



Choice, not control: Why limiting the fertility of poor populations will not solve the climate crisis

Increasing access to family planning among poor populations has been promoted as a way to achieve two things at once: improving women's and girls' much-needed control over contraception, while at the same time reducing population pressure in ways that would minimise the causes and consequences of climate change. This discussion paper argues that strengthening women's and girls' reproductive rights is a global imperative for equitable development and must be a priority *in its own right*, regardless of a country's population growth and carbon footprint. First, it is human consumption, fundamentally controlled and driven by wealthier populations, not the reproductive behaviour of poor populations, that is overstressing the capacity of our ecosystems. Suggesting otherwise puts false blame on populations who have done least to cause climate change while suffering the brunt of its impacts. Second, in the context of climatic adversity and natural resource dependence, the line between fulfilling unmet demand for family planning on the one hand, and contributing to unjust population control narratives on the other, is very thin. This paper provides essential background on these issues and concludes with key messages and recommendations for policy and programming on sexual and reproductive health and rights, climate change mitigation and climate change adaptation.

Introduction

Linking reproductive health and rights and family planning to population control in the name of environmental sustainability is not new. But it has gained renewed momentum within discussions about how to tackle the causes and consequences of climate change. Unfulfilled rights to sexual and reproductive choices and health for women and girls worldwide are a persistent problem. These challenges have become entangled in conversations on climate change in ways that conflate these rights with narratives of natural resource scarcity and population control. Such narratives are more likely to compromise, than to achieve, equality and just outcomes for women living in poverty who are adversely affected by climate change.

It is a global imperative to address women's and girls' rights to bodily integrity¹ and their exposure to health risks and violence. These problems are persistent barriers to both gender equality and to vulnerable communities' ability to adapt to and recover from climatic shocks and changes. Therefore, the key message from a reproductive and climate justice perspective is that women's and girls' rights must be a priority and singular goal *in their own right* and in all countries regardless of population growth and carbon

footprint. This is because, first, association of these rights with other goals – such as environmental conservation and fertility control – undermines human rights. Second, it is human consumption, fundamentally controlled and driven by the world's elites, not the reproductive behaviour of poor populations, that is putting the survival of our ecosystems and humanity at greatest peril.

This paper provides a perspective on family planning and climate change from a social justice angle. It explains why caution needs to be applied when addressing women's and girls' sexual and reproductive health and rights in the context of climate change, and provides key messages for climate change, development and gender policy and programming.

It is human consumption, fundamentally controlled and driven by the world's elites, not the reproductive behaviour of poor populations, that is putting the survival of our ecosystems and humanity at greatest peril.

1. A population solution to the climate challenge?

Climate change increasingly threatens the livelihoods of billions of people, the vast majority of whom are living in poverty. However, people living in poverty bear little historical responsibility for the greenhouse gas emissions that have set global warming in motion. Perversely, the poorest communities are the hardest hit by climate change impacts – for example, floods and drought, tropical storms, temperature extremes or increasingly unpredictable weather, while having the least resources to cope.² At the same time, the wealthiest segments of society, who are the highest consumers of resources and contribute most to causing climate change, are in a much better position to adapt to its impacts and are therefore likely to suffer the least. This is an extreme global injustice that is both a symptom and a driver of deepening inequality.

Closely linked to this injustice are attempts to shift responsibility for causing climate change, scarcity of natural resources and biodiversity losses from rich northern populations to poor and vulnerable populations. Recent efforts to link reproductive rights and family planning with population control in the Global South in the name of addressing climate change³ are an extreme example of this.

