



## Population Dynamics and Fragile States: A PSN Briefing Paper

April 2012

### Key Points:

- **Fragile states are increasingly causing concern: the inability of certain states to fulfil their fundamental tasks of ensuring safety, providing basic services and managing public resources threatens economic and social stability and challenges development efforts.**
- **The interaction of factors that contribute to the fragility of states is complex and context-specific, but frequently encompasses political, socio-economic and environmental factors, including population dynamics, environmental degradation and resource scarcity, and inequalities.**
- **Population pressure on resources such as land or water and basic services, high levels of unemployment among predominantly young populations, and rapid urbanisation are among the demographic elements that have contributed to conflict in developing countries since the 1990s.**
- **Environmental degradation, climate change and scarcity of natural resources, can precipitate conflict, especially when combined with rapid population growth.**
- **Addressing unmet demand for voluntary family planning and sustainable environmental management should be prioritised to ease demographic and environmental pressures contributing to conflict.**

### Introduction

The fragility of a state represents a considerable challenge to many developing countries, particularly those in sub-Saharan Africa. Although the concept of a ‘fragile state’ is not easily defined, its significance in relation to international security as well as development has gained increasing attention.<sup>1</sup>

Although there is no single definition of a ‘fragile state’, several organisations (including OECD and DFID) have similar working definitions. The UK Department for International Development (DFID) has a working definition of fragile states: those “*where the government cannot or will not deliver core functions to its people.*”<sup>2</sup> Functions include territorial control, safety and security, capacity to manage public resources, delivery of basic services, and the capability to protect and support the poor in sustaining themselves. The definition of fragile states is not limited to those directly affected by conflict, but extends to weak states which lack the capacity to operate effectively.

State failure is a similar concept developed by the Washington-based Fund for Peace in association with Foreign Policy magazine, based on an analysis which explains that “a state that is failing has several attributes. One of the most common is the loss of physical control of its territory or a monopoly on the

<sup>1</sup> Woodward, S. L. (2004) *Fragile states: Exploring the concept*, Paper presented to the “States and Security” Learning Group at the Peace and Social Justice meeting of the Ford Foundation, Rio de Janeiro, Brazil, 29 November 2004. Retrieved 25 May 2010 from: [http://www.statesandsecurity.org/pdfs/fragile\\_states\\_rio.pdf](http://www.statesandsecurity.org/pdfs/fragile_states_rio.pdf)

<sup>2</sup> DfID (2010) *Fragile States*. Retrieved 17 May 2010 from: <http://www.dfid.gov.uk/About-DFID/Finance-and-performance/Making-DFIDs-Aid-more-effective/How-we-give-aid/Fragile-states/>



legitimate use of force. Other attributes of state failure include the erosion of legitimate authority to make collective decisions, an inability to provide reasonable public services, and the inability to interact with other states as a full member of the international community". The annual Failed States Index (see Box 2) is the product of an analysis of the following 12 indicators: Demographic Pressures, Refugees/IDPs, Group Grievance, Human Flight, Uneven Development, Economic Decline, Delegitimization of the State, Public Services, Human Rights, Security Apparatus, Factionalized Elites, and External Intervention.<sup>3</sup>

Population growth and the resulting pressures on natural or public resources can intensify social, economic, and environmental concerns in all countries.<sup>4</sup> In less developed countries, with fragile governments and weak institutions, population pressures can be particularly severe and challenging. Such states already lack the capacity to provide basic services and ensure stability. In such contexts, population-related variables such as a young age structure, rapid population growth and high population density, can exacerbate the already poor institutional and economic conditions for development.

Population dynamics can put pressure on natural resources, basic services, infrastructure and public financial resources. Increased competition over resources, and limited access to and quality of basic services can result in increasing social inequality and deteriorating socioeconomic conditions. Failure at national level to address these issues effectively has contributed to recent violent conflict in developing regions.

Many of the violent outbreaks and armed conflicts since the 1990s have been civil conflicts in developing countries with low human development indicators, fragile economic performance, and considerable social inequalities. Rapid population growth is generally associated with these same characteristics, and although population dynamics do not cause conflict directly, they have an important bearing on factors that do (e.g. inequality, poverty, access to education/healthcare).

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<sup>3</sup>Foreign Policy and The Fund for Peace (2012) *The Failed State Index 2011*. Retrieved 17 January 2012 at: [http://www.foreignpolicy.com/articles/2011/06/17/2011\\_failed\\_states\\_index\\_interactive\\_map\\_and\\_rankings](http://www.foreignpolicy.com/articles/2011/06/17/2011_failed_states_index_interactive_map_and_rankings)

<sup>4</sup> For further information about the links between population growth, poverty and the environment, see: Population and Sustainability Network (2010) *Population Dynamics and Poverty Reduction: A PSN Briefing Paper* and Population and Sustainability Network (2010) *Population Dynamics and Climate Change: A PSN Briefing Paper*. London, UK: PSN. Both available at: <http://www.populationandsustainability.org/293/articles-and-reports/articles-and-reports.html>



