

# Making the Connection: Population Dynamics and Climate Compatible Development Recommendations From an Expert Working Group



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## Executive Summary

The last century was one of incredible social change and human development. Improvements in health, declines in mortality, urbanization, better education, and industrialization brought economic growth and improved standards of living to much of the world. This progress, however, has been uneven, leaving 1 billion people still living in extreme poverty, and has been accompanied by demographic and environmental change. Over the last hundred years, the world's population has grown from around 1 billion people to more than 7 billion people. Human activity has transformed vast areas of the Earth's surface, altered the atmosphere, and resulted in thousands of plant and animal species extinctions.

Population and family planning have rarely been linked with climate compatible development in climate policy discussions. Research has demonstrated, however, that helping women in all countries achieve their own aspirations for planning pregnancies and family size would put the world on a path to slower population growth. This effort would ultimately lead to substantial reductions in future carbon dioxide emissions, because even though carbon emissions tend to be low in countries where population growth rates are high, current evidence shows that per capita emissions rise as nations develop.<sup>1</sup> Additional research suggests that reducing unintended pregnancies would also have multiple health, education, and economic benefits for women and their households—improvements that could potentially reduce vulnerability to climate change impacts.<sup>2</sup> For most developing countries and the United States, this cost has been estimated at \$3.7 billion annually, on the lower range of costs typically considered for climate mitigation and adaptation.<sup>3</sup>

With support from the William and Flora Hewlett Foundation, the Population Reference Bureau and Worldwatch Institute assembled a working group of experts from the climate change, family planning, and development assistance communities to examine population and climate compatible development. The group's goal was to identify approaches and opportunities for advancing policy dialogue and policy action to include population dynamics, with an emphasis on family planning, into climate compatible development. In coming to consensus over these policy actions they arrived at the following consensus statement:

**Human population influences and is influenced by climate change and deserves consideration in climate compatible development strategies. Achieving universal access to family planning throughout the world would result in fewer unintended pregnancies, improve the health and well-being of women and their families, and slow population growth—all benefits to climate compatible development. We recommend including improved access to family planning among the**

## **comprehensive and synergistic efforts to achieve development compatible with addressing climate change.**

Group members agreed to frame family planning-climate change connections from a woman-centered and rights-based approach. The group established guiding principles to structure their discussions, which may prove useful for other health and climate communities who may also be interested in seeking common ground. These are:

- Global greenhouse gas emissions should be limited to avoid the most deleterious effects of climate change.
- Individuals and couples have a universal right to decide the number and spacing of children.
- Human resilience and adaptive capacity in the face of climate change should be enhanced.
- Family planning is one of many effective and essential climate compatible development strategies.
- All societies should participate in finding solutions to climate challenges.
- All societies should be enabled to pursue development pathways that simultaneously promote human well-being and limit climate change.
- Local participation in climate compatible development is important.
- Special needs and circumstances of particularly vulnerable populations should be considered.

The expert working group identified **action opportunities** to advance the goal of achieving universal access to family planning as part of climate compatible development, under four strategic approaches:

- Build awareness about trends in unintended pregnancy and unmet need for family planning, and their connections to climate change.
- Create an enabling environment for connecting these issues and advancing these policy opportunities by fostering more cross-sector dialogue and action among health, family planning, climate, and development sectors.
- Identify and act on policy opportunities to ensure that universal access to family planning is part of climate compatible development strategies.
- Increase the financing available for both climate change and family planning and create innovative financing for family planning within climate compatible development plans.

The specific action opportunities under each strategic approach provide a path forward for groups that want to link these issues and ensure that increasing access to family planning is part of efforts to achieve climate compatible development. When safe and

effective family planning services are available to all, experience shows that average family size falls, pregnancies occur at more optimal times in women's lives, and mothers and children are healthier and more able to contribute to their countries' development—and are more resilient to rapid change.

Linking population, family planning, and climate change is unconventional for many policymakers. We urge openness to including universal access to voluntary family planning in climate compatible development plans. Cross-sectoral alliances and initiatives that highlight and integrate potential synergies in development plans and in climate finance programs could reap enormous benefits, especially over time, for individuals and societies as we tackle climate change.

## Background

The last century has been one of incredible social change and human development. Improvements in health, declines in mortality, urbanization, better education, and industrialization have brought economic growth and improved standards of living to much of the world. This great progress, however, has also brought incredible demographic and environmental change.

In just the last hundred years the world's population has grown from just over 1 billion people to more than 7 billion people. We now live on a planet dominated by human activity, which has transformed vast areas of the Earth's surface, altered the atmosphere, and resulted in the extinction of thousands of plant and animal species.

Since the industrial revolution, human activities such as fossil fuel consumption, land-use change, and agriculture have resulted in marked increases in global atmospheric concentrations of greenhouse gases including carbon dioxide, methane, and nitrous oxide. These rising concentrations are boosting the atmosphere's retention of solar heat and raising average global temperatures, with significant impacts on natural systems around the world.

These changes pose both immediate and long-term threats to the crucial life-support systems on which humans depend. Global climate change represents an incredibly complex crisis, with diverse and interconnected impacts on the global economy, human health and safety, food production and security, and biodiversity. These impacts pose particularly acute threats to some of the world's poorest and most vulnerable people, most of whom contribute little to the crisis in comparison with wealthy consumers—confronting societies with complex questions of justice, responsibility, and capacity.

Recognizing the urgency and complexity of the issue, United Nations Secretary-General Ban Ki-moon declared climate change to be the “defining challenge of our era.” While international efforts to address climate change have been halting, cumbersome, and contentious, the urgency has grown—especially since greenhouse gas (GHG) emissions have lately been increasing and remain in the upper range of previously projected trend scenarios. Awareness of the causes and impacts of the crisis has grown as well. Increasing attention is now being paid to finding ways to slow the rise in emissions and global temperatures and simultaneously to strengthen human resilience and capacity to adapt to the impacts of climate change, particularly among the world's most vulnerable populations.

There is broad consensus that no magic bullet exists for addressing climate change. Nations will have to pursue many strategies to reduce emissions, build resilience, and adapt to climate change. Together these strategies are sometimes referred to as “climate compatible development”—defined as development that minimizes the harm caused by climate impacts, while maximizing the many human development opportunities presented by a low emissions, more resilient, future.<sup>4</sup> Climate compatible development encompasses the related concepts of low emissions development and climate resilient development.

Population and reproductive health have rarely been linked in climate policy discussions or in those related to improving access to family planning. Research has, however, linked population, reproductive health, and climate change, and demonstrated that helping women achieve their own aspirations for planning pregnancies and family size would put the world on a path to slower population growth, leading to substantial reductions in future carbon dioxide emissions.<sup>5</sup> Furthermore, the Intergovernmental Panel on Climate Change (IPCC), the leading intergovernmental body for the assessment of climate change, in their 5th assessment report’s chapter on human health, list reproductive health among just a few health measures that would achieve the co-benefit of reducing emissions in addition to improving health.<sup>6</sup> Additional research suggests that reducing unintended pregnancy, increasing the age at first birth, and increasing birth spacing also have multiple health, education, and economic benefits for women and their households, improvements that could potentially reduce vulnerability to climate change impacts.<sup>7</sup> While the foreign assistance needed to meet current levels of unmet need for family planning would cost an estimated \$3.7 billion annually, this sum is relatively small in contrast to some of the climate mitigation and adaptation strategies typically considered in climate change policy discussions.<sup>8</sup>

The climate benefits of reducing unintended pregnancies either for emission reductions or for adaptation to climate change, however, have largely been shunned in policy discussions in part because they remain too suggestive of simplistic and unappealing analyses of both population and climate change for open discussion. To overcome the tendency for oversimplification of these connections, the working group established guiding principles upon which climate and population and reproductive health communities could agree, and chose to illustrate current understanding of the connections through a graphical framework. In addition, in order to overcome the gap between research and policy action the group detailed specific actions that could lead to population being included among climate compatible development strategies. The subsequent sections present these guiding principles, the summary framework, and finally the policy action opportunities.