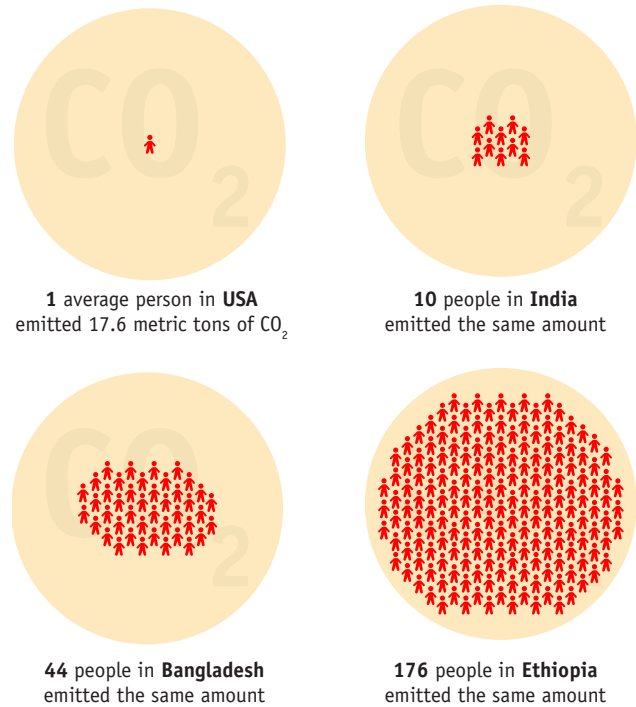
Investments in family planning in the Global South have been claimed to create multiple wins by also reducing greenhouse gas emissions and helping people adapt to the impacts of climate change.⁴ Put simplistically, proponents claim that fewer people equals less damage to the environment and therefore reduced carbon emissions (*mitigation* – see Section 2 below). It is also claimed that, similarly, greater per capita access to scarce natural and economic resources will help reduce current and future climate change impacts (*adaptation* – see Section 3 below). Linking climate change with population in this simplistic way may undermine the social justice and gender equity dimensions of responding to climate change.

2. Climate change mitigation: Reducing the size of poor families to tackle greenhouse gas emissions is incompatible with social justice

Between 1980 and 2005, the 19 countries in the G20 produced around 78% of global carbon emissions – around four times the amount produced by the rest of the world. Overall, the majority of greenhouse gases since the industrial revolution have been emitted by countries with little or even negative population growth.⁵ There is a huge difference in per capita emissions between some of the highest-emitting countries and those that are typically cited as having the fastest-growing population. In 2010, the average person in the United States emitted 17.6 metric tons of CO₂ – the equivalent of what ten people emitted in India, or 44 in

Bangladesh, or 176 in Ethiopia. In the same year, the US population grew by 0.7%, India's and Bangladesh's by 1.2% and Ethiopia's by 2.6%.⁵ So, even if there *was* a direct link between population growth and carbon emissions, the US's relatively small growth in population in 2010 would still have caused many times more damage to the global climate than the higher growth rates in India, Bangladesh and Ethiopia.

Comparison of per capita emissions in four countries (2010)



Based on 2010 emissions, Source: <http://data.worldbank.org>

However, the truth is that there is little correlation between growth in emissions and growth in population, while there is a clear correlation between per capita climate change emissions and wealth. China and India, both home to very large and growing populations, are good examples. Growth in *wealth and consumption* has resulted in India and China having a significant carbon footprint – not the growth in *numbers of people*.⁷ In other words, the biggest factor in causing climate change is not how many people there are, but how people use their resources and how carbon-intensive their lifestyles are.⁸

Most of the growth in population is expected to take place among those who consume very little and in many cases struggle to meet their most basic needs.⁹ Given the considerable urgency to curb emissions and to minimise already unavoidable catastrophic impacts, action on climate change needs to be focused on the consumption patterns of wealthy populations, which is already unsustainable even with low, and even negative, population growth.

“Smaller families in Africa or South America are not going to change global emissions or slow climate change. The countries where women have a relatively high degree of control over their reproduction are also the countries that are doing the most to destroy the environment.”

