8

India 2008: Classification of Bigger States based on Total Fertility Rate

<table>
<thead>
<tr>
<th>TFR&lt;2.1</th>
<th>TFR 2.1 to 3.0</th>
<th>TFR&gt;3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala</td>
<td>1.7</td>
<td>Jammu &amp; Kashmir 2.2</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>1.7</td>
<td>Orissa 2.4</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>1.8</td>
<td>Gujarat 2.5</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>1.9</td>
<td>Haryana 2.5</td>
</tr>
<tr>
<td>Punjab</td>
<td>1.9</td>
<td>Assam 2.6</td>
</tr>
<tr>
<td>West Bengal</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Delhi</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Karnataka</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Maharashtra</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Sample Registration System (2008)
China’s Population Policy

The rise of ‘market Leninism’

Long-standing migration control through household registration.

Planned parity was 1.62 (e.g. 1.28 Shanghai (now 0.85), 2.40 Sinkiang).
One-child norm not systematic in rural areas since 1984.
More severe since 1991, long delays in permission for rural couples.

Breakdown in birth registration and problems with 2000 census; TFR uncertain 1.5 – 1.8.

Actual fertility now often lower than ‘policy’ fertility.
Serious sex-ratio problems through infanticide and sex-selective abortion.
Socio-economic polarisation: large poor rural population.
100 million plus ‘floating population’ cannot be controlled.
Population may peak at 1.5 billion, then decline.
‘Demographic bonus’ now; ageing and pensions problems later.
Policy change urgent – ‘China may become old before it becomes rich’
Population pyramids, China 2000, 2025, 2050. Source: US Census Bureau IDB.
North Vietnam policy since 1963. 2-3 child norm, 4-5 years spacing. Provincial variation.


1993 land apportionment – families of 3 get same land as families of 2.

Fines and punishment for 3rd child (dismissal, expulsion from Party, 1 year harvest fine).
Bangladesh: an unsuitable case for demographic transition?
Attane 2000, Population et Societe 357.

Infant mortality rate 91/1000
Expectation of life male 56.5, female 55.6
Illiteracy male 55%, female 76%
Percent Muslim 87%
GDP growth per head 1960-1995 0.9%
Population density 890 / km2
Human Development Index rank 1991-7 136 / 150
GDP PPP 1997 $1050 (India $1670, Pakistan $1560)
Nigeria – a failed policy

Biggest African country.
Oil revenues delayed population concerns.
400 ethnic groups, North / South, Muslim / Christian rivalries. ‘demographic competition’ at census
Strong patriarchal pronatalist ethos.
Corrupt, weak unstable governments.
Male-oriented top-down policy.
Culturally insensitive.
Only one child decline so far, probably due to development.
Brazil – a family planning programme without government

1964 – 1985, Military regimes, no population concern.
   High fertility, high level of illegal abortion
1985 – permissive fp policy but no motivation; a compromise with RC hierarchy.
Non- (central) government activism: BEMFAM (IPPF) set up to reduce illegal abortion, marketing by pharmaceutical industry to meet private fp demand, circumvention of law against tubal ligation (female sterilisation).
But- increased caesarian operations, big rich / poor, urban / rural inequalities in access.
TFR now below replacement.
Iran – the pragmatism of Islam in an ancient society.

Up to 1979 - autocratic government of Shah Reza Pahlavi (emulating Ataturk) promotes education for women, family planning programme (mostly effective in urban areas).


Pronatalist rhetoric accelerated by Iran / Iraq war 1980-88 (0.5 to 1.5 m dead).

New reform from 1989 – *volte face* on family planning, encouragement of women’s education and health.

Policy focused on rural population; 90% covered by 2005, rural TFR down to replacement, national TFR 1.8 or less.
Iran – estimates of TFR from own-child method.
Kenya – progress on hold

Policy from 1967 but no implementation

1979 – report of WFS TFR 8, 4% population growth

Major top-down campaign, desired family size fell from 7.2 to 4.8 in ten years, TFR 4.8 1998. Elite endorsement important.

FP resources diverted to AIDS, allocation for FP and provision fell, unwanted births rose from 11% to 21%. Fertility stall.
Demographic effects of delaying fertility decline (projected).