## **Guiding Principles for Linking Population and Climate Compatible Development**

The working group developed guiding principles to frame the discussions and establish a common set of norms to which all ascribed. These guiding principles included:

**1. Global GHG emissions should be limited to avoid the most deleterious effects of climate change.**

In keeping with the recommendations of global institutions, scientists, and governments, the international community should strive to limit “GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner” (Article 2, United Nations Framework Convention on Climate Change).

**2. Individuals and couples have a universal right to decide the number and spacing of children.**

The International Conference on Population and Development (ICPD) in 1994 in Cairo affirmed that “States should take all appropriate measures to ensure, on a basis of equality of men and women, universal access to health-care services, including those related to reproductive health care, which includes family planning and sexual health. Reproductive health-care programmes should provide the widest range of services without any form of coercion. All couples and individuals have the basic right to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so” (Principle 8, ICPD Programme of Action).

**3. Human resilience and adaptive capacity in the face of climate change should be enhanced.**

The distinction between climate mitigation and adaptation, and the often-perceived prioritization of the former over the latter, has long been a challenging balance in international climate negotiations. An integrated approach needs to consider and facilitate both in order to achieve climate-compatible development. Global GHG emissions must be significantly reduced in order to avoid the severest impacts of climate change. At the same time, significant climatic changes are already occurring—most of which are negatively affecting those populations with the most limited capacity to react.

**4. Family planning is one of many effective and essential climate compatible development strategies.**

Increasing investment in voluntary family planning services that respect and protect the right to decide the number and spacing of children and thereby reduce unintended pregnancy and the unmet need for family planning is one of many effective and needed strategies towards sustainable, climate compatible development. Family planning has the added benefit of both contributing to reduced GHG emissions and improving maternal and child health which may decrease vulnerability to climate change and thus the risk of climate change impacts.

**5. All societies should participate in finding solutions to climate challenges.**

Given its global nature and its wide-ranging impacts, climate change raises complex questions about how to assess responsibility for its causation, the degree of its impacts, and the capacity to respond to it. Solutions to climate change will require participation from all countries and people. Acknowledging that the global nature of climate change calls for the widest possible cooperation and action by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions.

**6. All societies should be enabled to pursue development pathways that simultaneously promote human well-being and limit climate change.**

Efforts intended to combat or adapt to climate change must respect the need of countries to pursue development pathways that are socially, economically, and environmentally sustainable. Policies and measures designed to reduce GHG emissions or facilitate climate change adaptation need to be integrated with national development goals. The ultimate goal is to facilitate development that is both climate-compatible and meets human needs. Key to this development is the need to sustainably raise the standards of living of people who live in extreme poverty and reduce unsustainable consumption among the world's wealthier populations.

**7. Local participation in climate compatible development is important.**

Although climate change has global causes and ramifications, its impacts—as well as the impacts of measures intended to combat it or adapt to it—are experienced at a local level. To the degree possible, climate compatible development should strive to integrate the participation and priorities of local communities and populations.

**8. Special needs and circumstances of particularly vulnerable populations should be considered.**

The reduced capacity of poor populations to mitigate or adapt to climate change should be reflected in all climate compatible development efforts. Particular attention is needed to women in developing countries given their critical vulnerability to the effects of climate change—and their role in adapting to it. This concept is of particular importance for Least Developed Countries (LDCs) as well as Small Island Developing States (SIDS) and other regions that face particularly urgent and severe climate-related impacts.

## Summary of the Connections Between Population and Climate Compatible Development

Conceptions of the role of human population change in the earth's atmosphere and climate tend to cluster around the logical correlation between rising numbers of people and rising emissions of greenhouse gases. While there are natural sources of many such emissions, it is the growing magnitude of emissions from human activities that is causing the buildup of these heat-trapping gases in the atmosphere. Reduced to the simplest logic, if the world's human population were zero, there would be no human-caused emissions. And since no human can live without contributing some greenhouse gases to the atmosphere, additional humans means additional greenhouse gases.

On the other hand, the directness of any influence of population growth on climate is influenced by a host of complicating factors. These include widely varying individual energy and resource consumption, the involvement of institutions in determining aspects of emissions patterns, and technological and fuel-pricing factors (such as the advent of hydraulic fracturing, or “fracking,” in oil and gas development).

While quantitative research on the correlation between population and climate change has been sparse, efforts going back to the early 1990s have validated that world population growth is an important contributor to emissions growth. In a 1992 study of emissions and population, Nancy Birdsall—then at the World Bank, now president of the Center for Global Development—concluded that industrialized countries could more inexpensively reduce global greenhouse emissions through funding family planning services in developing countries than through cutting emissions in their own countries through taxing them (Birdsall was not suggesting that these were alternative options or that family planning assistance to developing countries could or should supplant developed countries’ efforts to limit their own emissions). Her paper concluded that acting on population growth had at most limited scope in reducing future emissions.<sup>9</sup>

Nearly two decades later, a more comprehensive analysis by U.S. and European researchers used a general equilibrium economic growth model to calculate the impact of different population growth scenarios on GHG emissions. They found that if world population growth followed the lower of two possible trajectories, low and medium long-range population projections by the United Nations Population Division as published in 2003, by 2050 the emissions savings would equal from 16 percent to 29 percent of those needed to avoid a potentially catastrophic warming worldwide of 2 C above the preindustrial temperature average. And these avoided emissions would grow further with time as world population began to decline later in the century: By 2100 emissions would be about 40 percent lower under the low population path than under the medium one.<sup>10</sup>

Less research and data appear to support linkages between demographic dynamics and adaptation to climate change. One recent study demonstrated that if Ethiopia were to follow a low-population growth path through 2050, the resulting population would have more food security in that year than it has today, despite the projected impacts of climate change on agricultural productivity expected by mid-century.<sup>11</sup> Evidence of the perceived population-resilience connection comes as well from governments of some of the LDCs in the world. As part of diplomatic initiatives to address the impacts of human-caused climate change, the United Nations invited LDCs to submit short-term action plans to address the challenges they faced in adapting to climate change. The vast majority of these National Adaptation Plans of Action (NAPAs), including Ethiopia's NAPA, listed population growth or density as among the barriers making it difficult for governments to build national resilience to changes in climate.<sup>12</sup> This acknowledgment by governments of low-income countries suggests that linking population dynamics and climate change may be less sensitive in developing countries than many climate negotiators believe. That impression is reinforced by a 2013 report of qualitative data based on in-depth interviews and focus-group work in Ethiopia. Most participants, the report found, are highly aware that climate is changing and that population is growing, and they believe that improved access to voluntary family planning could be an important strategy for adapting to these changes.<sup>13</sup> Additional studies in Malawi and Kenya found similar recognition of the challenges of population and adaptation to climate change.<sup>14</sup>