Ian Angus and Simon Butler, in *Too Many People? Population, Immigration and the Environmental Crisis*

The population argument has been used in the past to blame hunger, conflict and environmental degradation on poor people,¹⁰ and in particular on the fertility of women living in poverty, rather than on people who have the power and resources to tackle these issues. The same argument is now also being used to shift the blame for the global climate crisis on to its primary victims. In a world where 85 people control the same wealth as the ‘bottom’ 3.5 billion combined,¹¹ claiming that poor populations consume and grow too much cannot be a fair way to tackle climate change.

This shifting of blame for climate change perpetrates an underlying injustice. It seeks to transfer responsibility to the world’s poorest populations rather than assigning due responsibility to those who have had historically the highest per capita carbon footprint as well as the means to change their consumption patterns and curtail emissions. Yet, very few population and environment initiatives have even made note of the considerable impacts of external actors, such as Northern consumers and national elites, on local pressures for natural resources.¹² Since every child born into wealth in North America and Europe and into the wealthy sectors of other regions and countries will produce hundreds of times the carbon footprint of a child born into poverty, a discourse that presents high fertility rates among the world’s poorest communities as a major threat is incompatible with CARE’s commitment to climate justice. Action on climate change hinges on tackling inequality and the consumption patterns of the wealthiest far more than on the reproductive behaviour of people living in poverty.

3. Climate change adaptation: The caveats of using family planning as a strategy to address environmental degradation and natural resource scarcity at local level

While most global development actors now understand that fertility control is not an appropriate or effective way to mitigate climate change, family planning for climate change adaptation, because it is said to address resource scarcity and environmental degradation, has gained in popularity.¹³ There are, indeed, many areas worldwide where

extremely high population density and high levels of climate vulnerability go hand in hand – for example, in Bangladesh or the highlands of Ethiopia. These are also places where women experience severe constraints on their rights to reproductive self-determination and have limited access to the information, services and supplies needed to decide whether to have children and if so, how many and when.

Strengthening women’s and girls’ reproductive rights, health service provision, access to family planning, and freedom from violence is a global imperative for equitable development. And, it is a critical precondition for people’s ability to take action on the adverse impacts of a changing climate. However, in the context of climatic adversity and natural resource dependence, there is a thin line between fulfilling unmet demand for family planning on the one hand and contributing to population control narratives on the other. A shared agenda between climate change adaptation and family planning must be one of social justice – and therefore one of reproductive rights and choice, not one of blame and control.

Why is this so important? First, because there is a history of human rights abuses in relation to provision of reproductive health services. Previous Malthusian¹⁴ population scares such as the one in the 1960s,¹⁵ which predicted famine and death for hundreds of millions by the 1980s, never materialised but were used to justify coercive population control on poor populations – on women in particular, but also on men. And decades of experience of population and environment programming have shown that rights and choices are too easily undermined when misguided natural resource management concerns drive reproductive health service provision.¹⁶

When policy and funding is focused on reducing birth rates rather than providing women and families with information and services that support their own reproductive decisions and choices, this can lead to an emphasis on “results” and pressure to make the “right” choice. And some have argued that “rather than presenting poor rural communities as the legitimate managers of natural resources, PE [population and environment] narratives present them as ignorant and destructive”, making women’s fertility the source of environmental degradation and poverty.¹⁷ Prioritising achievements in fertility reduction and cost effectiveness in population and environment programming has too often jeopardised transparency and consent on measures taken, and so compromised human rights and health.

Second, overpopulation is receiving disproportionate attention as a driver of resource scarcity, conflict, and food and livelihood insecurity in a world which *today* has enough resources available to feed the undernourished billion, but which produces waste and obesity on one end of the spectrum and hunger on the other, and places large, poor and marginalised populations and powerful corporate interests in competition for land and water.¹⁸

Between 2000 and 2010, 500 million acres of land in the Global South were acquired or negotiated under deals brokered on behalf of foreign governments or transnational corporations.¹⁹ A recent study found that these ‘land grabs’ often occur in countries with high levels of under nutrition and population growth, and that their populations could be free from hunger if the land were used to feed them.²⁰