### Box 1: Key Facts on Fragile States and Population Dynamics

- One in three of the world's poor live in fragile states, where achieving the Millennium Development Goals (MDGs) is extremely unlikely.<sup>5</sup>
- Included among the top 20 countries in the 2011 Failed States Index are countries with some of the highest population growth rates and total fertility rates (TFR)<sup>6</sup> in the world. Seven of the top 20 countries in the Failed States Index (Afghanistan, Chad, Dem. Rep. Of Congo, Niger, Nigeria, Somalia and Yemen), are also among the 20 countries with the highest TFR, and Iraq, Niger and Yemen are also among the 20 countries with the highest population growth rates.<sup>7</sup>
- The average TFR and population growth rate (between 2005 and 2010) of the top 20 countries in the 2011 Fragile States Index is higher than the average for less developed regions: at 5.13 and 2.2% respectively, in comparison with 2.68 and 1.33% for less developed regions.<sup>8</sup>
- In 13 of the top 20 countries in the 2011 Failed States Index the population is set to double within 30 years or less.<sup>9</sup>
- Fragile states are more likely to have disproportionately young populations.<sup>10</sup>
- Fragile states tend to have mortality rates that are a third higher than other comparable low-income countries, especially infant and maternal mortality levels. Similarly, life expectancy is much lower, by 12 years on average.<sup>11</sup>

### Fragile states: challenges for security and development

Understanding and addressing state fragility has become a priority in the international security agenda and increasingly in development. Severe population and environmental pressures threaten state capacity and authority by placing increasing demand on declining natural resources and escalating demands for government spending. As the state weakens, its ability to manage social conflict becomes increasingly limited, as widespread grievances arise and political groups compete, the potential for violence escalates.<sup>12</sup>

Fragility in states slows progress. In countries with high population growth, human development indicators tend to be low and poverty levels high.<sup>13</sup> Empirical research has shown high risk of conflict to be strongly correlated with low or stagnating income, high reliance on natural resources, and other demographic factors such as high population density.<sup>14</sup> For this reason, rising demographic pressures are used as a social indicator of conflict risk in numerous early warning systems and indicators of state capacity. For instance, as identified earlier, the influential Failed State Index (see Box 2) designed by the US 'Fund for Peace' and *Foreign Policy* publication as well as the Carleton University Country Indicators

<sup>5</sup> DfID (2010) *Fragile States*. Retrieved 17 May 2010 from: <http://www.dfid.gov.uk/About-DFID/Finance-and-performance/Making-DFIDs-Aid-more-effective/How-we-give-aid/Fragile-states/>

<sup>6</sup> The Total Fertility Rate (TFR) refers to the average number of children a woman has in her lifetime

<sup>7</sup> Analysis undertaken using data from: UN Population Division (2011) *World Population Prospects: 2010 Revision*. New York: UN DESA and Foreign Policy and The Fund for Peace (2012) *The Failed State Index 2011*. Retrieved 17 January 2012 at:

[http://www.foreignpolicy.com/articles/2011/06/17/2011\\_failed\\_states\\_index\\_interactive\\_map\\_and\\_rankings](http://www.foreignpolicy.com/articles/2011/06/17/2011_failed_states_index_interactive_map_and_rankings)

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> WorldWatch Institute (2005) *State of the World 2005 Trends and Facts – Population and Security*. Retrieved 27 October 2010 from: <http://www.worldwatch.org/node/66>

<sup>11</sup> World Bank (2006) *Engaging with Fragile States: An Independent Evaluation Group Review of World Bank Support to Low-Income Countries Under Stress*. Washington, DC: The World Bank.

<sup>12</sup> Maxwell, J.W. and R. Reuveny (2000) "Resource Scarcity and Conflict in Developing Countries" *Journal of Peace Research*, 37 (3).

<sup>13</sup> UNFPA (2009) *Fact Sheet: Population Growth and Poverty*. New York, NY: United Nations Population Fund.

<sup>14</sup> Bodea C. and I.A. Elbadawi (2007) "Riots, Coups and Civil War", *Policy Research Working Paper*, No. 4397. Washington, DC: The World Bank.



of Foreign Policy use demographic pressure as structural variables that affect the likelihood of conflict.<sup>15</sup> Addressing population issues can therefore be a means of reducing stress on states, thereby reducing grievances, competition for resources, and other factors which can lead to instability.

### Box 2: Fragile States in 2011

#### The Failed State Index 2011 (Foreign Policy and The Fund for Peace)<sup>16</sup>

Top 20, ranked in order of severity\*

- |                            |                   |
|----------------------------|-------------------|
| 1. Somalia                 | 11. Guinea        |
| 2. Chad                    | 12. Pakistan      |
| 3. Sudan                   | 13. Yemen         |
| 4. Dem. Rep of Congo       | 14. Nigeria       |
| 5. Haiti                   | 15. Niger         |
| 6. Zimbabwe                | 16. Kenya         |
| 7. Afghanistan             | 17. Burundi       |
| 8. Central Africa Republic | 18. Burma         |
| 9. Iraq                    | 18. Guinea-Bissau |
| 10. Côte d'Ivoire          | 20. Ethiopia      |

\*Note: The Failed State Index does not seek to define specific countries as 'failed states', the purpose is to identify pressures on states associated with fragility, which put them at risk of instability.

While conflicts are complex and context-specific,<sup>17</sup> certain factors have been identified as key causes. These include economic motivations,<sup>18</sup> grievances and inequalities,<sup>19</sup> as well as resource and environmental scarcity among other factors (e.g. discrimination, political/regime leadership, ideology). Population dynamics and pressures in developing countries are linked to a number of these. A young population structure can increase the likelihood of violent conflict,<sup>20</sup> population-related resource scarcity can lead to state fragility and conflict,<sup>21</sup> and grievances that underlie the outbreak of social unrest may be aggravated by demographic and environmental stress. Furthermore, urbanisation and migration contribute to increasing population density in urban areas and can put additional strain on services, infrastructure and the labour market.