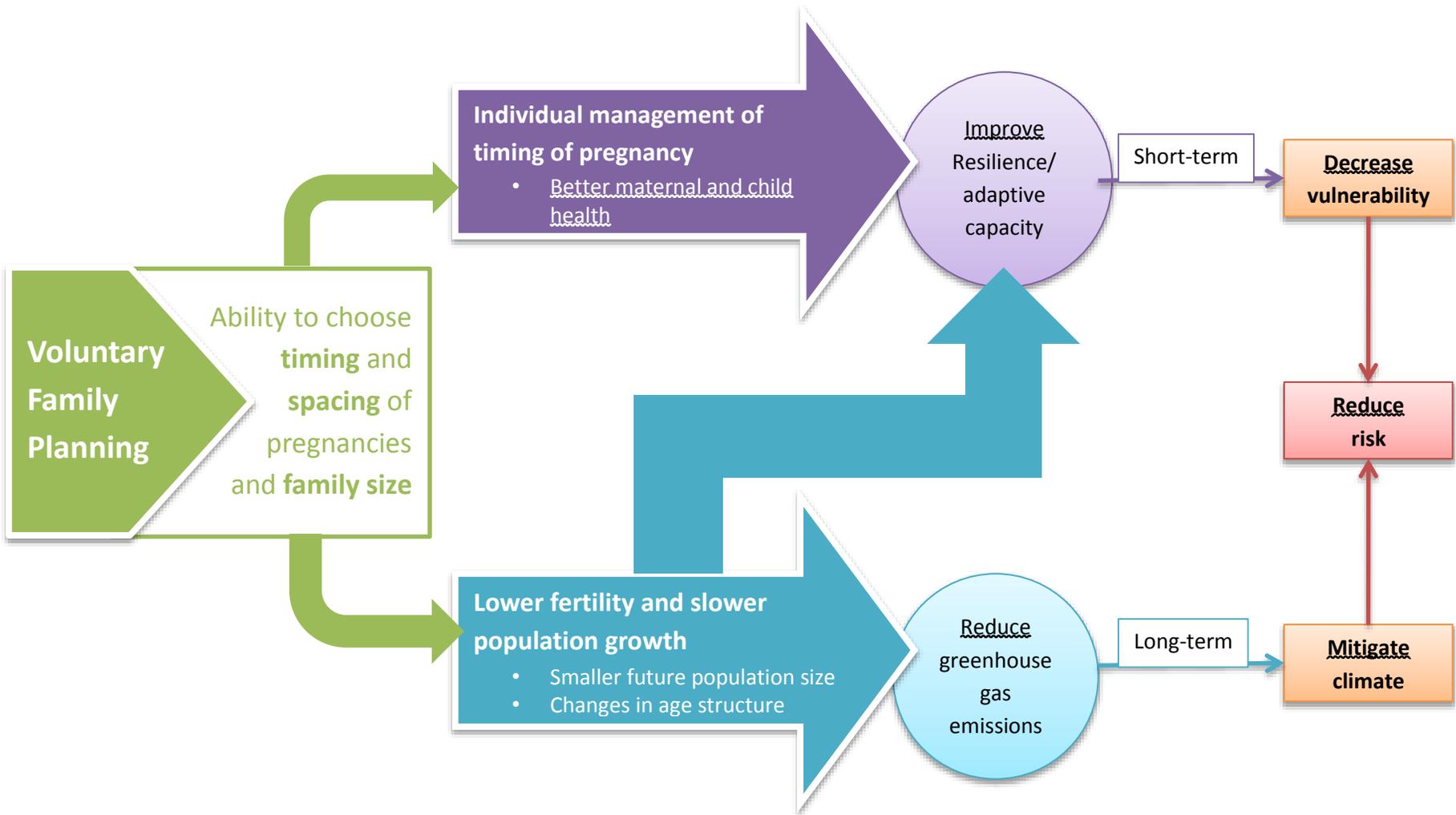
More research could help expand and solidify the evidence base for family planning's influence on vulnerability, resilience, and adaptive capacity at the individual and household level, but the basic outlines of both streams of causation and influence are fairly straightforward. Increased contraceptive use has been clearly linked with improved health of women and their families.<sup>15</sup> In addition, increased contraceptive use results in less unintended pregnancy and subsequent school dropout among girls and young women, and thus improves educational attainment.<sup>16</sup>

Furthermore, women who avoid unintended pregnancies through family planning are more likely to be employed, earn an income, and accumulate household wealth.<sup>17</sup> Each of these benefits of family planning—improved health, education, income, and wealth—all are recognized as important building blocks for resilience and adaptive capacity. Thus the links from family planning to resilience and adaptive capacity are best characterized as evidence-supported hypothesis rather than demonstrated theory or research findings.

In order to visualize these connections the expert working group developed a graphic, which is not intended as a comprehensive framework of all the factors that contribute to GHG emissions or that influence resilience and adaptive capacity. The figure is rather a more limited illustration of the population, family planning, and climate compatible

development concepts explored by this group. On the left side, voluntary family planning provides couples with the ability to choose the timing and spacing of pregnancies, which in turn results in reduced unintended pregnancy and lower fertility. In the bottom pathway, lower fertility results in slower population growth, changes in age structure, and in the long-term significant reductions in emissions. These emissions reductions alone aren't sufficient to mitigate climate change but can be a part of a broad set of strategies needed to reduce emissions, mitigate climate change, and reduce the future risk of severe climate impacts. In the upper pathway, avoiding unintended pregnancy results in individual and family benefits, such as improved health, education, and increased income and wealth, which hypothetically in the short-term can result in improved resilience and adaptive capacity, decrease vulnerability, and also decrease the risk of future climate impacts.

Figure. Visualizing the Connections Between Family Planning and Climate Change



## **Policy Opportunities for Linking Population and Climate Compatible Development**

Based on the need for a broad set of diverse policy actions on climate change, the evidence base on the connections between population, family planning, and climate change, and the agreed upon guiding principles, the working group established a broad statement and identified specific strategic approaches and policy action opportunities for achieving the goals of the statement.

### **Broad Policy Goal:**

**Human population influences and is influenced by climate change and deserves consideration in climate compatible development strategies. Achieving universal access to family planning throughout the world would result in fewer unintended pregnancies, would improve the health and well-being of women and their families, and would slow population growth—all benefits to climate compatible development. We recommend including improved access to family planning among the comprehensive and synergistic efforts to achieve development compatible with addressing climate change.**

The expert working group identified four strategic approaches for advancing this goal:

- Build awareness about trends in unintended pregnancy and unmet need for family planning, and their connections to climate change.
- Create an enabling environment for connecting these issues and advancing these policy opportunities by fostering more cross-sector dialogue and action among health, family planning, climate, and development sectors.
- Identify and act on policy opportunities to ensure that improving access to family planning is part of climate compatible development strategies.
- Increase the financing available for both climate change and family planning and create innovative financing for family planning within climate compatible development plans.

The specific policy action opportunities under each strategic approach provide a path forward for groups that want to link these issues and ensure that universal access to family planning is part of efforts to achieve climate compatible development.

## **Strategic Approach 1: Build awareness about trends in unintended pregnancy and unmet need for family planning, and their connections to climate change.**

### **Specific Actions Include:**

- **Raise awareness that population is already identified as a challenge to climate compatible development in many developing country climate plans and strategies.**

Many developing country policymakers have already noted the challenge that population growth presents to their ability to respond to climate change. LDCs developed NAPAs to identify short-term priorities for development investments aimed at climate adaptation. The majority of the NAPAs that were developed identified population as a challenge to climate adaptation, and a few even identified reproductive health programs as a possible project within the NAPAs. Bangladesh, for example, noted in its report, “Pressure of the growing population and rising demand due to economic development will further reduce relative availability of fresh water supply in the future. The adverse effects of saline intrusion [on freshwater aquifers near rising ocean water and storm surges] will be significant on coastal agriculture and the availability of fresh water for public and industrial water supply will fail.”<sup>18</sup> None of the LDCs, however, have developed programs through NAPA financing that are aimed at addressing population issues and increasing access to reproductive health, including family planning. Ethiopia, however, mentions mainstreaming of family planning into climate planning in its NAPA.<sup>19</sup>

Raising awareness about LDCs identification of population challenges within the NAPAs and determining whether developing countries have similarly noted these challenges within the NAPAs (which are currently being developed to identify medium to long-term actions) could help ensure that family planning is viewed as responding to self-identified priorities rather than viewed as a climate compatible development strategy being imposed by the North.