The revival of Malthusian²¹ arguments shifts attention away from the more important global pressures on natural resources, overemphasising the role of growing, poor populations in environmental degradation and poverty – as has been the case in Madagascar, for example.²² In Ethiopia, infringements of land rights and tenure due to commercial and government interests are bigger threats to people’s ability to feed themselves, but a discourse on population size keeps putting the blame squarely on those living in poverty.²³ More recently in Kenya, indigenous people, falsely blamed for being the driving force behind deforestation, had their homes torched and were forcefully moved from their lands to make way for profitable carbon offsetting.²⁴ In turn, there is significant evidence from China and India, two countries typically cited as being overpopulated, of the “ability of large and growing populations to support environmental rehabilitation”.²⁵

“The concept of population as numbers of human bodies is of very limited use in understanding the future of societies in a global context. It’s what these bodies do, what they extract and give back to the environment, what use they make of land, trees, and water, and what impact their commerce and industry have on their social and ecological systems that is crucial.”

Lourdes Arizpe, former Assistant DG of UNESCO, in *Too Many People? Population, Immigration and the Environmental Crisis*

Third, while wealthier countries and populations tend to have lower fertility rates than poor and vulnerable ones, there has been much confusion between correlation and causation, and the relationships between poverty and fertility vary. Research has shown that in many contexts a reduction in family size has *followed* poverty reduction, not vice versa. In other words, people under a certain economic threshold often choose to have fewer children *once they can afford to and once child mortality is low enough*. Until maternal and neonatal health standards reach a certain level, and families’ needs for labour are reduced, higher fertility will often remain a survival strategy for families living in poverty.²⁶ Reduced fertility, in turn, has not been demonstrated to automatically translate into reduced poverty or less environmental degradation.²⁷

When people’s livelihoods, health, education and other rights and needs are not adequately fulfilled, they become

much more vulnerable to the impacts of climatic shocks and shifts, such as flood or drought, tropical storms, temperature extremes or increasingly unpredictable weather. The underlying causes of vulnerability also make adaptation to climate change very difficult, as the ability to do so often depends on having the education, time, freedom, means and safety nets to take the risks involved in innovation.

In many areas, the unfulfilled reproductive rights of women and girls are an important contributing factor to these underlying causes of climate vulnerability. Inequality and social injustice are, in fact, the common roots of both climate vulnerability and unfulfilled rights among populations living in poverty. But while social justice and gender equality are central to the success of both family planning and environmental efforts, it is critical that they are not used to support or promote unjust blame narratives.

Programming that aims to reduce the vulnerability of people in degraded environments to climatic impacts should by all means secure acceptable health standards, access to education and stable livelihood opportunities. But whenever family planning is part of the conversation, it must include strict safeguards for women’s rights and choices, and must not be subordinated under environmental objectives. Reproductive rights are about rights to health, security and bodily integrity, and, importantly, reproductive *self-determination* i.e. a woman’s right to freely choose whether to have children, how many and when.

4. Key messages and recommendations for policy and programming

KEY MESSAGES

1. Efforts to secure sexual and reproductive *rights* – i.e. policies, infrastructure and capacities whereby women and girls anywhere in the world make their own, informed decisions over their bodies and family size – are an essential contribution to gender equality and the realisation of human rights. They are, therefore, a critical element in CARE’s vision of a world of hope, tolerance and social justice.

Climate change mitigation

2. Demanding family planning from the world’s poorest populations in an effort to curb carbon emissions is incompatible with social justice and inconsistent with evidence showing that wealth, rather than population growth, is a key driver of carbon emissions.
3. The primary threat to human life on Earth is overconsumption among wealthy populations not the reproductive behaviour of poor populations, who consume very little.

4. Shifting the blame from heavy polluters to the populations with the lowest ecological footprint, in particular women living in poverty, instead of focusing on action by those most responsible and with capacity to act, undermines climate justice and gender equity.