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<sup>15</sup> Wulf H. and T. Diebel (2009) "Conflict Early Warning and Response Mechanisms: Tools for Enhancing the Effectiveness of Regional Organisations? A Comparative Study of AU, ECOWAS, IGAD, ASEAN/ARF, PIF". *Crisis States Research Centre Working Paper, Regional and Global Axes of Conflict*, No. 49. London, UK: London School of Economics.

<sup>16</sup> Foreign Policy and The Fund for Peace (2012) *The Failed State Index 2011*. Retrieved 17 January 2012 at:

[http://www.foreignpolicy.com/articles/2011/06/17/2011\\_failed\\_states\\_index\\_interactive\\_map\\_and\\_rankings](http://www.foreignpolicy.com/articles/2011/06/17/2011_failed_states_index_interactive_map_and_rankings)

<sup>17</sup> For more information on causes and characteristics of civil war and violence in developing countries see Cramer, C. (2006) *Civil War is Not a Stupid Thing: Accounting for Violence in Developing Countries*, London: Hurst and Company.

<sup>18</sup> Collier, P. and A. Hoeffler (2004). "Greed and Grievance in Civil War." *Oxford Economic Papers*, 56, pp. 563–95.

<sup>19</sup> Stewart, F. (2008) "Horizontal Inequalities and Conflict: An Introduction and some Hypotheses" in Stewart, F. (ed), *Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies*, London: Palgrave Macmillan.

<sup>20</sup> Collier, P. and A. Hoeffler (2004). "Greed and Grievance in Civil War." *Oxford Economic Papers*, 56, pp. 563–95

<sup>21</sup> Tir, J. and P.F. Diehl (1998) "Demographic Pressure and Interstate Conflict: Linking Population Growth and Density to Militarized Disputes and Wars, 1939-89" *Journal of Peace Research*, 35, pp. 319.

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<sup>24</sup> Stewart, F. (2008) "Horizontal Inequalities and Conflict: An Introduction and some Hypotheses" in Stewart, F. (ed), *Horizontal Inequalities and Conflict: Understanding Group Violence in Multiethnic Societies*, London: Palgrave Macmillan.



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### **Box 3: Case Study: Somalia - An illustration of fragility exacerbated by population pressures**

In 1991, the oppressive government of General Siyad Barre collapsed after the dictator was overthrown. Since then the country has not had a functioning government and Somalia today is characterised by rivalling armed groups and warlords in numerous areas, rejecting a very weak central government. Instability has spilled over into neighbouring countries, and groups from these countries are influencing the dynamics of the conflict today. Institutions do not function effectively, the rule of law is absent, and human development indicators are low.

Half of the population in Somalia is not expected to live beyond the age of 60, a third is not expected to live up to the age of 40, 36% of children under the age of five are underweight and 71% of the population does not have access to adequate drinking water. Maternal and child health indicators in Somalia are amongst the poorest in the world.<sup>27</sup> Reproductive health services are extremely sparse and there is a vast unmet need for contraception; Somali women face a lifetime risk of maternal mortality of 1 in 12.<sup>28</sup>

The total fertility rate (TFR), (the average number of births per woman in her lifetime) is high at 6.4 and has barely changed since the early 1980s. Population growth is high at 2.2% and approximately 45% of the population is under the age of 15.<sup>29</sup> A prominent 'youth bulge' in the population age structure and the lack of employment prospects fuels recruitment of youths to insurgency groups.<sup>30</sup> In late 2008 there were 1.3 million internally displaced people, and in 2007 close to half a million refugees.<sup>31</sup> Recent droughts have left up to 70% of the population in the south in need of food assistance.<sup>32</sup> The impact of trends such as droughts, chronic food shortages and famine, high risk of disease, and environmental degradation, including widespread deforestation and soil erosion which are all severe in Somalia is intensified by strong population pressures.<sup>33</sup>

### **The Youth Bulge**

Rapid population growth in many developing countries tends to coincide with high poverty levels as well as high birth and death rates. Experience from the 1970s, '80s and '90s shows that countries that are in the later stages of demographic transition are less likely to experience civil conflict than those in the earlier stages of demographic transition.<sup>34</sup> Countries still in the early or middle phases of demographic transition have disproportionately young populations. A young population combined with poor economic prospects, particularly in rural areas, rapid urbanisation, and high levels of un- and underemployment can pose a serious social risk. In most of Sub-Saharan Africa, with high population growth, disproportionately young populations and accelerating urbanisation, the labour market tends

<sup>25</sup> Collier, P. and A. Hoeffler (2004). "Greed and Grievance in Civil War." *Oxford Economic Papers*, 56, pp. 563–95

<sup>26</sup> Tir, J. and P.F. Diehl (1998) "Demographic Pressure and Interstate Conflict: Linking Population Growth and Density to Militarized Disputes and Wars, 1939-89" *Journal of Peace Research*, 35, pp. 319.

<sup>27</sup> UNFPA (2010) *State of the World Population 2010: From Conflict and Crisis to Renewal: Generation of Change*. NY: UNFPA.

<sup>28</sup> UNICEF (2010) *Somalia Statistics*. Retrieved 29 October 2010 from: [http://www.unicef.org/infobycountry/somalia\\_statistics.html](http://www.unicef.org/infobycountry/somalia_statistics.html)

<sup>29</sup> UN Population Division (2011) *World Population Prospects: The 2010 Revision*. New York: UN DESA.

