Poverty and high population growth seem joined at the hip. According to the United Nations Population Fund, over the past seventy years, high fertility and poverty have been strongly correlated. The countries with the highest poverty levels are generally those with the most rapid population increases and the highest fertility levels. This correlation has been widely studied. Findings show that in general families with low incomes often see children as a form of security for their old age. Having many children, however, also means having to spend more money on food, housing and clothing, leaving less for investments that enhance the overall welfare of the family. This population-poverty trap has many poor people firmly in its grip.

Rwanda is no exception to this rule. With 11.5 million inhabitants, it is Africa’s most densely populated country,
while its annual population growth of 2.8% puts it in the top 20 of the world’s fastest-growing nations. More than half of the Rwandan population lives below the poverty line, despite the fact that the country’s economy grew by an average of about 6% in the past few years.

In a bid to reverse Rwanda’s fate, the government presented a programme in 2000 called Vision 2020. The programme aimed to shift the country away from subsistence agriculture and extreme poverty, and move towards a more modern economy and sustainable human development. The new policy marked the beginning of a new era after a period of post-genocide recovery, says Pieter Hooimeijer, professor of human geography and demography at Utrecht University. ‘The civil war in the early nineties, which culminated in the genocide in 1994, obviously left the country in a state of devastation. One million people were killed, and two million fled the country. An all-out effort to rebuild the country’s basic structures took place in the first post-war years. With Vision 2020 and the policies that followed from it, Rwanda tried to make the transition from recovery to sustainable human development.’

The new policy was a response to Rwanda being trapped in a vicious cycle of extreme poverty, which led to high population growth, which in turn increased poverty. It was assumed that the best way of breaking this cycle was to generate a ‘big push’: attracting additional foreign direct investment into key sectors of the economy, thereby encouraging economic development and reducing poverty and population growth.

The question whether this mechanism would also work the other way around, was the starting point of a research programme about reproductive health and poverty decline, in which Hooimeijer acts as principal investigator. ‘The ideas underlying Vision 2020 were well defined,’ he says, ‘but it is taking a long time for their impact to be felt. Our question was: is there an alternative way of breaking the cycle in Rwanda? If you start by reducing population growth by improving reproductive health services, will this then lead to less poverty and eventually more economic growth?’

To be able to answer this question, Hooimeijer and his colleagues decided to shift the focus from the macro to the micro level. ‘Seen from the perspective of the country as a whole, the relation between reproductive health services, reduced poverty and improved economic development is highly contested in the literature. It seems to work in some countries, but in others it doesn’t. To determine why this is and to see how it works in Rwanda, we are analysing the impact at the level of individual households. The dominant hypothesis is that less children per family positively affects households in a number of different ways. We assumed that this would benefit the health of both the mother and the children, and that the educational achievements of the children would improve as well. Combined, these effects increase income, which eventually increases consumption, which ultimately leads to economic development.’
The first question one of the Rwandan PhD students involved in the research set out to answer was whether improving access to modern contraceptives in particular would reduce population growth. This was done by analysing the differences between the desired and actual number of children for a period of over twenty years. The findings are compelling, says Hooimeijer. ‘We found that in the aftermath of the genocide, for many people, having smaller families certainly was not a priority. More than 50% of the women indicated that they wanted to have six children or more. After the recovery started, this changed rapidly. Analysis shows that by 2005 the desired number of children had declined to an average of around four. At the same time, the number of actual births remained much higher, which can be explained by the lack of access to modern contraceptives. As soon as investments were made to improve access, birth figures immediately declined.’

PhD student and lecturer in demography at the National University of Rwanda, Ignace Habimana Kabano, who is also part of Hooimeijer’s research team, tested a second hypothesis about the relation between improved reproductive health services and lower population growth. He investigated how, in the case of Rwanda, infant mortality affects birth intervals and people’s desired family size. Kabano was able to show that experiencing the death of a child before or shortly after it is born, strongly raises the ideal number of children a family desires. ‘There are several ways in which child mortality raises the desired number of children,’ he explains. ‘One of the most important is that when parents lose a child, they often not only want to replace it, but also want to have as many children as possible in anticipation of other potential child deaths. Having many children here simply means leaving room for death.’

Here, another vicious cycle comes into play. ‘Child mortality leads to lower intervals between pregnancies,’ says Kabano, ‘as many parents want to replace the deceased child immediately. Because this gives the mother no time to recuperate from her first pregnancy, this increases the chance of another unsuccessful pregnancy. This in turn leads to increased mortality among unborn and newborn children, but also of the mothers themselves. Our study shows that decreasing child mortality through improved

Bags and baby in Butare, Rwanda 2009
reproductive health services reduces the desired family size, while improving the health of the mother, the children and the family as a whole.’

From 2000 onwards, the Rwandan government intensified its efforts to provide all children in the country with free education. Another study within the research programme showed that while the policy created more equal opportunities for children from extremely poor families, the quality of the free education was severely hampered by high population growth. ‘Almost all children, both boys and girls, go to school’, says Hooimeijer. ‘However, very few of them actually pass the final examination. The current policy allows them to remain in primary school even after they turn thirteen. We found that more than a third of the pupils in primary education are aged between thirteen and eighteen.

At first sight, this looks like a very good development as these teenagers still have a chance to finish their primary education. However, at the national level, Rwanda’s schools are completely overcrowded, which obviously has negative consequences for the quality of education. At the household level, we found that it’s the children from the wealthier families that stay at school, while poorer families suffer from a clear crowding out effect: there is little chance that the oldest child in a poor family with five children will finish primary education.’

Hooimeijer concludes that ‘having many brothers and sisters is actually hampering education at the individual level. At the national level, high population growth means that much of the investment in education is actually aimed at keeping children at school rather than getting them diplomas. So, both at the national and the household levels, having many children is also impeding educational achievement. Reducing population growth can improve the quality of education, leading to a better educated and therefore more productive and eventually less poor population.’

The results of the different PhD studies in the research programme clearly prove the effectiveness and the need for investing in reproductive health services, says Hooimeijer. ‘We were able to show that there is fertile ground in Rwanda for reducing population growth by improving access to contraceptives. We have also shown that improved maternal health care leads to less mortality, which leads to women wanting fewer children. This then can result in smaller families, a less crowded school system and a higher quality education.’

The research that is needed to determine to what extent these improvements result in economic development at the national level is still in full swing. The first results, however, indicate clear and positive connections between the two. According to the research team, this shows that reducing population growth by improving reproductive health services is an important instrument in increasing the country’s overall welfare. ‘Population policies are often contested,’ says Hooimeijer. ‘I think this cynicism is unwarranted. We have proven that there is something to say for strict family planning programmes that enable women to have less children and that can help to reduce population growth and contribute in the short run to improving the quality of life.’

The results of the research programme’s various studies have clearly caught the attention of the Rwandese government and other stakeholders. At a recent stakeholder meeting in Kigali, the research team discussed the outcomes with state officials and representatives of several NGOs working on the subject, says Hooimeijer. ‘This research encourages them to further pursue reproductive health policies. The type of knowledge that our study provides can help Rwanda to move away from that devastating past to a better future.’