Climate change adaptation

5. The goal of environmental sustainability must not be used to jeopardise the reproductive rights of women in developing countries.
6. Reproductive, maternal and neonatal health service provision must be driven primarily by concerns for women's and girls' rights, rather than natural resource management concerns.
7. The link between population growth and environmental degradation should not be oversimplified. Population growth should not be portrayed as the primary source of food insecurity.
8. Smaller family sizes are often the result, not the starting point, of measures to reduce poverty and vulnerability. In tackling vulnerability to the effects of climate change, efforts to provide stable healthcare, education and livelihood options are key. Although this will include securing sexual and reproductive rights, it cannot be assumed that family planning automatically leads to reductions in poverty and vulnerability everywhere.

RECOMMENDATIONS FOR CLIMATE CHANGE, DEVELOPMENT AND GENDER POLICY AND PROGRAMMES:

1. Reproductive rights must be a singular goal in their own right. Subordinating these rights under other objectives, such as the protection of natural resources, poses problematic and dangerous incentives which can undermine human rights, and must be avoided.

2. Efforts to promote gender equality need to safeguard women's rights and social justice in discussions on population and the environment. Programmes should not use the language of gender equity and reproductive rights to legitimise policies and actions aimed at controlling the fertility of poor populations.

3. Responses to climate change need to avoid victim-blaming and increasing the burden on the world's poorest and most vulnerable populations including the women within them. Action on climate change should draw attention to inequalities, e.g. in the global food system, carbon emissions and wealth.

4. Work on family planning carried out in a context of environmental degradation and climate vulnerability must include strict safeguards for human rights, in particular reproductive self-determination, and rights to land and other natural resources. Such work should also draw attention to inequalities in the access of women and girls to the information, services and supplies they need to make reproductive decisions and choices.

Endnotes

- 1 Bodily integrity is about choice and control over one's body.
- 2 As Oxfam reported in January 2014, almost half of the world's wealth is owned by just 1% of the population. The wealth of this 1% amounts to 65 times the total wealth of the bottom half of the world's population. Oxfam 2014. Working for the Few. Political capture and economic inequality. Available at: <http://www.oxfam.org/sites/www.oxfam.org/files/bp-working-for-few-political-capture-economic-inequality-200114-summm-en.pdf>
- 3 Wheeler, D. and Hammer, D., 2010. The Economics of Population Policy for Carbon Emissions Reduction in Developing Countries. Centre for Global Development Working Paper 222. <http://www.popoffsets.com>
- 4 Ibid.; Jiang, L. and Hardee, K., 2009. How Do Recent Population Trends Matter to Climate Change? Population Action International.
- 5 Satterthwaite, D., 2009. The implications of population growth and urbanization for climate change. In: Environment and Urbanization, Vol 21(2): 545-567.
- 6 Data from: <http://data.worldbank.org>
- 7 Satterthwaite 2009.
- 8 Angus and Butler 2012.
- 9 Satterthwaite 2009.
- 10 Hartmann and Barajas-Roman 2009. Reproductive Justice, not Population Control; Ehrlich, P., 1968, The Population Bomb. Population Control or Race to Oblivion? Ballantine Books.; Ehrlich, P., and Ehrlich, A., 2009, The Population Bomb Revisited. In: The Electronic Journal of Sustainable Development, Vol 1(3).
- 11 Oxfam 2014.
- 12 Oldham, J., 2006, Rethinking the Link: A Critical Review of Population-Environment Programs. Amherst: University of Massachusetts, p29.
- 13 AFIDEP and Population Action International, 2012, Population, Climate Change and Sustainable Development in Malawi. Policy and Issue Brief.; Zulu, E., et al. 2012, Population Dynamics, Climate Change, and Sustainable Development in Kenya. Nairobi and Washington DC: African Institute for Development Policy and Population Action International. Mutunga, C., and Hardee, K., 2009, Population and Reproductive Health in National Adaptation Programmes of Action (NAPAs) for Climate Change. Washington DC: Population Action International.
- 14 The writings of scholar Thomas Robert Malthus in the late 18th century are at the root of population control thinking. His theory stated that, with food production unable to keep up with population growth, mass starvation would automatically control population growth. Johnson, J. [alias Malthus, T. R.], 1798. An Essay on the Principle of Population. London.
- 15 In the 1960s, biologist Paul Ehrlich proclaimed that a *population bomb* would lead to the death and starvation of hundreds of millions of people by the 1980s. This did not come true, and instead food production overtook population growth and birth rates started to fall. Nonetheless, Ehrlich's work served as the justification for coercive population control programmes in the Global South. See Ehrlich 1968.
- 16 Oldham 2006.
- 17 Angus and Butler 2012.
- 18 Patel, R., 2007, Stuffed and Starved. From Farm to Fork, the Hidden Battle for the World Food System. London: Portobello Books. Angus and Butler 2012; Oxfam 2014.