<sup>30</sup> Collier, P. and A. Hoeffler (2004). "Greed and Grievance in Civil War." *Oxford Economic Papers*, 56, pp. 563–95.

<sup>31</sup> UNDP (2009) *Human Development Report*. New York, NY: United Nations Development Programme.

<sup>32</sup> World Food Programme (2010) *"Somalia" Country Profile*. Retrieved 26 May 2010 from: <http://www.wfp.org/countries/somalia>

<sup>33</sup> Population Connection (2009) *Diffusing the Population "Bomb": Demography and Security*. Retrieved 26 October 2010 from: <http://www.populationconnection.org/site/DocServer/Security2010.pdf?docID=1581>

<sup>34</sup> Cincotta, R., R. Engelman, and D. Anastasion (2003) *The Security Demographic*, Washington DC: Population Action International.



to be saturated and is unable to absorb the demand for employment.<sup>35</sup> Many young adults migrate to or choose to stay in urban areas to find work and more opportunities. The reality, especially in sub-Saharan Africa, is that most young people work in the informal sector, are underemployed and competition for jobs is high. As young men are expected to earn a living to support a family, such conditions are discouraging and are aggravated by marginalisation and systematic exclusion of urban youth (e.g. being unemployed, uneducated, living in a slum, etc)<sup>36</sup>. Young women also face challenges, as they encounter more difficulty finding employment and poverty can expose them to domestic violence, prostitution and sexually transmitted diseases, including HIV/AIDS.<sup>37</sup>

Some studies have shown that countries with disproportionately young populations or a 'youth bulge', as is the case in the poorest and more fragile countries today, are more likely to face armed conflict.<sup>38</sup> A 'youth bulge', combined with high unemployment and poverty, can present a considerable risk to stability.<sup>39</sup> In certain countries, for example, Sierra Leone and arguably Liberia, these characteristics contributed to violent conflict, and facilitated recruitment to rebel groups.<sup>40</sup> According to Professor D. Keen, "the lack of economic progress, compounded by bad governance, had generated a frustrated generation of youths no longer controlled by traditional social ties and available for organized violence."<sup>41</sup> In both countries, the violence perpetrated is seen as an expression of the alienation of young people because of failing education systems, lack of opportunities in rural areas and insufficient employment.<sup>42</sup> In the case of Liberia, this resentment by young people is widely seen as one root cause of the conflict.<sup>43</sup> In the case of the most populous country of Africa, Nigeria, there is significant low-intensity conflict. In the Niger Delta region, the level of education is the most significant in predicting the willingness of youth to engage in violence, followed by marginal increases in income.<sup>44</sup>

Because of the youth bulge in many poor developing countries, there is a fear of the fragile state as a breeding ground for discontented youths, terrorism and other grievances that have the potential to spur violent conflict and then spill-over into neighbouring regions. In recent years, the USA has provided training and security assistance to certain countries in the Sahel (through the Pan Sahel Initiative which grew into the Trans Sahara Counter-Terrorism Initiative), as it is believed that "Islamist terrorists continue to seek to create safe havens and support networks in the remote expanses of the Sahel, as well as the public affiliation of some terrorist groups with al-Qaida" according to US Department of State.<sup>45</sup>

Demographic factors have played their part in recent uprisings in North Africa and the Middle East, amplifying a combination of frustrations with corruption, the desire for democratization, and better economic opportunities. In Egypt, for instance, unemployment and constraints on the labour market represent a significant economic and social problem especially for its youth. According to economist Sassanpour, "job creation is one of the most important challenges facing Egypt today. Demography is

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<sup>35</sup> UNECA (2005) "Ensuring decent employment for Africa's poor: key challenges" in *Economic Report on Africa 2005- Meeting the Challenges of Unemployment and Poverty in Africa*. Addis Ababa: United Nations, Economic Commission for Africa.

<sup>36</sup> Sommers, M. (2010) "Urban youth in Africa" *Urbanisation and Environment*, 22, p. 317

<sup>37</sup> Ibid.

<sup>38</sup> Cincotta, R., R. Engelman, and D. Anastasion (2003) *The Security Demographic*, Washington DC: Population Action International.

<sup>39</sup> Goldstone, G (2002) "Population and Security: How Demographic Change Can Lead to Violent Conflict". *Journal of International Affairs*, 56, 1, pp.4-5.

<sup>40</sup> Keen, D. (2005) *Conflict and Collusion in Sierra Leone*. London, UK: James Currey.

<sup>41</sup> Keen, D. (2003) "Greedy Elites, Dwindling Resources, Alienated Youths: The Anatomy of Protracted Violence in Sierra Leone" *International Politics and Society*, no. 2.

<sup>42</sup> Munive, J. (2010) "The army of 'unemployed' young people" *Young*, 18, p.321.

<sup>43</sup> Ibid. The other root cause that is widely accepted is economic incentives and the opportunity for personal wealth accumulation, generally on the part of leading politicians and army officials.

<sup>44</sup> Oyefusi, A. (2010) "Oil, Youths and Civil Unrest in Nigeria's Delta – The role of Schooling, Educational Attainments, Earnings and Unemployment" *Conflict Management and Peace Science*, 27 (4).