Organizations such as Marie Stopes International and Population Action International (PAI) have both drawn attention to the inclusion of population issues and family planning health within the NAPAs through policy presentations and briefs. More recently a peer-reviewed article by Clive Mutunga and Karen Hardee on the NAPAs was cited in the IPCC report and illustrates the importance of continued efforts on this front.<sup>20</sup>

- **Increase understanding of population trends and the role of unintended pregnancy and unmet need for family planning among environment and climate sectors.**

Overall understanding of demographic trends, including unintended pregnancy and unmet need for family planning and their role in population change, is low among climate and environment sectors. Yet the scientific literature on linkages among population, reproductive health, women's status, gender equity, and climate change is relatively substantial and growing. In recent years, this literature increasingly has included work by researchers in developing countries. Improved understanding of alternate population scenarios and the fertility assumptions that underlie them would highlight the important role of reproductive health in determining the future population at global and national levels. Furthermore this understanding might build more support for the increased investments in reproductive health that will be needed to meet the goal of universal access to voluntary family planning and ultimately the lower population scenario that could be achieved.

The Futures Group developed a model and related advocacy materials in Ethiopia for illustrating the role that family planning can play in addressing food security challenges in the context of climate change. The model and an advocacy presentation based on the model compares various food security scenarios based on multiple population and climate scenarios and is meant to improve understanding of population and family planning issues among Ethiopian policymakers. The presentation has been disseminated by the Ethiopia Population, Health, and Environment Consortium. Additional information on the outcomes of the presentation could be collected to determine whether the effort has resulted in increased support among environment, food security, or development policymakers for inclusion of population and family planning in Ethiopia's climate strategies.

- **Ensure that representatives from social sectors, including health, participate regularly in national climate planning.**

Despite the many social sector and health sector strategies needed for climate compatible development, the leadership on climate change policy at the national level usually comes from the environment sectors. While consultation on NAPAs and other climate development plans such as Ethiopia's Climate-Resilient Green Economy strategy often include multisector dialogue at their inception, subsequent follow up and implementation are principally led by the environment sectors where climate offices are usually housed. This may contribute to the underrepresentation of health and social sector investments in climate change strategies and adaptation programming, as discussed earlier. Civil society organizations could promote inter-sectoral government meetings as a means of ensuring health and social sector representation in climate change strategy and

project development, thus resulting in more integrated climate compatible development strategies.

- **Increase understanding of the link between population, family planning, and climate change in local governments and local contexts.**

Many local governments, including cities and states, are developing climate action plans and taking innovative steps toward climate compatible development that have proven more difficult at national and international climate levels. For example, cities have established strong emissions reduction targets and passed energy and transportation regulations. They have drafted low emissions and green industry development plans, and many are also developing their own adaptation plans. Increasing local understanding of the connections between health and climate change vulnerability could spur innovative local strategies for increasing access to voluntary family planning and part of local climate action plans.

The trend toward decentralized governance in developed and developing countries represents an opportunity for progressive local governments to take action on the connections and invest in access to family planning as a climate compatible development strategy. Furthermore, the variation in local government approaches and policies could present opportunities to measure the climate related impacts of different investment strategies. PAI has developed policy briefing materials to focus on the links between population dynamics, environment, and sustainable development in a number of decentralized county governments in Kenya (Kisumu, Homa Bay, Siaya, Makueni, and Kitui). The policy briefs include several policy recommendations, including incorporating population dynamics in the County Integrated Development Plans; prioritizing family planning in the investment of financial resources; and designing programs that integrate population, environment, and climate change. These county-level efforts in Kenya have only recently begun but a longer history of similar policy efforts in the decentralized local government units of the Philippines could provide evidence on the potential impact of this policy action opportunity.

- **Improve the communication and understanding of the current treatment of population in the Shared Socioeconomic Pathways (SSPs) and emissions scenarios.**

Population projections have been one of the essential backbones of GHG emissions scenarios for some time. Since the IPCC was first convened in 1988, the treatment of population projections has evolved substantially from one report to the next. Because of this inconsistency, there is little understanding among

researchers, advocates, and policymakers of how and whether population changes are incorporated into the most recent iteration of emissions scenarios called Representative Concentration Pathways.

For the first time, the new methods used to create different climate change scenarios do not, in fact, include any socioeconomic or demographic scenarios. They only look at different possible concentrations of carbon in the atmosphere and then estimate the different temperature and other climate changes that would result. Social scientists, however, have developed the SSPs as a set of global, regional, and sectoral scenarios that could lead to the various concentrations of GHGs included in the Representative Concentration Pathways. These SSPs are meant to both facilitate interdisciplinary research and assess different socioeconomic development policies and pathways that could lead to different climate futures.<sup>21</sup> The SSPs include demographic components, particularly total population, age structure, and urbanization, but few people within the demographic community or the family planning policy community are aware of the SSPs and how they might be used for social and health sector policy scenario analysis, communication, and advocacy for different policy options. Improved understanding of the SSPs among these sectors could ensure that various population and family planning scenarios are included in SSPs and thus considered for inclusion as part of climate compatible development strategies.

- **Improve the use of population and reproductive health data in measurements of resilience, risk, and climate policies and programs.**

Census and survey data are rarely incorporated into climate adaptation analysis and programming, despite the detailed data they can provide on individual, household, and community climate vulnerability.<sup>22</sup> The Demographic and Health Survey (DHS) is one of the most widely available household surveys in LDCs, and some data that could be used for assessing resilience are incorporated into the survey. Census data if analyzed spatially can also provide a great deal of information on characteristics of populations living in vulnerable areas. The DHS and census, however, are rarely used in climate change research, in part because climate professionals do not tend to come from the health and social science sectors and are not familiar with the data. Increasing the use of census and health survey data in assessing vulnerability and resilience, and increasing the inclusion of more vulnerability and resilience questions in the survey tools could help to improve understanding of population, health, and climate links, and result in more inclusion of health efforts, including family planning in development strategies that are compatible with addressing climate change.

**Strategic Approach 2: Create an enabling environment for connecting these issues and advancing these policy opportunities by fostering more cross-sector dialogue among health, family planning, climate, and development sectors.**

Collaborations between health and environment sectors could be significantly strengthened at global, national, and local scales to foster both more multisector approaches to climate compatible development, as well as greater political and financial support for two underfunded development imperatives. Despite the expected impacts of climate change on health and well-being, neither climate change nor population and family planning are considered policy priorities by the general public or policymakers. In fact, polling data in the United States indicates that climate change is near the bottom of a list of priority policy issues for the public.<sup>23</sup> Polls conducted on whether the public is favorable toward family planning are mixed but suggest support if framed in the context of improving women's lives.<sup>24</sup> More cross-sector dialogue and collaboration between the health and environment sectors could potentially lead to a broader base of support in developed countries for each, increasing their prominence on national and international agendas, and ultimately leading to greater political and financial support. In contrast, many of the LDCs already make the link between population and their ability to adapt to climate change, but the prominence of these linked issues hasn't resulted in actual programs to address family planning as a part of climate adaptation.

**Specific policy action opportunities to foster more multisector dialogue include:**

- **Strengthen existing and create new coalitions and partnerships among health, family planning, and climate change civil society groups.**

A coalition of family planning and climate change civil society groups can identify where they have common cause; where joint research, advocacy, and communications would be strategic, and how they can work to bring greater attention to the issues among policy communities. A strong coalition could establish a framework for action and specific policy targets with an advocacy strategy for achieving them. Such a coalition could organize and deliver a strong united message to policymakers and bilateral and multilateral funders about the important connections between health, family planning, and climate compatible development.

