Policy Brief

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An Analysis of the Impact of Reproductive Health on Growth and Poverty: The Case of Mauritius

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Introduction

During the late 1950's Meade (1961) and Titmuss and Abel-Smith (1961) came to the conclusion that Mauritius being a small island monocrop economy, its future was to a large extent dependent on its population policy. With a rapid population growth (at 3 per cent per year), remoteness to markets and a dearth of natural resources, the projections pointed to economic, social and political disaster. Yet the disaster has not occurred. On the contrary, Mauritius is one of the countries in the SADC region that can boast of free health care and free education to all its citizens that is, a welfare state that has provided education and health as rights to its population and one of the few countries in Sub-Saharan Africa that will be meeting the Millenium Development Goals (MDGs) by 2015, except for the infant mortality rate. The country is characterised by increased average life expectancy, a low population growth rate, a reduced fertility rate and access to basic facilities in housing, education and health, all of which have a positive impact on the economy.

Mauritius therefore provides an excellent country case study to analyse how its population policy coupled with other measures such as free access to education have helped significantly to contribute to growth and to reduce absolute poverty.

The main objectives of the study were therefore as follows:

(i) To assess the current situation as regards various aspects of Sexual Reproductive Health (SRH) in Mauritius.

(ii) To analyse what are the challenges with respect to different components of Reproductive Health in Mauritius. Based on the challenges, conduct interviews and focus group discussions with selected participants and resource persons in the health sector to see what is being done and what can be done to tackle the problem areas.

(iii) To assess the impact of reproductive health on economic growth.

(iv) To assess the impact of reproductive health on poverty. Broadly to see the linkages between reproductive health, economic growth and poverty.

Data Collection and Methodology

Data has been collected from many sources: the Ministry of Health and Quality of Life, the Mauritius Family Planning and Welfare Association and the Action Familiale, the Central Statistical Office (CSO) and the Bank of Mauritius over the period 1981 to 2007. Unfortunately, in Mauritius there has not been a consistent preparation of National Health Accounts (NHA). The only NHA prepared for the year 2001 was published in 2006.

The methodology can broadly be classified into two main parts. First, focus group discussions and interviews were conducted on specific issues on sexual reproductive health, which are of policy importance in the context of Mauritius. There were four focus group discussions in all. The results from the FGDs and interviews will guide us when we come to the second part of the study, which consist mainly of analyzing, by appropriate modeling, the linkages between SRH, economic growth and poverty. The FGDs and interviews will also be important when distilling the policy recommendations.

The second part of the investigation is divided into two parts. First we need to analyse the impact of reproductive health on growth, which we proxy by improvements in the fertility rate. However, we have a possible problem of endogeniety if we attempt to see directly the effect of fertility on growth as fertility improvements will impact on growth and growth will also affect fertility. Following, the standard practice in the literature [for instance, see Wooldridge (1997)] we first, estimate a regression model of the determinants of fertility. Then we use the fitted values of fertility as an explanatory variable in an econometric model of the determinants of economic growth.

Then we analyse the impact of fertility on poverty. In Mauritius the one dollar or two dollars a day are not appropriate measures of poverty as we have an extensive welfare state. We use half median income as our measure of poverty. Again given, the possible endogeneity problem, we use the fitted values of fertility when considering the impact of fertility on poverty. In Mauritius relative poverty is more of a concern than absolute poverty as the latter is close to two per cent and whereas those who are considered to be relatively poor is estimated to be around 8 per cent of the population. The data collected by CSO is on relative poverty, whereas the data on absolute poverty are only indicative and are reported infrequently. Also from a policy standpoint in the context of Mauritius, it makes more sense to study relative poverty as the latter has worsened over the last decade.

For the econometric analyses, the data are yearly observations from 1981 to 2007. When we come to the analysis on poverty, we go beyond the regression analysis, as the latter may in fact tell only part of the story.

