Impact of fertility rates on neighbouring country development

High fertility rates can lead to unsustainable population growth, which can have devastating effects on development. It can impede women's empowerment, worsen health outcomes, hinder poverty reduction efforts and contribute to environmental degradation, as well as many other problems.[i] This can help explain why many countries that lowered fertility rates quickly experienced significant development progress compared to neighbouring states that were unable to lower fertility rates at the same speed.

Development is a complex, multi-dimensional phenomenon and there are many factors that contribute to progress. There has therefore been some debate about to what extent this progress can be attributed to the lowering of fertility rates. However, there are many empirical studies that support this view[ii,iii] and there is growing academic consensus that countries which have incorporated population policies and family planning programmes in their overall development strategies have benefitted through higher, sustained rates of economic growth, significant reductions in poverty and improved human development outcomes.[iv]

This briefing examines the history of several pairs of countries from around the world where one country managed to reduce fertility rates at a significantly faster rate than its counterpart and experienced much greater development progress. It is beyond the scope of this paper to document every development indicator so the briefing will assess economic performance, poverty reduction, human development and maternal and infant mortality using data from the World Bank[v] and the United Nations Development Programme (UNDP).[vi]

Singapore v Malaysia

Singapore became independent from Malaysia in the mid-60s.[vii] At that time Singaporean women, on average, were expected to have 5.45 children but this fertility rate fell rapidly to below the replacement level of two children by 1977. Malaysia also experienced a drop in fertility rates but only reached replacement level in 2011 from a fertility rate in 1960 of 6.19 children per woman.

The fertility drop in both countries was followed by a steady rise in Gross Domestic Product (GDP). Both countries still have similar total GDP figures but due to the much higher fertility rates and population growth in Malaysia, its citizens are worse off economically than Singaporeans who have a per capita GDP of over $50,000 compared with approximately $11,000 in Malaysia. To put this in perspective, before the fall in fertility rates GDP per capita figures in both countries were approximately $500.

Poverty has fallen dramatically in both countries since the 60s and no one in either country now lives in extreme poverty, i.e. on less than $1.25 per day.

Both countries have seen their score on the UNDP's Human Development Index (HDI) rise considerably but Singapore's performance has been much better. It has a very high score of 0.9 out of 1 compared with Malaysia's 0.77.

In terms of health, infant mortality has fallen considerably in both countries but again Singapore has performed much better. It has seen a drop from 12 infant deaths per 1,000

births in 1980 to 2 deaths per 1,000 in 2015, whereas Malaysia has fallen from a rate 26 deaths per 1,000 births in 1980 to 7 deaths per 1,000 now. Maternal mortality rate data is only available from the 90s but it indicates that much fewer women are dying from pregnancy or childbirth in Singapore than in Malaysia - three per 100,000 live births compared with 29 per 100,000.

Rwanda v Burundi

Rwanda had a higher fertility rate than Burundi for decades but in the 80s it experienced a sharp fertility decline. Rwanda had the same rate as Burundi by 1989, 7.54, and this fell to 4.51 by 2013, whereas Burundi's fertility rate stayed close to 7.5 throughout the 20th century and has only recently fallen to 6.03 children per woman.

This divergence in fertility rates has been followed by a similar divergence in GDP per capita. While both countries had very similar GDP per capita figures for decades before the change in fertility rates, Rwanda's figure is now twice that of Burundi's. This is even after the economic collapse following the Rwandan genocide of the mid 90s.

The proportion of people in Rwanda living below the poverty line – the poverty headcount ratio - has dropped by almost 20 per cent since the 90s, whereas Burundi's poverty headcount ratio has not changed significantly and has remained high alongside fertility rates.

Rwanda already had a higher HDI score than Burundi in the 80s but it has also seen a much larger increase since then, rising from a score of 0.291 to 0.506 while Burundi has risen from 0.23 to only 0.3891.

Infant mortality figures in both countries were similar when fertility rates were roughly equal at the beginning of the 90s – 100 deaths per 1,000 births in Burundi and 92 deaths per 1,000 in Rwanda but there has been a large divergence since then and now the infant mortality rate is 39 deaths per 1,000 live births in Rwanda compared to 67 deaths per 1,000 in Burundi.

Maternal mortality has also plummeted in Rwanda falling from 910 deaths per 100,000 live births in 1990 to 340 deaths per 100,000 in 2010. Burundi's' maternal mortality rate has also fallen but at a much slower rate going from 1100 deaths per 100,000 live births in 1990 to 800 deaths per 100,000 in 2010.

Thailand v The Philippines

Fertility rates began to plummet in Thailand around 1965, falling from 6.13 to 2.57 within two decades, and in 2013 the average Thai woman was having 1.4 children. The Philippines also experienced a drop in fertility since 1965 but at a much slower rate, falling from 6.78 children per woman to 4.71 in 1985 and 3.04 in 2013.

Both countries had practically identical GDP per capita figures for decades but since the fall in fertility rates both have experienced significant economic growth, although Thailand's has been much greater, corresponding with its much greater in fertility rates. Thailand's GDP per capita in 2014 was about 7.5 times higher than it was in the early 80s and more than twice the Philippines current GDP per capita.