Existing efforts include the Population and Sustainable Development Alliance (PSDA), formerly the Population and Climate Change Alliance (PCCA), an alliance of civil society organizations from various sectors and from both developing and developed countries. PSDA is currently steered by the Population and Sustainability Network, and over the last several years they have

worked on joint efforts, such as communications materials, briefings to policymakers, and meetings with individual delegates at climate negotiations on the links between family planning and climate compatible development. In addition they have organized side events on these connections during international policy dialogues.

The OneHealth Initiative and EcoHealth Alliance are other examples of networks of civil society organizations and researchers focused on environment and human health connections. These networks, while much larger in terms of numbers of member organizations, are focused more on the interconnectedness of animal health and human health and the disease interface between them, and have not explicitly focused on family planning issues and their connection with environmental change.

- **Create more regular opportunities for dialogue among health, family planning, climate change, and development policymakers at both the domestic and international scale.**

Policymakers in the population, health, and environment sectors at various levels, from county to national governments, bilateral agencies, and multilateral institutions have few spaces for multisector dialogue. In fact, without careful consideration, attempts to coordinate policy development could result in policies whose objectives are at odds with one another. Creating spaces for more regular policy dialogue among health and environment sectors could help with coordination of policies, joint support for one another's issues, or even the development of mutually beneficial policies that support population and family planning as a part of climate compatible development strategies.

There are many examples of attempts to foster such multisector policymaker dialogue through inter-ministerial meetings, but there is little documentation of regularity of meetings, development of specific policy initiatives, or documentation of results. For example, the Health and Environment Strategic Alliance (HESA) was a country initiative organized jointly by the World Health Organization (WHO) and the UN Environment Programme (UNEP). HESA was conceived as a way to coordinate action by the health and environment sectors and engage in national-level development planning processes to effectively use health and environment links for the protection and promotion of public health and ecosystem integrity. At their first conference in August 2008, African ministers of health and ministers of environment, through the Libreville Declaration, committed their countries to establish a strategic alliance for health and environment as a basis for joint plans of action. The ministers met again in 2010 in Luanda, Angola, and adopted the African Ministers of Health and

Environment Joint Statement on Climate Change and Health to reaffirm their declaration. This Joint Statement has since been followed by a Framework for Public Health Adaptation to Climate Change in the African Region.

Since these initial actions there is no evidence that ministers have met since 2010 or that their declarations and framework have resulted in policy or program changes. Evidence of the impact of the dialogue, joint statement, and framework would need to be collected through interviews or from WHO and UNEP reports on the activity. Furthermore, there is no evidence that the group discussed reproductive health and family planning amongst their issues for joint action. Similar interministerial meetings have also taken place in Latin America.

More recently, the Lake Victoria Basin Commission, an intergovernmental institution that is part of the East Africa Commission (EAC), has been bringing together various health and environment ministries in the East Africa Commission countries to discuss population and reproductive health issues in the context of the Lake Victoria Basin ecosystem's health. These meetings have resulted in the development of national Population, Health, and Environment steering committees in Burundi, Kenya, Rwanda, Tanzania, and Uganda. The steering committees have begun to develop national Population, Health, and Environment (PHE) strategies aimed at promoting and scaling up approaches for linking family planning service delivery with environmental initiatives to protect Lake Victoria.

- **Identify opportunities for integrating population, family planning, and climate change within international negotiations on the post2015 development agenda as well as the UN Framework Convention on Climate Change (UNFCCC).**

Organizations can advocate for the inclusion of increased access to family planning as a development strategy compatible with addressing climate change within international development and climate change frameworks that are currently being negotiated. This effort could help establish family planning as a development priority not just from a health perspective, but also from a gender and environmental perspective.

Advocates from several organizations, including PAI, Sierra Club, PSDA, and others interested in reproductive health and climate connections, have held side events at past climate change negotiations, the UNFCCC Convention of Parties (COP), in an effort to engage climate negotiators on the importance of including women and their reproductive health in the context of the UNFCCC. Side events were organized at several of the past COP meetings, featuring high-level speakers, including former President of Ireland, Mary Robinson; new research

and publications; and developed and developing country voices. Advocates organizing these efforts admitted that the issue gained little traction in the formal negotiations, and while some negotiators have expressed interest and support for the connection, the UNFCCC language currently does not include any mention of population or reproductive health.<sup>25</sup>

More recent efforts by reproductive health and climate advocates have also focused on the post2015 development agenda as the period for the achievement of the Millennium Development Goals (MDGs) comes to an end. The Open Working Group, a 30 member group of the UN General Assembly, is developing a set of Sustainable Development Goals (SDGs) to follow after the MDGs, and advocates are working to ensure that increased access to reproductive health, including family planning, and climate change are included in the SDGs. A few organizations are also making the case that population and climate links be included in the SDG targets and indicators. They are urging for the inclusion of language that prioritizes information on projected changes in demographics and the use of data to address inequalities, sector planning that uses population data, and investments in other cross-cutting issues related to health, education, gender, and youth. PSDA and PAI in particular have been active at Open Working Group meetings on the SDGs that are aimed at gathering public input. Developing country advocates have been brought to speak directly with country representatives and briefing materials have been developed. The process for finalizing the SDGs is ongoing and currently 17 sustainable development goals with 169 targets have been proposed by the Open Working Group for approval by the UN General Assembly. There are currently family planning targets and a climate change goal and target but currently no connection is made between these issues. With the SDG process almost complete, many global advocates are now turning their attention to the ways in which progress toward the SDGs will be funded, and several of these policy action opportunities are described in other sections below.

**Strategic Approach 3: Identify and act on policy opportunities to ensure that improving access to family planning is part of climate compatible development strategies.**

**Specific Actions Include:**

- **Advocate for the inclusion of family planning within essential public health packages created to strengthen climate resilience of households, communities, and countries.**

Within the joint statement on health and climate change made by African Ministers of Health and Environment, there was a call for the implementation of an essential public health package related to climate resilience. The components of the essential public health package are not specified in the Adaptation to Climate Change in Africa Plan of Action for the Health Sector 2012-2016, and maternal health and reproductive health are not mentioned among the health issues in the document. Other opportunities for advocating for a public health package for climate compatible development that includes family planning and preventing unintended pregnancy could include advocating to international health institutions such as the WHO, regional health institutions such as the East, Central, Southern Africa Health Community (a regional platform for identification of and building consensus on health priorities in the region), the West African Health Organization, or with important national health institutions and associations such as national ministries of health or the American Public Health Association.

- **Focus on resilience, population, and family planning links within climate compatible development policies and frameworks being developed by bilateral agencies.**

Bilateral development agencies in developed countries are increasingly focused on clean energy, resilience, and adaptation as part of development assistance, and many bilateral development agencies also prioritize family planning as part of broader health programs. The United States Agency for International Development (USAID) and the UK Department for International Development, for example, both list family planning and climate change as priorities. Rarely, however, are the links between these priority areas reflected in family planning or climate policies, initiatives, and funded programs. More effective communication on specific population, family planning, and climate links, such as the importance of family planning for resilience to climate change and other recurrent shocks, could result in greater integration within future bilateral agency policies, programs and initiatives. There are numerous opportunities for making these links within existing programs such as in USAID's Global Climate Change Initiative, Climate Resilient Development, and Global Resilience Partnership, among others.

Initiatives focusing on resilience in the Sahel illustrate this policy action opportunity. Following repeated humanitarian crises in sub-Saharan Africa, USAID and other international donors are focusing on building the resilience of vulnerable populations. For example, in 2012 USAID joined the European Commission and other humanitarian and development bodies to launch the Global Alliance for Resilience in the Sahel (AGIR-Sahel), and USAID launched

its own Resilience Policy and Program Guidance. The guidance outlines a framework which will better integrate humanitarian relief and development teams, increasing the ability to respond quickly to new circumstances while improving the ability of people to prepare for and cope with disasters. USAID's "Building Resilience to Recurrent Crisis" acknowledges that meeting the unmet need for family planning may be a necessary component of a larger strategy to build resilience, but it is not yet clear whether future USAID resilience initiatives in the Sahel will explicitly include increasing access to family planning as an explicit component of programming.