Kenya - effects of a delay in reducing fertility
(decline to TFR of 2.5 over 30 years)

<table>
<thead>
<tr>
<th>Population (millions)</th>
<th>decline begins in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>actual</td>
</tr>
<tr>
<td>1960</td>
<td>8</td>
</tr>
<tr>
<td>1980</td>
<td>16</td>
</tr>
<tr>
<td>2000</td>
<td>31</td>
</tr>
<tr>
<td>2030</td>
<td>63</td>
</tr>
<tr>
<td>2060</td>
<td>95</td>
</tr>
</tbody>
</table>

Stalled fertility transition in Kenya
Source Machiama 2010.
Kenya – flatlining of contraception use.

Source: Cleland et al. 2006
Causes of stalled / slowed declines

Political attitudes favouring population growth, high fertility.
Postponement / recuperation balance (Southern S America).
Halving of funds devoted to family planning by international agencies. (effects of Cairo conference 1994, AIDS epidemics, US elections).
Weak political will among governments.
Poor / negative economic growth (Africa).
Increase of unmet need, doubling of unwanted pregnancies in (e.g.) Kenya, halving of use of fp from public clinics.
Persistence of highly restrictive abortion laws.
Persistence of above-replacement desired family size, especially in less developed regions.

How far could that be ‘rational’?
Calculating programme effect

Standardisation / decomposition with proximate determinants
Thailand - 9 point CBR decline in marital fertility

Trend Analysis  Chile, Tunisia  CBR fell 2x faster after programme

Reproductive process analysis – births averted by programme methods (eg sterilisation, IUDs) – calculation of Couple Years of Protection

Method Prevalence based on surveys to calculate births averted by programme methods

Experimental design contrasts test area with control: Matlab, Bangladesh

Multivariate analysis to account for socio-economic change

Cross-national studies evaluating programme strength: Parker Mauldin and Lapham.
<table>
<thead>
<tr>
<th>Location</th>
<th>Percent of Fertility Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan 1964-74</td>
<td>35-50%</td>
</tr>
<tr>
<td>Singapore 1966-85</td>
<td>40-60%</td>
</tr>
<tr>
<td>South Korea 1963 – 75</td>
<td>45%</td>
</tr>
<tr>
<td>Kerala `968 – 78</td>
<td>40%</td>
</tr>
<tr>
<td>Thailand 1971 – 75</td>
<td>80%</td>
</tr>
<tr>
<td>Mexico `973 – 78</td>
<td>42-48%</td>
</tr>
<tr>
<td>Tunisia 1979</td>
<td>78%</td>
</tr>
<tr>
<td>Mauritius 1950-1971</td>
<td>50-60%</td>
</tr>
<tr>
<td>20 developing countries</td>
<td>48% of variance of CBR</td>
</tr>
<tr>
<td>Bangladesh 1970-80</td>
<td>15%</td>
</tr>
<tr>
<td>Iran 1986-96</td>
<td>4% -20% from rural health clinics alone</td>
</tr>
</tbody>
</table>
Reversing population policy – the problems of ageing and population decline

Japan
South Korea
Singapore
Taiwan
China to follow?
Major non-European countries projected to be in population decline by 2050 (total 2.406 billion) with population in 2010, in approximate order of projected onset of decline.

Source: United Nations 2010

<table>
<thead>
<tr>
<th>Country</th>
<th>Population in millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>128</td>
</tr>
<tr>
<td>Taiwan</td>
<td>23</td>
</tr>
<tr>
<td>S Korea</td>
<td>49</td>
</tr>
<tr>
<td>China</td>
<td>1346</td>
</tr>
<tr>
<td>Mexico</td>
<td>115</td>
</tr>
<tr>
<td>Brazil</td>
<td>197</td>
</tr>
<tr>
<td>Thailand</td>
<td>70</td>
</tr>
<tr>
<td>Iran</td>
<td>78</td>
</tr>
<tr>
<td>Turkey</td>
<td>74</td>
</tr>
<tr>
<td>Indonesia</td>
<td>238</td>
</tr>
<tr>
<td>Vietnam</td>
<td>88</td>
</tr>
</tbody>
</table>
Some speculations about future fertility and growth

Possibly a future of even greater diversity

Estimates of African TFR decline too optimistic

Asian decline under-estimated

Ultra-low fertility in urban China – an Asian low fertility trap?

Effects of global urbanisation

Effects of ‘familism’