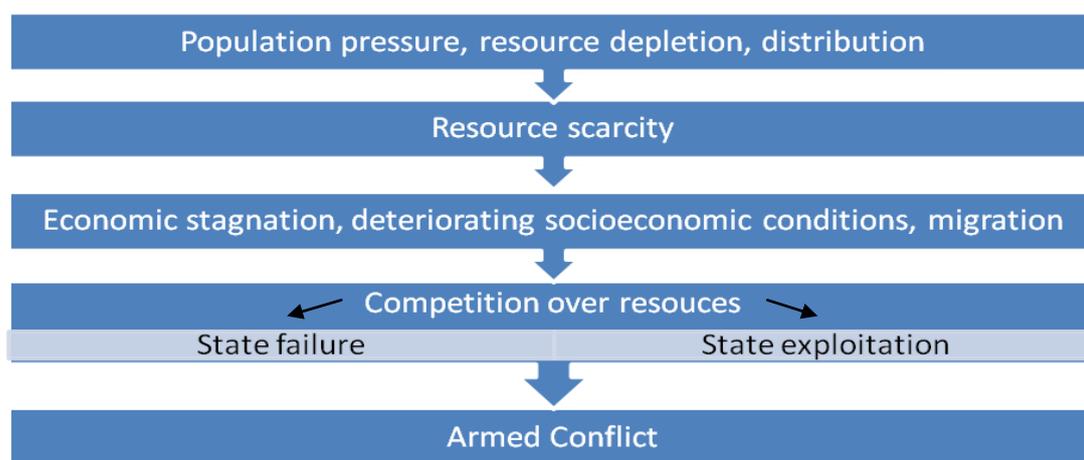
<sup>45</sup> US Department of State (2006) "Chapter 5 – Country reports: Africa overview" *Country Reports on Terrorism*. Retrieved 4 February 2011 from: <http://www.state.gov/s/ct/rls/crt/2005/64335.htm>



part of the problem. [...] Egypt has a young population and a large number of young people are entering the job market each year searching for first jobs.”<sup>46</sup> Egypt is not the only country affected by this demographic problem, rather it is a “regional phenomenon”, as were the uprisings in early 2011.

### Resource scarcity and conflict

The competition over scarce natural resources that can result from the combination of population pressures, environmental degradation and poverty, can cause tension which can lead to conflict and violence. This idea is embodied in the concept ‘demographic and environmental stress’ (DES). DES is seen as a “composite independent variable that, through two different path ways (‘state failure’ and ‘state exploitation’), can lead to violence.”<sup>47</sup>



Source : Urdal, H. (2008) “The resource scarcity model” from *Demographic Aspects of Climate Change, Environmental Degradation and Armed Conflict*, Presentation to the United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development, United Nations, New York 21-23 January 2008.

Economic decline due to insufficient resources may cause tension, migration due to resource scarcity may cause conflict in new regions of settlement, and resource scarcity may also erode public confidence in the state and result in social unrest, and in an already unstable setting may exacerbate political tensions while eroding institutions.<sup>48</sup>

Countries with a low availability of cropland and/or renewable freshwater are considered to be 1.5 times more likely to experience civil conflict than others.<sup>49</sup> There has been extensive documentation of frequent violent clashes between nomadic herders and sedentary pastoralists regarding land and water in West and East Africa, (although this is not a new phenomenon).<sup>50</sup> Disputes and violent conflict between farmers over land are increasingly frequent as availability of arable land decreases in the face

<sup>46</sup> Hassan, M. and C. Sassanpour (2008) “Labour Market Pressures in Egypt: Why Is the Unemployment Rate so Stubbornly High?” Paper presented at the International Conference on ‘The Unemployment Crisis in the Arab Countries’, 17-18 March 2008, Cairo – Egypt.

<sup>47</sup> Benjaminsen, T.A. (2008) “Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali” *Journal of Peace Research*, 45.

<sup>48</sup> Maxwell, J.W. and R. Reuveny (2000) “Resource Scarcity and Conflict in Developing Countries” *Journal of Peace Research*, 37 (3).

<sup>49</sup> Cincotta, R., R. Engelman, and D. Anastasion (2003) *The Security Demographic*, Washington DC: Population Action International.

<sup>50</sup> Blench, R. (1996) “Aspects of Resource Conflict in Semi-Arid West-Africa”, *Natural Resource Perspectives*, No. 16. London: Overseas Development Institute; Hussein, K., J. Sumburg, and D. Seddon (2000) “Increasing violent conflict between herders and farmers in Africa: claims and evidence.” *Development policy review*, No. 17, pp. 397-418.



of various factors including population increase (e.g. Rwanda).<sup>51</sup> This is especially the case in the Sahel region, where population growth, poverty and resource scarcity are among the highest in the world. Environmental degradation and DES played a significant role in the Tuareg rebellion in Mali during 1990-1996, which was conflict over resources following repeated droughts and periods of forced migration for the nomadic Tuareg.<sup>52</sup> In several countries facing severe poverty as well as demographic and environmental strain, resource scarcity has contributed to violence and political uprising (e.g. civil war in Sudan, clashes in Kenya, genocide in Rwanda).<sup>53</sup>

#### **Box 4: Case Study: Darfur, Sudan - environmental scarcity, population pressures and violence**

Sudan has been characterised by armed conflict and civil unrest for more than half a century. In Darfur in West Sudan, increasing demographic pressure, recurrent drought, environmental scarcity and political marginalisation have combined to fuel a situation of lawlessness which between 2003 and 2008 led to over 300,000 deaths and the displacement of over two million people.<sup>54</sup> This situation continues today.