- **Identify a country that already identifies family planning as a development priority and work on internal advocacy within bilateral and multilateral country offices to ensure family planning is included as a component of climate adaptation and resilience project and initiatives.**

There are many existing multilateral and bilateral engagements between developing countries and UN agencies, development banks, and bilateral aid agencies that identify family planning as a priority for development. UNFPA has offices in more than 100 countries and USAID's Office of Population and Reproductive Health works in more than 20 priority countries. In many of these countries, the UN and USAID also have climate change initiatives. While these multilateral and bilateral agencies may not specifically include family planning programs in global policies and initiatives as part of climate compatible development, many country offices have significant leeway in how they develop programming at the country level. In promising countries where there has been interest in the connections between population, reproductive health, and climate change, bilateral and multilateral country offices advocates could work to encourage country specific initiatives that support family planning in the context of climate compatible development. In countries such as Ethiopia, Madagascar, Malawi, the Philippines, and Tanzania, UNFPA and USAID country offices have a history of developing innovative integrated population, family planning, and environment programs, but advocates interested in these connections need to continue to engage with country staff because of regular staff changes and strategy adjustments.

There are also opportunities at the regional level, such as in the Sahel or Horn of Africa where climate and resilience initiatives are gaining traction. For example, USAID's RISE (Resilience in the Sahel-Enhanced) Initiative, launched in early 2014, committed more than \$130 million over the first two years of a five-year effort to build resilience to the recurrent crises in West Africa's Sahel, a region where chronic poverty, food insecurity, drought, poor access to family planning,

and rapid population growth collide. RISE will work in targeted zones in Niger and Burkina Faso to help families and communities get ahead of the next shock and stay firmly on the path to development. This new initiative brings together humanitarian and development funding to both address humanitarian needs and build resilience, including efforts to strengthen institutions and governance, increase sustainable economic well-being, and improve health and nutrition. It is not clear yet whether this new initiative will address population and reproductive health challenges in the Sahel, including early marriage, extremely low contraceptive use prevalence rates, and high rates of unintended pregnancy, which may impact women's resilience and contribute to high fertility rates that will result in a doubling of population in the region by 2030.

**Strategic Approach 4: Increase the financing available for both climate change and family planning and create innovative financing for family planning within climate compatible development plans.**

Climate financing over the coming decade is likely to grow, but project funding during the growth period will not necessarily reflect or be determined by the types of programs that currently exist or through a rational choosing of the most effective climate compatible development strategies. Both the growing concern about climate and the scale up of climate finance provide windows of opportunity to introduce new ideas and projects that may not have received sufficient nonclimate Official Development Assistance or climate-targeted funding to this point.

In the identification of finance opportunities, a broad lens was used to think about funds that could be used for climate compatible development. Mechanisms for climate finance are rapidly changing as well, thus this list includes action opportunities that may not currently exist but could become a future source of funding for climate compatible development. For example, the growing role of emerging economies might redefine the climate finance landscape and present opportunities to include family planning and population concerns in bilateral and self-financing initiatives. Continued mainstreaming of climate change into all development initiatives might also open new funding channels within multilateral and bilateral finance institutions.

**Specific Policy Action Opportunities Include:**

- **Work with LDCs to include health interventions, including family planning, within climate plans submitted for funding under the National Adaptation Plans.**

Under the Cancun Adaptation Framework, developing countries and LDCs in particular are supported in formulating and implementing National Adaptation Plans (NAPs). The NAPs are to identify medium and long term needs and

priorities for adapting to climate change, and aim to integrate climate adaptation into national development planning and programs and to consider cross sector issues. As many LDCs are still in the process of NAP development, there is an opportunity to position family planning as a medium- and long-term need for climate compatible development. The National Adaptation Plan Global Support Programme (NAP-GSP) was launched in June 2013 with financing from the Least Developed Countries Fund along with many partner organizations including, United Nations Development Programme (UNDP), UNEP, Global Environment Facility (GEF), UNFCCC, WHO, and Food and Agriculture Organization (FAO), among others. The NAP-GSP provides technical support, tools and training to facilitate NAP development at the request of LDCs. Currently the financing of NAPs is unclear and overall there are limited funding mechanisms for adaptation. Thus efforts to have family planning financed as a climate compatible development strategy will have to focus on raising the profile of family planning at the country level among those developing the NAPs and ensuring that reproductive health and family planning are recognized as part of climate compatible development.

- **Work with developing countries to include family planning within climate plans submitted for funding under the GEF funds, including the Least Developed Country Fund and Special Climate Change Fund.**

The GEF administers the Least Developed Country Fund (LDCF), which was established under the UNFCCC to fund urgent and immediate needs with regards to climate adaptation identified by least developed countries through their NAPAs. Population and family planning were identified in six of the NAPAs established by the 47 least developed countries, but no health projects to date have been funded by GEF under the LDCF. Advocates could work with the two countries that included specific projects related to population and family planning within their NAPAs (Uganda and São Tomé and Príncipe) and with the LDCF to fund these family planning projects.

The Special Climate Change Fund (SCCF), also administered by the GEF, also aims to fund country-driven adaptation priorities. Developing countries not among the LDCs are also eligible for these funds. Of the relatively few projects that have been approved for funding, most are in the food and water sectors and none are in the health sector.

- **Advocate that family planning be considered eligible as a country-driven approach under Green Climate Fund operational guidelines.**

The Green Climate Fund (GCF), designated as an operating entity of the financial mechanism of the UNFCCC, in accordance with Article 11 of the Convention, will likely become a main mechanism by which funds are provided to developing countries to shift towards low-emission and climate-resilient development pathways. The Fund will provide support to developing countries to limit or reduce their GHG emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change. The Fund now has an established board, secretariat, and headquarters, and is making progress in establishing guidelines and mechanisms for financing through a series of board meetings since August 2012. By the end of the seventh meeting in May 2014, the GCF board has agreed on eight essential requirements, including guidelines on who can distribute money from the GCF and how much control the donor country will have over projects it funds. In addition, a safeguard document was adopted to ensure the fund makes socially and environmentally sound investments. After the meeting, GCF commenced the resource mobilization process, and so far, a total of \$2.3 billion has been pledged to the fund from ten nations and more funds are expected to come before and during the UNFCCC Convention of Parties (COP 20) in Lima in December 2015. The GCF's goal is to mobilize as much as \$15 billion by the end of 2015 and start investing in suitable projects in developing countries in 2015. The GCF Board intends to adopt a 50/50 ratio as the medium-term allocation target between mitigation and adaptation in its financing. Advocates can work to ensure that appropriate health interventions, including family planning are adequately recognized, within the established guidelines and thus eligible for funding.

- **Leverage concern over the links between population, family planning and climate issues to increase the total Overseas Development Assistance (ODA) that goes toward climate compatible development as well as the proportion of nonclimate aid that goes toward programs that support family planning.**

An examination of total ODA by sector reveals that family planning and environment receive just a small portion of ODA, and ODA specific to climate change is currently difficult to track.<sup>26</sup> In the United States, both family planning and climate change require constant domestic advocacy to ensure continued funding, because of the politics around these issues during the annual congressional budgeting process. Several environmental groups have actively participated in this advocacy over the last decade as part of the International Family Planning Coalition, an ad hoc group of organizations that share a common interest in engaging in legislative advocacy for U.S. international family

planning and reproductive health funding and policies. In their advocacy efforts some of these groups have connected climate and reproductive health issues in order to appeal to particular legislators. Similarly, several reproductive health organizations have participated in environmental and climate advocacy coalitions focused on U.S. climate funding and policies. More active advocacy partnerships in the United States and other countries could help to build a broader base of political and financial support for both family planning and climate change, and ensure the growth of ODA that goes toward climate compatible development, including family planning.