This growth has been translated into poverty reduction and in 2014 only 0.31 per cent of Thailand's population lived in extreme poverty compared with over 20 per cent in the 80s. The Philippines has a much higher poverty headcount ratio, with nearly 20 per cent of its population living on less than $1.25

per day, although this has fallen alongside fertility rates from over 40 per cent in the 80s.

In terms of HDI, Thailand has a higher score, 0.72, than the Philippines, 0.66, and has significantly increased from 0.5 in the 80s.

Both countries have improved health outcomes for mothers and children. In Thailand, infant mortality has fallen to 11 deaths per 1,000 births compared with over 50 per 1,000 in the 80s. The Philippines has a higher rate of 24 deaths per 1,000 births but this was also over 50 per 1,000 in the 80s.

Maternal mortality rates have also improved and the rate in 2014 was 48 deaths per 100,000 live births in Thailand compared with 99 per 100,000 in the Philippines. This figure for the Philippines does, however, represent a significant decline from a maternal mortality rate of over 160 deaths per 100,000 live births in 1990.

Peru v Bolivia

Peru had a higher fertility rate than Bolivia up until 1967 when both rates were 6.59. Peru's fertility rate continued to fall to 4.36 by 1985 and was 2.42 by 2013. Bolivian fertility follows a similar trajectory but with a much smaller overall drop in rates, which fell from 6.59 to 5.13 in 1985 and to 3.22 in 2013.

Both countries had very similar GDP figures in the 60s, before the change in fertility rates but, much like with the previous examples, the divergence in fertility rates was mirrored by a divergence in GDP per capita, which rose from approximately $700 to $6,500 in Peru and from $700 to $3,150 in Bolivia. Neighbouring Ecuador has followed a very similar path to Peru in terms of economic growth. It also had very similar GDP figures in the 60s, experienced a very similar fertility drop since then and in 2014 had a very similar GDP per capita figure of over $6000. All three countries have seen falls in their poverty headcount ratio and Ecuador and Peru both had rates of under five per cent in 2013 while Bolivia's is much higher with eight per cent of the population living on less than $1.25 per day.

Economic growth is not the only area where Peru and Ecuador have improved. Both have increased in HDI terms almost identically from 0.6 to over 0.7 since the 80s while Bolivia's score is only 0.6.

Peru's maternal mortality rate is now 67 deaths per 100,000 live births down from over 200 per 100,000 in the beginning of the 90s and Bolivia's is 200 deaths per 100,000 live births, down from 450 per 100,000.

In Peru, the Infant mortality rate has followed a very similar pattern to the fertility rate curve and the rate is now 14 deaths per 1,000 births, down from over 80 per 1,000, while Bolivia's rate is much higher at 33 deaths per 1,000 births down from about 111 per 1,000.

How fertility rates have fallen

The above countries, located in different continents, with very different cultures, religions, resources and histories have all managed to rapidly reduce fertility rates in recent years without coercion.

Peru, Singapore, Rwanda and Thailand all incorporated population and family planning into their overall development strategies and implanted policies like drastically increasing the availability of family planning and sexual and reproductive health services, providing increased access to education and running campaigns to educate people about the benefits of smaller families.[viii,ix,x,xi]

Governments around the world can learn important lessons from these approaches and

their achievements. Through positive policies that helped the public make more informed decisions, and which gave them the means to make those decisions, these governments helped to give their people autonomy over their lives while also dramatically improving their welfare.

Conclusion

All the countries mentioned have managed to reduce fertility rates and this reduction has been followed by increases in economic growth, poverty reduction and improvements in human development and maternal and infant mortality. The countries that lowered their fertility rates more significantly experienced greater progress in each of these areas.

There are many different factors that can contribute to development progress and lowering fertility rates is not a guarantee of development but there are many empirical studies that highlight the dramatic and far-reaching positive impacts that measures to lower fertility rates, like increasing access to family planning services and promoting sexual and reproductive health and rights, can have on societies, economies and lives.

Beyond these incredible instrumental benefits, Population Matters believes that everyone should have the autonomy to choose when, or whether, they have children and this human right can only be achieved if the hundreds of millions of people worldwide who lack access to family planning services have their needs met.

[i] http://populationmatters.org/documents/mdgs_briefing.pdf
[ii] http://mariestopes.org/sites/default/files/MSI_CaseForInvestment_LongVersion_Stage12_Visual_13102015.pdf
[iii] http://www.appg-popdevrh.org.uk/Population%20Dynamics%20and%20the%20Sustainable%20Development%20Goals.pdf
[iv] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2781831/
[v] http://data.worldbank.org/
[vi] http://hdr.undp.org/en/data
[vii] http://www.bbc.co.uk/news/world-asia-15971013
[viii] http://www.photius.com/countries/peru/society/peru_society_population_policy_an~766.html
[ix] http://countrystudies.us/singapore/14.htm
[x] http://www.wri.org/sites/default/files/achieving_replacement_level_fertility_0.pdf
[xi] http://www.context.org/iclib/ic31/frazer/