



In the front line



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The drylands are on the front line of climate change, and they include the world's poorest and most vulnerable people. We are already seeing in them the harrowing effects of climate change on poverty, survival, health, hunger, human well-being — and on peace itself, because the heavily impacted drylands are among the most unstable parts of the world. The stretch from Senegal through to Afghanistan is a region of great vulnerability, poverty, and deprivation of basic needs — whether food and nutrition, access to health and veterinary care, safety for crops and livestock, or, of course, water. Instability is rising throughout this region: conflicts that are branded under the political headline of extremism, or political conflict, often have at their roots the challenges of desertification, increasing droughts, more unstable rainfall, many more failed harvests than in the past, and — in some regions — an inability to grow crops reliably any longer. The current famine in the Horn of Africa, which has left more than ten million people fighting for survival, is a vivid and harrowing demonstration of the perils of desertification and drylands instability.

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Population has also increased fourfold or more in such regions since the middle of the twentieth century. Climate change is hitting massive demographic pressures head on — an enormously threatening phenomenon. And yet these issues are not getting the level of global policy attention and response required. Even our standard and security approaches do not understand that underlying the surface manifestation of violence and conflict lies a much deeper and even more threatening danger — of ecological risk from climate change, demographic pressures, and many other pressures. Military engagement is not working, because such issues as hunger, livestock survival, and increasing stresses between sedentary populations and nomadic or semi-nomadic livestock herders cannot be addressed by these means. We have not seen a coherent, consistent, persistent, scaled, science-based approach to these challenges, because the resources and political attention have not been devoted to them.

We need several different kinds of responses. The first is scientific. We do not have a truly thorough understanding of how global and regional changes are really affecting the climates of the Sahel, the Horn of Africa, or West and Central Asia. One priority is a thorough, state-of-the-art, and detailed account of how the dryland regions are feeling the global climate signal. We need down-scaled models and better evidence about what the large models are saying about future threats for these regions. And we need an authoritative collection of weather station data to be made available to compile a detailed and thorough account of climate over the last thirty years, to create not just a baseline for the future, but a much richer base to enable us to attempt attribution of observed changes.

Secondly, there are huge gaps in our knowledge of the adaptation — or failure to adapt — of human systems. What has really happened in the populations in the Sahel since the

extreme drying in the 1970s? There has been some recovery; but how robust is it? How are nomadic and semi-nomadic communities doing? Can we get much more systematic data? Of course the Secretariat of the UN Convention to Combat Desertification collects a lot of this information and, crucially, helps disseminate it to the wider scientific and development community. But there's a lot more work to be done to get on-site real-time verification of these changes; to use remote sensing more systematically to measure fluctuations in herders, livestock, and assets, and to understand their vulnerabilities; and to see how demographic pressures are affecting these communities. Total fertility rates remain at six, seven, or eight children per woman in many locations. A demographic disaster seems to be on the way as a result of a huge overload on an already strained and fragile ecosystem that is only going to become more stressed in future. Widespread family planning and modern contraceptive services need



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to be put in place to mitigate the crash between expanding populations and the future climate.

The third element is, of course, the intervention measures that are desperately needed for adaptation to climate change. These range from preparedness for emergencies to other kinds of risk mitigation strategies, such as creating financial insurance, diversifying economic activities, or establishing alternatives in landscape management and water storage.

Impoverished communities facing a multiplicity of shocks and challenges need a holistic approach. The Millennium Villages Project has helped to pioneer such an approach in the drylands, such as in Dertu, Kenya, near the Somalia border. Its integrated strategy focuses on five key areas. The first aspect is the whole complex of livestock and crops. Second is the health system, which is affected by tremendous climate-related shocks, as well as by such huge challenges as epidemics of malaria, Rift Valley Fever, Rinderpest, or other endemic diseases. The third is education: how can impoverished dryland communities ensure that the next generation is raised with the skills

and knowledge to meet the growing challenges facing them? The fourth, critically, is infrastructure, starting with water — encompassing irrigation, storage, and water security in the event of drought — but also including transport, storage, the ability to connect local communities with regional and international markets, and telecommunications and internet connectivity, which can be a very powerful tool for these often very dispersed dryland populations. And the fifth area is business development, especially around livestock and other areas where increased value-added could bring greatly improved well-being to communities.

In 2008, the Swedish Government’s Committee of Climate Change and Development put out

a report on climate change and the drylands recommending how to build resilience, adaptability, emergency preparedness, and risk mitigation strategies. It proposed that there should be scaled-up pilots of community-based adaptation projects with poor and vulnerable communities, in urban and rural areas, in the drylands. Three years on, projecting is starting to take hold, as Ethiopia, Somalia, Kenya, Uganda, Djibouti, and South Sudan have joined together in a Drylands Initiative. They will work to use best practices and cutting-edge technologies to support their pastoralist communities’ effort to escape the scourges of extreme poverty and famine, supported by partners including Ericsson, Airtel, Novartis, Sumitomo Chemical, and the Islamic Development Bank. There is a pressing need for holistic, community-based responses — which are scientifically-grounded and address health and veterinary needs, water storage and other infrastructure, children’s education, the improvement and survival of herds, and linkages to markets. This is of paramount and growing importance, not only for these communities’ well-being, but for resolving what otherwise will be a growing epidemic of violent conflict.