The causes of conflict in Darfur are multiple and complex, but underlying environmental factors including climate variability, water scarcity and the decline of fertile land are greatly significant.<sup>55</sup> Overgrazing and deforestation has caused soil erosion, heightened by climate change and declines in rainfall.<sup>56</sup> In northern Darfur, 75% of the population directly depend on natural resources for their livelihoods. Here recurring drought, increasing population density and growing demand for resources, under conditions of near anarchy have increased ethnic tensions and fostered violent competition for land and water between agriculturalists, nomads and pastoralists.<sup>57</sup>

Population dynamics in Sudan have greatly exacerbated environmental scarcity and heightened instability. Between 1950 and 2007 Sudan's population grew from 9 million to 39 million, and during the same period the number of livestock grazing in the North increased by 129 million.<sup>58</sup> Increasing population density in Darfur has intensified conflict over resources and environmental degradation. Faced with poverty and marginalisation, disempowered young men and pastoralist groups have been recruited by militias. Migration to Darfur of people displaced by civil war from Southern Sudan (now the separate nation of South Sudan since succession on 9 July 2011) further compounded the steady loss of water and fertile land and instability.<sup>59</sup> With the population of Sudan growing at a rate of 2.5% the population is set to double again within less than thirty years.<sup>60</sup>

### **Population Growth and Environmental Scarcity**

The past century has seen unprecedented economic development, population growth, and environmental scarcity. The effect of the combination of demographic pressure, environmental scarcity and violent conflict has been extensively researched and is well-established in the 'environmental security' literature. Environmental scarcity is similar to conflict scarcity but refers more specifically to

<sup>51</sup> Brown, L. (2009) *Plan B 4.0 – Mobilizing to Save Civilization*. London: W.W. Norton & Company.

<sup>52</sup> Benjaminsen, T.A. (2008) "Does Supply-Induced Scarcity Drive Violent Conflicts in the African Sahel? The Case of the Tuareg Rebellion in Northern Mali" *Journal of Peace Research*, 45.

<sup>53</sup> Theisen, O.M. "Blood and Soil? Resource Scarcity and Internal Armed Conflict Revisited" *Journal of Peace Research* 2008 45: 801

<sup>54</sup> UNEP (2009) *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*. Nairobi, Kenya: UNEP.

<sup>55</sup> UNEP(2007) *Sudan post-conflict environmental assessment*. Geneva: UNEP.

<sup>56</sup> UNEP (2009) *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*. Nairobi, Kenya: UNEP.

<sup>57</sup> UNEP (2009) *Ibid*.

<sup>58</sup> Population Connection (2009) *Diffusing the Population "Bomb": Demography and Security*. Retrieved 26 October 2010 from: <http://www.populationconnection.org/site/DocServer/Security2010.pdf?docID=1581>

<sup>59</sup> UNEP (2009) *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*. Nairobi, Kenya: UNEP.

<sup>60</sup> UN Population Division (2009) *World Population Prospects: 2008 Revision*. New York: UN DESA.



the declining availability of renewable resources such as freshwater, land and soil, which can arise from depletion or degradation of the resource, increased demand, and unequal degradation.<sup>61</sup>

Population growth causes natural resources such as land and water to shrink in relation to population, exerting pressure on the environment and causing degradation.<sup>62</sup> As human and economic activities are intensified to meet needs, a vicious cycle emerges. The environment is damaged as a result of pollution, overexploitation, overgrazing, over-fishing, the clearing of forests, desertification and soil erosion.<sup>63</sup> This then reduces land quality, agricultural productivity and the availability of arable productive farmland. Yields tend to become less dependable and food security and livelihoods are put at risk, exacerbating vulnerability to poverty. These conditions are then further exacerbated by population growth which tends to hinder capital formation through savings<sup>64</sup> and potential for improved productivity (with the acquisition of technology) in agriculture and industry.

Many fragile states are consistently struggling with a gap between food production and population growth and strongly rely on food aid, for example Somalia, Chad and the Central African Republic.<sup>65</sup> Poor countries are particularly vulnerable to this vicious cycle because they still have primarily agrarian economies, and are therefore dependent on natural resources for livelihoods.

In recent decades, technological advancement, including the Green Revolution, has supported increased agricultural yield, thereby helping to keep up with the demands of population growth, particularly in Asia. More recently however, it appears that these developments may be unsustainable, and with the associated intensive farming methods, including increased use of fertilisers (many of which are derived from fossil fuels) and irrigation, they may have contributed to environmental degradation.<sup>66</sup>

Environmental scarcity and conflict over resources is being exacerbated in many countries due to the impacts of climate change, to which countries with high population growth are often particularly vulnerable.<sup>67</sup> The harmful impacts of rapid population growth on development are multiplied in a situation of climate change.<sup>68</sup> Countries in the Sahel are considered to be some of the most vulnerable countries to climate change due to climate as well as land/soil management.<sup>69</sup> They are among the countries with the highest fertility and population growth rates, as well as the countries with the lowest Human Development Indexes (out of 169 countries, Mali is ranked 160<sup>th</sup>, Burkina Faso is 161<sup>st</sup>, Chad is 163<sup>rd</sup> and Niger is 167<sup>th</sup>).<sup>70</sup>

Simultaneously, degradation of the natural environment threatens biodiversity, ecosystems, and sustainability more generally. Since the mid-20th century the number of people living on fragile land of marginal productivity in developing countries has doubled to 1.3 billion.<sup>71</sup> The populations on fragile

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<sup>61</sup> Homer-Dixon, T.P. (1999) *Environment, Scarcity, and Violence*. Princeton, New Jersey: Princeton University Press.