Analysis of Results

Summary Indicators: Reproductive Health

Table 1 below gives some main indicators of the status of reproductive health in Mauritius. It can be seen that Mauritius has made remarkable progress with respect to improvements in

Reproductive Health (RH), in particular in bringing down the fertility rates, in promoting safe motherhood and increasing life expectancy. In fact, Mauritius will be one of the few countries in the African region which will meet the requirements of the MDG) by 2015 with the exception of the infant mortality rate. The following sections briefly analyse what have been the factors contributing for this success and we also analyse what are the remaining challenges.

Table 1 Reproductive Health: Summary Indicators

	1981	1985	1990	1995	2000	2005	2006	2007
Fertility Rate	2.68	1.97	2.29	2.13	1.97	1.79	1.67	1.7
Infant Death Rate*	33.6	23.8	19.9	19.6	15.8	13.2	13.5	13.9
Maternal Mortality*	n.a.	1.0	0.7	0.6	0.2	0.22	0.18	n.a.
Life Expectancy Female	70.9	71.88	72.96	73.96	74.62	75.59	75.89	75.80

*per 1000 live births (Source: Ministry of Health and Quality of Life)

Success Factors

The success factors in relation to Sexual Reproductive Health in Mauritius can broadly be summarized as follows:

- SRH services like all health services in Mauritius are free of charge. This has been a critical factor in making access relatively equal to all Mauritians.
- Staff is trained to provide good quality health services.
- People are educated to enable them to use the services effectively.
- Fertility has gone down and the focus has been on maintaining current fertility levels.100% of births are attended by health personnel.
- The Contraceptive Prevalence Rate has increased from 70% to 75% between 1991 and 2000.
- Maternal mortality in Mauritius is low relative to other SADC countries.
- Sensitization campaigns targeting young people have been run to create greater awareness of SRH issues.
- There are plans to integrate the Provide in full (HIV) prevention programme with the Family Planning programme, particularly in relation to popularising dual protection at a grassroot level.
- There are twelve health centres functioning until 6pm, on Sundays and on public holidays. (Source: Ministry of Health and Quality of Life, 2007)

Challenges

It is clear from the data that the improvements are quite significant. Yet we must not rest on our laurels as there are some areas of concern, which must not be neglected. Despite significant progress, some SRH indicators remain alarming, for example, high rates of unwanted pregnancies, high rates of abortion, and increasing STIs especially HIV prevalence. Also although the contraceptive prevalence rate has increased from 74.7 percent in 1991 to 78.5 percent in 2002

among currently married women aged 15-44 years, there is an increasing trend in the use of less reliable methods.

There is evidence to show that whilst services are readily available, they are focused on married women as the core target. This blocks out critical SRH targets like adolescents and men. The services are focused mainly on family planning methods/contraceptives aimed at women and are not fully integrated with other SRH service needs.

The key challenges and gaps, identified, as it applies to young people are:
(1) Access to accurate SRH information.
(2) Access to youth friendly services that will support them in taking positive responsibility for their sexual and reproductive lives.
(3) Teenage Pregnancy
(4) Unsafe abortion

For Mauritius, at a macro level, the achievements speak for themselves but the devil is in the details which we must not neglect. There is a need to strengthen efforts in order to attain the MDGs to which Mauritius has subscribed.

The analysis from the focus group discussions show that: (i) communication on SRH in the family unit is still very much deficient; (ii) access to contraceptives by the age group (18 to 24) most vulnerable to STDs, in particular HIV/Provide in full (AIDS) is not user-friendly as these services are still viewed as for married couples only; there is still a social stigma for unmarried but sexually active youth to access these facilities and therefore highly exposed to having unprotected sex; (iii) the link between poverty and poor or deteriorating reproductive health has been emphasized, hence the need to combat poverty; (iv) the negative effects of poor SRH on growth has also been recognized.

We also see the significant impact of female's education on the fertility rate. By putting emphasis on female's education, this has helped in two respects. First, by delaying the age at which women get married and secondly, by empowering them to join the active labour force and implicitly pushing them into a choice of low fertility.