- 19 Ahmed, N., 2014, World Bank and UN carbon offset scheme 'complicit' in genocidal land grabs. *The Guardian Online*, 3 July 2014, quoting the International Land Coalition 2012.
- 20 Rulli, M., and D'Odorico, P., 2014, Food Appropriation through Large Scale Land Acquisition. In: *Environmental Research Letters* 9.
- 21 See endnote 14.
- 22 Oldham 2006.
- 23 Angus, I., 2013, Hunger in Ethiopia: Overpopulation or dispossession?
- 24 Ahmed 2014.
- 25 Fairhead, J., & Leach, M., 1996, *Misreading the African Landscape. Society, Ecology in a Forest-Savanna Mosaic*. Cambridge: Cambridge University. Oldham 2006, 13.
- 26 Aasve, A., et al. 2005, *Poverty and Fertility in Less Developed Countries. A Comparative Analysis*. ISER Working Paper; Sinding, S., 2008, *Population, Poverty and Economic Development*. Bixby Forum: The World in 2050.
- 27 Corrêa, S., 2001., *Forum: Is there a population implosion?* *Environmental Change and Security Project Report* 7, pp. 107-109.

Sources

- Aasve, A., Engelhardt, H., Francavilla, F., Kedir, A., Kim, J., Mealli, F., Mencarini, L., Pudney, S. and Prskawetz, A., 2005. *Poverty and Fertility in Less Developed Countries. A Comparative Analysis*. ISER Working Paper.
- AFIDEP and Population Action International, 2012. *Population, Climate Change, and Sustainable Development in Malawi*. Policy & Issue Brief.
- Ahmed, N., 2014. World Bank and UN carbon offset scheme 'complicit' in genocidal land grabs. *The Guardian online*, 3 July 2014 http://www.theguardian.com/environment/earth-insight/2014/jul/03/world-bank-un-redd-genocide-land-carbon-grab-sengwer-kenya?CMP=tw_t_gu
- Angus, I., 2013. *Hunger in Ethiopia: Overpopulation or dispossession?* Commentary at <http://climateandcapitalism.com/2013/02/07/hunger-in-ethiopia-overpopulation-or-dispossession/>
- Angus, I. and Butler, S., 2012. *Too Many People? Population, Immigration and the Environmental Crisis*. Chicago: Haymarket Books.
- Blake Figura, S., Hartmann, B. and Barajas-Roman, E., 2008. *Reproductive Justice, Climate Justice and Peace. A Call for Solidarity, Not Population Control*. University of Massachusetts.
- Colekessian, A., 2013. *Violating women's rights: Forced Sterilization, Population Control and HIV/AIDS*. Article at <http://www.awid.org/News-Analysis/Friday-Files/Violating-Women-s-Rights-Forced-Sterilization-Population-Control-and-HIV-AIDS>
- Connelly, M., 2008. *Fatal Misconception: The Struggle to control World Population*. Cambridge: Harvard University Press.
- Corrêa, S., 2001. *Forum: Is there a population implosion?* *Environmental Change and Security Project Report*. 7, 107-109.
- Ehrlich, P., 1968. *The Population Bomb. Population Control or Race to Oblivion?* Ballantine Books.
- Ehrlich, P. and Ehrlich, A., 2009. The Population Bomb Revisited. In: the *Electronic Journal of Sustainable Development*, Vol. 1 (3). Available at: <http://www.populationmedia.org/wp-content/uploads/2009/07/Population-Bomb-Revisited-Paul-Ehrlich-20096.pdf>