<sup>62</sup> Ibid.

<sup>63</sup> Speidel J.J., D.C. Weiss, S.A. Ethelston, and S.M. Gilbert. (2009). "Population policies, programmes and the environment." *Philosophical Transactions of the Royal Society* 364: 3049-3062.

<sup>64</sup> Bloom, D.E., D. Canning and B. Graham (2003) "Longevity and Life-cycle Saving" *Scandinavian Journal of Economics*, 105(3).

Retrieved from:

[http://www.econ.berkeley.edu/~bgraham/Published/ScandinavianJournalOfEconomics\\_v105n3\\_03/BSG\\_ScandinavianJournalOfEconomics\\_v105n3\\_Sep03.pdf](http://www.econ.berkeley.edu/~bgraham/Published/ScandinavianJournalOfEconomics_v105n3_03/BSG_ScandinavianJournalOfEconomics_v105n3_Sep03.pdf)

<sup>65</sup> Kahl, C. H. (2006) *States, Scarcity, and Civil Strife in the Developing World*, Princeton University Press.

<sup>66</sup> FAO (2010) *The Green Revolution*. Retrieved 6 November 2010 from: <http://www.fao.org/kids/en/revolution.html>

<sup>67</sup> Stephenson, J., Newman, K and Mayhew, S (2010) "Population dynamics and climate change: what are the links?" *Journal of Public Health*, 32, 2, pp. 150-156.

<sup>68</sup> Ibid.

<sup>69</sup> Kandji, S.T., L. Verchot, J. Mackensen (2006) *Climate Change and Variability in the SahelRegion: Impact and Adaptation Strategies in the Agricultural Sector*. Nairobi: UNEP and ICRAF.

<sup>70</sup> UNDP (2010) *Human Development Index – 2010 Ranking*. New York, NY: The United Nations Development Programme. Retrieved 12 January 2011 from: <http://hdr.undp.org/en/statistics/>

<sup>71</sup> World Bank (2003) "Chapter 4: Improving Livelihoods on Fragile Lands" *World Development Report 2003*. Washington, DC: The World Bank.



land account for many of those living with less than \$1 USD a day.<sup>72</sup> As a result of rapid population growth and overcrowding, poor individuals often live in, or are forced to migrate to, the most ecologically fragile areas. These areas are unable to sustain high population densities and are vulnerable to degradation and in some cases conflict.<sup>73</sup>

### Poverty, grievances and conflict

One of the key drivers of state fragility is poverty (even though not every poor region is fragile),<sup>74</sup> and rapid population growth tends to worsen poverty. Poverty and state fragility interact in a dynamic manner, as the deterioration of one will negatively affect the other.<sup>75</sup> A state's inability to support widespread economic growth and implement poverty reducing strategies, generally done through functioning institutions, tends to result in economic decline and growing poverty. The social discontent resulting from pervasive poverty combined with few economic opportunities can trigger unrest, rioting and even violent conflict. Likewise, high levels of poverty, economic stagnation and social frustration tend to weaken institutions and the state.<sup>76</sup> An example is Haiti where poverty, inequality and limited opportunities generate frustration. Further, the "state institutions have only a limited capacity to manage conflicts, address grievances, and deter the violent potential that arises from these socioeconomic conditions", and it is further limited, according to a World Bank report, by its small revenue base and dependency on volatile aid.<sup>77</sup>

Out of twenty countries with the lowest human development rankings in 2002, sixteen were emerging from conflict or were still experiencing conflict.<sup>78</sup> In a state with weak institutions, there is a persistent lack of state infrastructure and capital to invest in human development. The increasing demands and grievances from the most deprived are likely to demand particular shifts in allocations of resources, such as land, spending and political reform.

### Urbanisation and Migration

The current rates of global urbanisation are unprecedented, and are especially significant in the developing world. In the less developed regions of the world in 1950 the urban population was 18%, this had increased to 45% in 2009, and is expected to reach 66% in 2050.<sup>79</sup> Urbanisation is part of a country's economic development and demographic transition. Today, in less developed countries this process is particularly rapid, and much of the world population growth projected to take place in the next 40 years will be urban population growth in developing countries.<sup>80</sup> This phenomenon is largely

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<sup>72</sup> Ibid.

<sup>73</sup> Brown, L. (2009) *Plan B 4.0 – Mobilizing to Save Civilization*. London: W.W. Norton & Company.

<sup>74</sup> Vallings, C. and Moreno-Torres, M. (2005) "Drivers of Fragility: What makes states fragile?" *PRDE Working Paper No.7*, London, UK: Department for International Development

<sup>75</sup> See: Chauvet, L and Collier, P (2004) "Development Effectiveness in Fragile States: Spillovers and Turnarounds", *Background Paper for Senior Level Forum on Fragile States*, January 2005; Vallings, C. and Moreno-Torres, M. (2005) "Drivers of Fragility: What makes states fragile?" *PRDE Working Paper No.7*, London, UK: Department for International Development; Przeworski, A., Alvarez, M., Cheibub, J. A and Limongi, F (2000) *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. New York: Cambridge University Press.