Opportunities also exist within the ongoing UN Finance for Development discussions and the Global Financing Facility (GFF), both of which are important in the context of funding efforts for countries to meet the SDGs. The GFF, newly created in September, 2014, was announced by the World Bank, Canada, Norway, and the United States, as a funding vehicle for financing the proposed SDG on healthy lives, and will support the UN Secretary General's Global Strategy for Women and Children's Health. As the plans for this new fund develop, advocates can work to ensure that climate change is recognized as a threat to women and children's health, and that language in funding program includes the need to improve women and children's health, including increasing access to family planning, as one of several health-climate links that should be funded.

- **Advocate with health and nonhealth stakeholders in the public sector of middle income and rapidly developing countries for self-financing of family planning programs as part of climate compatible development strategies.**

As emerging economies grow into middle income countries they are increasingly able to fund priority services for their people. Many countries in Latin America and Asia now self-finance family planning programs or have facilitated the private sector services that provide contraceptives, and have been able to reduce unintended pregnancies significantly. The initiative for these family planning investments has traditionally come from the health sector, but advocates can reach beyond the health sector and work with finance and environment ministries to increase public sector investment in health and family planning as part of climate compatible development.

For example, Ethiopia has put forth their strategy for developing a Climate-Resilient Green Economy (CRGE) by 2025. Ethiopia aims to be a middle-income country by 2025. However, the strategy recognizes that achieving this through the conventional development path would result in dramatically increased carbon

emissions and unsustainable use of natural resources. The CRGE strategy for Ethiopia demonstrates the commitment of Ethiopia to bypass the conventional approach to economic development and create a green economy where economic development goals are met in a sustainable way. The CRGE strategy is a guide for future government and development partner investments and though a subtechnical committee for health is designated as being part of the CRGE strategy implementation, the committee is not yet active. In countries where governments are developing their own climate compatible development strategies, advocates can work to ensure that links are made between population, family planning, and climate compatible development, and that the health sector participates in the implementation of these strategies.

- **Seek innovative private sector financing solutions to reduce unmet need for family planning as a strategy for climate compatible development.**

Private sector finance, depending on how it is measured, is far larger than the multilateral and bilateral funding available for climate compatible development. Most of this private sector finance is spent domestically, and thus it is important to engage the private sector in the countries where family planning and climate compatible development are likely closely linked. Possible private sector sources for funding include philanthropic giving (foundations or others) and or corporate responsibility funds each of which can be important sources of funding for innovative health programs.

## Conclusion

“The time is long overdue,” former UN Population Division director, Joseph Chamie, and his former Population Division colleague, Barry Mirkin, recently wrote, “for world leaders, scientists and other concerned citizens to hold a meaningful dialogue about the intimate relationship between climate change and world population growth.”<sup>27</sup>

Demographers and the public health community alike recognize that addressing population change must be based in human development and rights, especially in sexual and reproductive health and rights and in the individual childbearing choices of women and their partners. When safe and effective family planning services make such choices available to all, experience has demonstrated, average family size falls, pregnancies occur later in women’s lives, and mothers and children are healthier and more able contribute to their countries’ development and resilience to rapid change.

The expert working group recognizes that linking population, reproductive health, and climate change is an unconventional and perhaps challenging concept from a policymaking perspective—and all the more so from the perspective of climate finance. We do not propose that policy and finance initiatives aimed at expanding access to family planning be removed from their longstanding base in the health and development sectors and assigned to agencies and experts directly addressing climate change. Nor do we advocate funding family planning by diverting funding streams from existing programs aimed at climate change mitigation and adaptation to fund family planning.

Rather we urge an openness within the emerging concept of climate compatible development to the synergistic benefits that would result from approaching universal access to family planning, in particular, as one social and development milestone that would facilitate such development. The group believes that cross sectoral alliances, initiatives and efforts to highlight potential synergies and integrate them in development plans—up to and including in climate finance programs as these evolve—could reap enormous benefits, especially over time, both for individuals and societies grappling with mitigation and impacts of climate change.

These synergies are not limited to any one group of countries but apply to all. All countries will need to build their resilience to the impacts of climate change. And all nations—whether in the immediate or more distant future, depending on their current level of development and emissions history—will need to learn to how to minimize and eventually eliminate net GHG emissions. Similarly, all nations face the phenomenon of unmet need for family planning services and unintended pregnancies. Inability to prevent unintended pregnancy contributes significantly to population growth and results in lost opportunity and diminished social capital in all countries. A better understanding of the connections among population and reproductive health to climate change, and a

willingness to build alliances and share efforts across that divide, we believe, are very likely to reap rich benefits for humanity and the planet we share.

## **Appendix A.**

### **Expert Working Group-Population and Climate Compatible Development**

#### **Working Group Objectives**

To advance policy dialogue and action on this connection, PRB and Worldwatch assembled a working group of experts drawn from the climate change, family planning, and development assistance communities. PRB and Worldwatch worked with the group to identify a range of policy opportunities for increasing investment in family planning in the context of climate compatible development—that which both slows human-caused climate change and maximizes social resilience to its impacts. The objectives of the working group were to:

1. Review existing research on family planning and climate change links.
2. Discuss trends in international and domestic policy and financing related to family planning and climate change.
3. Identify a range of opportunities for increasing policy dialogue and action in support of family planning and climate initiatives, in the context of new family planning initiatives, climate policy, and the next set of Sustainable Development Goals.
4. Develop policy proposals outlining feasible policy options beneficial in both arenas, including but not limited to financing options.

## **Appendix B.**

### **Experts List**

#### **Description of Working Group**

The working group represents leaders from nongovernmental organizations, research institutes, multilateral and bilateral development agencies, and advocacy groups from the North and South. Some of the experts are familiar with existing population and climate research, while others bring specific expertise on climate policy and financing, unmet need for family planning, and family planning policy and financing initiatives.

The individuals participated on their own behalf, and their personal opinions, which are reflected in this brief, are not representative of their respective organizations.

- **Ndola Prata**, Bixby Center for Population, Health, and Sustainability
- **Abigail Jones**, Climate Advisers
- **Kristie Ebi**, ESS, LLC
- **Karen Hardee**, Futures Group
- **Peter Belden**, Hewlett Foundation
- **Ana Maria Majano**, Latin American Center for Competitiveness and Sustainable Development
- **Leo Bryant**, Marie Stopes International
- **Negash Teklu**, PHE Ethiopia Consortium
- **Clive Mutunga**, Population Action International (now at USAID)
- **Karen Newman**, Population and Sustainability Network
- **Suruchi Bhadwal**, The Energy and Resources Institute
- **Duncan Marsh**, The Nature Conservancy
- **Keya Chatterjee**, World Wildlife Fund

#### **Working Group Process**

Working group meetings were established as a collaborative open space for facilitated dialogue, beginning with presentations of background papers, developing consensus on objectives, agreeing on the process for arriving at the policy proposal, and examining the concepts and data on unmet need and unintended pregnancy to assure that all participants understood the concepts and used a common language. The group framed family planning-climate connections from a woman-centered and rights-based approach in order to avoid language related to population growth or reducing fertility that research has shown is less amenable to environmental and health audiences, and developed a set of agreed upon guiding principles for the discussion.

The group reviewed and discussed working papers and research to better understand population and climate connections and identify different pathways by which strategies for meeting unmet need for family planning and reducing unintended pregnancies could

enter into dialogue on climate change compatible development, assessing both mitigation and adaptation.

Working group participants discussed policy options, specifically focusing on the different policy options and actions, the impacts of a possible policy change, the means or levers for achieving policy change, and the challenges to and/or political will for change.