- Fairhead, J., and Leach, M., 1996. *Misreading the African Landscape. Society and Ecology in a Forest-Savanna Mosaic*. Cambridge: Cambridge University. Hartmann, B., and Barajas-Roman, E. *The Population Bomb is Back – with a Global Warming Twist*. features no.2, Available at: http://www.isiswomen.org/phocodownload/print/isispub/wia/wia2009-2/2wia09_17features_betsy.pdf
- International Land Coalition, 2012. *Annual Report*.
- Jiang, L. and Hardee, K., 2009. *How Do Recent Population Trends Matter To Climate Change?* Population Action International.
- Johnson, J. [alias Malthus, T. R.], 1798. *An Essay on the Principle of Population*. London.
- Mutunga, C. and Hardee, K., 2009. *Population and Reproductive Health in National Adaptation Programmes of Action (NAPAs) for Climate Change*. Washington DC: Population Action International.
- Oldham, J., 2006. *Rethinking the Link: A Critical Review of Population-Environment Programs*. Amherst: University of Massachusetts.
- Oxfam, 2014. *Working for the Few. Political capture and economic inequality*. Available at: <http://www.oxfam.org/sites/www.oxfam.org/files/bp-working-for-few-political-capture-economic-inequality-200114-sum-m-en.pdf>
- Patel, R., 2007. *Stuffed and Starved. From Farm to Fork, the Hidden Battle for the World Food System*. London: Portobello Books.
- Population Action International, 2011. *Why population matters to climate change*.
- Rulli, M. and D'Odorico, P., 2014. Food Appropriation through Large Scale Land Acquisitions. In: *Environmental Research Letters* 9.
- Satterthwaite, D., 2009. The implications of population growth and urbanization for climate change. In: *Environment & Urbanization*, Vol 21(2): 545–567.
- Sinding, S., 2008. *Population, Poverty and Economic Development*. Bixby Forum, The World in 2050, Berkeley.
- UN Department of Economic and Social Affairs, 2013. *World Population Prospects. The 2012 Revision. Key Findings and Advance Tables*. New York: United Nations.
- United Nations Population Fund, 2011. *Choices not Chance. UNFPA Family Planning Strategy 2012-2020*. New Work: United Nations.
- United Nations Population Fund, (undated). *Family Planning and the Environment. Stabilizing Population Would Help Sustain the Planet*. Media Fact Sheet. New York: United Nations.
- Wheeler, D. and Hammer, D., 2010. *The Economics of Population Policy for Carbon Emissions Reduction In Developing Countries*. Centre for Global Development Working Paper 222.
- Zulu, E., Ciera, J., Musila, N., Wasao, S., Mutunga, C. and De Souza, R-M., 2012. *Population Dynamics, Climate Change, and Sustainable Development in Kenya*. Nairobi and Washington, DC: African Institute for Development Policy and Population Action International.
- <http://data.worldbank.org>
- <http://www.popoffsets.com>
- <http://www.unfpa.org/pds/climate/size.html>

Author: Agnes Otzelberger
Climate Change Adaptation and Gender Coordinator

We are also grateful for contributions from: **Christine Galavotti, Kit Vaughan, Jo Barrett, Aarjan Dixit, Pascal Girot, Raja Jarrah, Sally King**

September 2014

CARE International
aotzelberger@careclimatechange.org



COPYRIGHT: CARE INTERNATIONAL 2014