In the econometric model for growth, we take into account the common explanatory variables which are likely to affect growth such as the rate of inflation, the investment ratio, a measure of openness, and the labour force. As far as reproductive health measures are concerned, we included the fitted values of the fertility rate, the secondary female enrolment ratio and life expectancy. Pillay (2006) argues that human capital formation, training and health are crucial for growth. We expect the investment ratio, openness and the labour force to have a positive impact on growth. The fitted fertility values are expected to affect growth adversely as increases in the fertility rates may undermine its short term growth prospects by acting as a drain on resources (see Sevilla (2006)]. We also include life expectancy as it is a measure which has been used extensively in the literature [for instance, see Knowles and Owen (1995), and Ali (2006)]. Those who have considered health effects on growth have often used life expectancy as a proxy for

health.

We see that inflation affects growth adversely as this affects the competitiveness of the country. Openness and the investment rate are the two main drivers of growth in Mauritius. This is expected as the Mauritius economy is very much export oriented. We also see that the female secondary enrolment ratio has a significant positive effect on growth. We are using this ratio here as a proxy for investment in human capital. In fact, in the Mauritius context by having the female labour force educated, this has helped them to take active employment (particularly in the EPZ sector) and contribute to growth. Life expectancy has also a very important positive effect on growth. Here life expectancy is proxying for improvements in health. On the other hand, we see that increasing fertility rates has an adverse effect on growth. In fact, Mauritius can be considered a success story in its family planning program, where couples nowadays on average have two children and even this number is dropping. We have been able to reverse the doom predictions of Meade (1961). Partly the penalty of this rapid success, is that, Mauritius is presently facing an ageing population problem.

In fact, Mauritius started its family planning program as far back as 1957 when the Mauritius Family Planning Association was formed. The program has known a resounding success and is one of the main catalysts for female to be educated and be able to join the labour force. The programme has been largely successful in bringing fertility rates down, increasing female participation rate in the labour force with positive effects on household savings, and investment in the economy with resulting impact on growth and poverty reduction.

In Mauritius there is no established official poverty line. Information obtained from Household Budget Surveys (HBS) give some indication of the extent of income poverty. Low-income households are defined as those households whose income is below the half median income or those earning less than one third the mean income. Therefore the poverty measure of interest that is being used is the percentage of households earning less than half the median income. It must also be noted that in Mauritius unfortunately, the statistics published on poverty are quite scarce. There is no data series available on the headcount ratio, poverty gap, FGT(2) etc. In Mauritius the $1 a day poverty measure is not appropriate as we have an extensive welfare state providing free education and health, social security and subsidized and low cost housing.

Overall in Mauritius, we see the linkage between economic growth and poverty reduction is well grounded. The Mauritius economy was expanding at an average rate of 5 to 6 per cent per year over the last 15 years. Over the last two decades, income per capita (in dollars) quadrupled, average monthly income increased fivefold and the Gini coefficient improved from 0.396 to 0.388 and the incidence of absolute poverty has dropped significantly from 11.2 per cent in the mid 1980s to around 1.5 per cent.

However, over the period 1990 to 2007, one can argue that there has not been a significant impact on reduction of income inequality in Mauritius, with the Gini coefficient moving from 0.371 to 0.388 and only a modest improvement in poverty reduction. An urgent need was therefore felt for a re-dynamised targeted approach to combat poverty in Mauritius.

We use the half median income as our measure of relative poverty. Households with income below the half median are considered as poor. Absolute poverty is not considered as firstly we do not have a full data series and in the context of Mauritius relative poverty is much more of a concern. In fact the poverty figures from the CSO) are mainly on relative poverty.

The factors which are considered likely to impact on relative poverty are inflation, unemployment and growth. These are the main economic factors which are most likely to affect the poor. Then we include the fitted fertility values as this is our main area of analysis. Improvements in fertility rates are used as a proxy for improvements in reproductive health. So we expect increases in fertility rates to worsen the relative poverty measure and improvements will make the poor better off.