From there, PRB and Worldwatch worked in partnership on an initial draft of the policy proposal, and begin identifying allies and champions outside of the working group for the policy options.

Finally, the working group was presented with a final draft of the policy proposal and offered input. PRB and Worldwatch developed a communications and dissemination strategy for the policy proposal and a shorter brief. Working group members were encouraged to identify and participate in opportunities for dissemination around existing climate and family planning international conferences, as well as organize country-level dissemination events.

## References

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- <sup>1</sup> Brian C. O'Neill et al., "Global Demographic Trends and Future Carbon Emissions," *Proceedings of the National Academy of Sciences* 107, no. 41 (2010): 17521-6.
- <sup>2</sup> Clive Mutunga and Karen Hardee, "Strengthening the Link Between Climate Change Adaptation and National Development Plans: Lessons from the Case of Population in National Adaptation Programmes of Action (NAPAs)," *Mitigation and Adaptation Strategies for Global Change* 15, no. 2 (2010).
- <sup>3</sup> Scott Moreland, Ellen Smith, and Suneeta Sharma, *World Population Prospects and Unmet Need for Family Planning* (Washington, DC: Futures Group, 2010).
- <sup>4</sup> Tom Mitchell and Simon Maxwell, "Defining Climate Compatible Development," Climate & Development Knowledge Network policy brief Nov. 2010, accessed at [http://cdkn.org/wp-content/uploads/2012/10/CDKN-CCD-Planning\\_english.pdf](http://cdkn.org/wp-content/uploads/2012/10/CDKN-CCD-Planning_english.pdf), on June 25, 2015.
- <sup>5</sup> Moreland, Smith, and Sharma, *World Population Prospects*; estimation includes 99 developing countries with populations over 1 million (except China) plus the United States; and Brian C. O'Neill et al., "Global Demographic Trends and Future Carbon Emissions."
- <sup>6</sup> Kirk R. Smith, et al., "Human Health: Impacts, Adaptation, and Co-Benefits," in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* ed. C.B. Field, et al. (Cambridge: Cambridge University Press, 2014).
- <sup>7</sup> Shea O. Rutstein, "Further Evidence of the Effects of Preceding Birth Intervals on Neonatal, Infant, and Under-Five-Years Mortality and Nutritional Status in Developing Countries: Evidence From the Demographic and Health Survey," *DHS Working Papers Series* 41 (Calverton, MD: Macro International, 2008); Shareen Joshi and T. Paul Schultz, "Family Planning as an Investment in Development: Evaluation of a Program's Consequences in Matlab, Bangladesh," *Center Discussion Paper* no. 951 (New Haven, Conn: Yale University Economic Growth Center, 2007); and Cynthia Lloyd, *New Lessons—The Power of Educating Adolescent Girls: A Girl's Count Report on Adolescent Girls* (New York: Population Council, 2009).
- <sup>8</sup> David Wheeler and Dan Hammer, "The Economics of Population Policy for Carbon Emissions Reduction in Developing Countries," working paper 229 (Washington, DC: Center for Global Development, 2010).
- <sup>9</sup> Nancy Birdsall, "Another Look at Population and Global Warming," *Policy Research Papers* 1020 (Washington, DC: World Bank, 1992).
- <sup>10</sup> O'Neill et al., "Global Demographic Trends and Future Emissions."
- <sup>11</sup> Scott Moreland and Ellen Smith, *Modeling Climate Change, Food Security, and Population: Pilot-Testing the Model in Ethiopia* (Washington, DC: Futures Group, 2012).
- <sup>12</sup> Leo Bryant et al., "Climate Change: Least-Developed Countries Define the Agenda," *Bulletin of the World Organization*, 87 (Geneva: World Health Organization (WHO), 2009); and Mutunga and Hardee, "Strengthening the Link Between Climate Change Adaptation and National Development Plans."
- <sup>13</sup> Kimberly Rovin, Karen Hardee and Aklilu Kidanu, "Linking Population, Fertility, and Family Planning With Adaptation to Climate Change: Perspectives From Ethiopia," *African Journal of Reproductive Health*, 17, no. 3 (2013).
- <sup>14</sup> African Institute for Development Policy (AFIDEP) and Population Action International (PAI), "Population Dynamics, Climate Change and Sustainable Development in Malawi" (Nairobi: AFIDEP, 2012); AFIDEP and PAI, "Population, Climate Change, and Sustainable Development in Kenya" (Nairobi: AFIDEP, 2012).
- <sup>15</sup> Rutstein, "Further Evidence of the Effects of Preceding Birth Intervals on Neonatal, Infant, and Under-Five-Years Mortality and Nutritional Status in Developing Countries."
- <sup>16</sup> Gustavo Angeles, David Guilkey, and Thomas Mroz, "The Effects of Education and Family Planning Programs on Fertility in Indonesia," *Economic Development and Cultural Change* 54, no. 1 (2005): 165-201.
- <sup>17</sup> Joshi and Schultz, "Family Planning as an Investment in Development."

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<sup>18</sup> Government of Bangladesh, Ministry of the Environment and Forests, *National Adaptation Programme of Action*, 2005, as cited in Leo Bryant et al., "Climate Change and Family Planning: Least-Developed Countries Define the Agenda," *Bulletin of the World Health Organization* 87, no. 11 (2009): 852-7.

<sup>19</sup> Leo Bryant et al., "Climate Change and Family Planning."

<sup>20</sup> Mutunga and Hardee, "Strengthening the Link Between Climate Change Adaptation and National Development Plans."

<sup>21</sup> Brian C. O'Neill et al., "A New Scenario Framework for Climate Change Research: The Concept of Shared Socioeconomic Pathways," *Climatic Change* 122 (2014): 387-400.

<sup>22</sup> *The Demography of Adaptation to Climate Change* ed. George Martine and Daniel Schensul (New York: UNFPA, Institute for Environment and Development, and El Colegio de México, 2013).

<sup>23</sup> Ding Ding et al., "Support for Climate Policy and Societal Action Are Linked to Perceptions About Scientific Agreement," *Nature Climate Change* 1 (2011): 462-6.

<sup>24</sup> Friends of UNFPA, "Sharing and Sustaining the Earth's Resources," accessed at [www.americansforunfpa.org/netcommunity/document.doc?id=210](http://www.americansforunfpa.org/netcommunity/document.doc?id=210), on June 25, 2015.

<sup>25</sup> Kim Lovell, "Pop at COP: Population and Family Planning at the UN Climate Negotiations," accessed at [www.newsecuritybeat.org/2012/02/pop-at-cop-population-and-family-planning-at-the-un-climate-negotiations/](http://www.newsecuritybeat.org/2012/02/pop-at-cop-population-and-family-planning-at-the-un-climate-negotiations/), on June 25, 2015.

<sup>26</sup> Organization for Economic Cooperation and Development (OECD), "OECD Stat Extracts: ODA by Sector," accessed at [www.oecd-ilibrary.org/development/data/oecd-international-development-statistics/official-bilateral-commitments-by-sector\\_data-00073-en](http://www.oecd-ilibrary.org/development/data/oecd-international-development-statistics/official-bilateral-commitments-by-sector_data-00073-en), on June 25, 2015; and World Bank, "Monitoring Climate Finance and ODA" (2010), accessed at [www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/07/13/000333038\\_20100713013911/Rendered/PDF/554720WP0D1CC010Box349454B01PUBLIC1.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/07/13/000333038_20100713013911/Rendered/PDF/554720WP0D1CC010Box349454B01PUBLIC1.pdf), on June 25, 2015.

<sup>27</sup> Joseph Chamie and Barry Mirkin, "Climate Change and World Population: Still Avoiding Each Other," accessed at <http://passblue.com/2014/09/16/climate-change-and-world-population-still-avoiding-each-other/>, on Sept. 16, 2014.