<sup>76</sup> Vallings, C. and Moreno-Torres, M. (2005) "Drivers of Fragility: What makes states fragile?" *PRDE Working Paper No.7*, London, UK: Department for International Development

<sup>77</sup> The World Bank (2006) "Social Resilience and State Fragility in Haiti" *A Country Social Analysis*, Report No. 36069-HT. Washington, DC: The World Bank.

<sup>78</sup> Picciotto R. (2007) "State Fragility and Human Security in Africa" Background paper for *Conflict Prevention and Development Cooperation in Africa: A Policy Workshop*. Retrieved 25 May 2010 from:

<http://www.wiltonpark.org.uk/documents/wp889/Picciotto%20-%20State%20Fragility%20Background%20Paper.pdf>

<sup>79</sup> UN DESA (2010). *World Urbanization Prospects: The 2009 Revision*. New York: UNDESA.

<sup>80</sup> Ibid.



explained by natural population increase and rural-urban migration. Limited economic opportunities in rural areas are encouraging rural populations, particularly youth, to migrate to urban centres, where capital, employment and wealth are concentrated.<sup>81</sup> New towns of all sizes, including megacities, are growing. In 1975 there were just three megacities (New York, Tokyo and Mexico City) whereas today there are 21, and the UN projects that there will be 29 by 2025, each with at least 10 million people.<sup>82</sup>

Rapid and unplanned urbanisation has resulted in insufficient and inadequate housing, the spread of slums, inadequate sanitation, high population density, unemployment and increased urban poverty in many developing countries. The combination of these factors has the potential to spur civil discontent and urban violence. Influxes of migrants from other areas can also contribute to social, and, sometimes, ethnic or religious tensions.<sup>83</sup> Rapid urbanisation, impoverished living conditions and social inequalities have led to urban violence, often manifesting as ethnic or religious violence, in developing countries including India, Pakistan, South Africa, and Nigeria. Migration flows resulting from conflict can also bring civil unrest to new areas and across borders. Such migration can give rise to new tensions. This is the case in Karachi, Pakistan, in areas inhabited by communities of refugees from Afghanistan.<sup>84</sup>

Migration can have strong implications for fragility. In Tanzania's Pangani river basin, urban migration and migration of pastoralists forced into more marginal lands has contributed to conflicts over water.<sup>85</sup> The large scale population movements that are expected to take place in the future as a result of climate change due to areas becoming increasingly inhospitable<sup>86</sup> are likely to pose further threats to stability. In fact, estimates of future "climate migrants" by 2050 are from 200 million to 1 billion people.<sup>87</sup>

### Key policy recommendations:

- **Integrated Policy:** Population dynamics, including population growth, urbanization, migration, etc need to be integrated into approaches to aid fragile states, in order to ease pressures on the state and demand for resources, and to promote environmental sustainability. Effectively responding to population pressures includes ensuring increased access to voluntary family planning programmes that respect and protect human rights. Integrated approaches must also encompass environmental strategies to promote sustainable and equitable management of natural resources.
- **Family Planning and Reproductive Health:** Provision of voluntary family planning and reproductive health services is a highly cost-effective way to address demographic pressures. There is a large unmet demand for these services, which would also reduce maternal and child mortality, significantly improve health outcomes, reduce environmental pressures and contribute to poverty alleviation at household and national levels. By preventing unplanned pregnancies, family planning eases demand for public services and for natural resources, thereby alleviating pressures on the state and other factors contributing to instability.
- **Poverty Alleviation:** Grievances resulting from poverty and social inequalities are frequently key factors underlying or triggering violent conflict. Strategies to alleviate poverty and address social

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<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> Kennedy, B (2001) *Environmental Scarcity and the Outbreak of Conflict*. Retrieved 26 October 2010 from: <http://www.prb.org/Articles/2001/EnvironmentalScarcityandtheOutbreakofConflict.aspx>

<sup>84</sup> Kennedy, B (2001) *Environmental Scarcity and the Outbreak of Conflict*. Retrieved 26 October 2010 from: <http://www.prb.org/Articles/2001/EnvironmentalScarcityandtheOutbreakofConflict.aspx>

<sup>85</sup> Mbonile, M J. (2005). *Population, Migration, and Water Conflicts in the Pangani River Basin, Tanzania*. Retrieved 28 November 2010 from: <http://www.wilsoncenter.org/topics/pubs/Mbonile12.pdf>

<sup>86</sup> Stephenson, J., Newman, N and Mayhew, S (2010) "Population dynamics and climate change: what are the links?" *Journal of Public Health*, 32, 2, pp. 150-156.

<sup>87</sup> Population Action International (2010) *Climate Change, Migration and Population Growth*. Retrieved 21 January 2011 from: [http://www.populationaction.org/Publications/Fact\\_Sheets/Climate\\_and\\_Migration/climatemigration.pdf](http://www.populationaction.org/Publications/Fact_Sheets/Climate_and_Migration/climatemigration.pdf)



inequalities have the potential to mitigate grievances that threaten both national and international security. Rapid population growth and high population density undermine poverty alleviation efforts. Incorporating voluntary family planning programmes within poverty reduction strategies maximises beneficial outcomes.

- **Environment:** Environmental pressures are strongly associated with population dynamics, including population growth and migration. Slowing population growth would reduce environmental degradation and contribute to sustainable use of natural resources such as land and water conservation. This would limit competition over resources, thereby decreasing potential social instability, particularly in fragile states.
- **Economic:** If population growth is slowed, fewer resources would be diverted into basic sustenance needed for a fast growing population and more would be available for investment in per capita output, productive employment, education, and healthcare.

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