We find growth losing its anti-poverty effectiveness, with the main poverty indicators deteriorating moderately despite a sustainable growth rate of 5 per cent or better. We therefore confirm major theoretical underpinning that inflation, unemployment and poor reproductive health adversely affect the poor. We find the impact of SRH to be more significant compared to the other two variables.
As far as the impact on growth is concerned, we see that access to reproductive health (proxied by use of contraceptives obtained free from Family Planning service points) and increasing female's education have helped significantly to reduce the fertility rate in Mauritius. In the growth model, we see that the fitted fertility values are highly significant, showing that reductions in the fertility rate were critical in promoting growth. We also see that improving female's education and life expectancy were significant drivers of growth, in addition to the usual macro economic variables such as the investment rate, the degree of openness etc.

Regarding the impact of SRH on relative poverty, we find that increases in the fertility rate do make the poor worse off. So steps to reduce fertility were critical in order to reduce poverty. We find however, that growth is significant only at the eight per cent level, showing to some extent that it has lost its effectiveness in combating relative poverty over the last decade. Hence the need for a complementary targeted approach to combat poverty. Though we were successful in reducing absolute poverty significantly from the late 1980s to present, same cannot be said for relative poverty. The gini coefficient has deteriorated slightly though the figure still compares favourably with many African and even Asian countries. However, when considered, over the last decade, though there were significant improvements in the mean income and the median income, the other indicators of relative poverty (such as the share of income to the lowest quintile, proportion of poor households etc) have more or less stagnated.

Policy Implications

The recipe for the economic success during that period, besides the trade preferences under the Lome Convention and the MFA, were sound macro-economic management, a high political commitment, a stable democracy, respect for law and order and a ready pool of an educated and relatively cheap labour force. In fact, the political decision of the government in 1976 to declare free secondary education ironically proved to be a fundamental pro-poor growth measure

enabling not only the poor but also particularly female labour to be educated. Without the high participation rate of female labour in the EPZ sector, the latter would not have known the rapid growth that it did. However; at the centre of this development agenda has been its population policy and in particular policies to improving reproductive health.

- Access and sensitisation campaigns to use reproductive health facilities were key. Community health centres were set in each locality; many within walking distance. There were also significant outreach activities with visits by community health workers and counselling of couples on the importance of using a contraceptive method. However, today there is another problem. Access to contraceptives by the age group (18 to 24) most vulnerable to STDs, in particular HIV/AIDS is not user-friendly as these services are still viewed as for married couples only. There is still a social stigma for unmarried but sexually active youth to use these facilities.
- Training of personnel. This is also very important as the health workers not only perform better but also know how to communicate with patients which are generally quite delicate with respect to reproductive health matters.
- Education; in particular female education. This has helped to delay marriage and conception and also make women become more career oriented and not marriage oriented soon after puberty as it was in the early 1960s and 70s. This as a result, has helped to increase the participation of women in the active labour force. In fact the EPZ sector owes a large part of its success to the rapid integration of female labour in the sector.
- Management of the economy. A proper management of the economy was also crucial. This has helped to create more employment opportunities and with more women going to work; the fertility rate came down drastically. In fact from the econometric results; we see that improving female's education and life expectancy were significant drivers of growth, in addition to the usual macro economic variables such as the investment rate, the degree of openness; etc.
- Support institutions. It is important to develop and invest in building the social infrastructure (schools; hospitals; community health centres; road networks etc). This goes in tandem with improving health; reproductive health and raising education levels.
- Political commitment. This is also another important ingredient. The political leaders must show their firm commitment in moving the country forward both economically and socially. Examples must come from the top. Then policies will be credible and more socially acceptable if in the short term this involves some sacrifices on the part of the population.
- Targetted programs to alleviate poverty are also important. We have ample evidence today that growth can occur without any reduction in poverty. Growth is important but at the same time government together with the private sector must work out mechanisms to make growth become more pro-poor. Some segments of the population might still be left out of the economic mainstreams despite all the good intentions of the government and the private sector. To cater for these vulnerable groups; which very often may find themselves in the informal economy; we need the targeted measures. They must be participative; results oriented and with proper accountability measures.

- Therefore the *key message* is that, policy makers must pay significant attention to the health of its population and its reproductive health in its development strategy. It must not be seen as a residual but be at the centre of a coherent and sustainable development strategy.