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United Nations
Development Programme

Poor farmers face double water crisis: climate change and competition

Stronger rights, better irrigation and adaptation to global warming can avert catastrophe—if they arrive in time, says 2006 Human Development Report

Cape Town, 9 November 2006—Poor farmers face a potentially catastrophic water crisis from the combination of climate change and competition for scarce water resources, says the 2006 Human Development Report, released today.

The Report, entitled *Beyond scarcity: Power, poverty and the global water crisis*, recommends immediate steps needed to avert a serious crisis: shoring up the rights of the rural poor, increasing their access to irrigation and new technology and helping them adapt to inevitable climate change.

“The biggest challenge ahead is how to manage water resources faced with competition and climate change to meet rising food needs while protecting the access of poor and vulnerable people,” said 2006 HDR lead author Kevin Watkins.

Intensifying competition for water is now one of the gravest threats to sustained human development. Rising industrial demand, urbanization, population growth and pollution are placing unprecedented stress on water systems—and on agriculture. As competition intensifies, social conflict over water is likely to increase. The danger is that those with the weakest rights—small farmers and women producers in particular—will lose out.

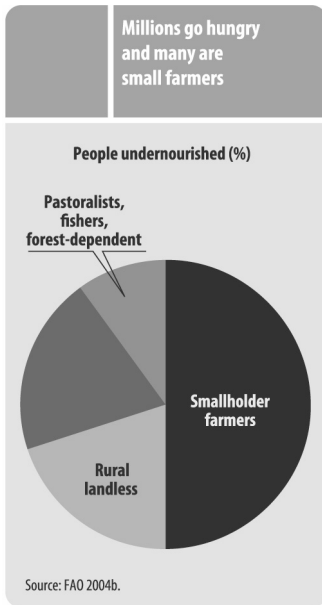
The great majority of the world’s malnourished people—estimated now at 830 million — are small farmers, herders, and farm labourers. The regions where the world’s hungry are now concentrated will have to absorb the bulk of the planet’s additional population over the next decades, estimated at 2.4 billion by 2050. And as most of them will be dependent on rainfed agriculture, the number of those at risk will continue to rise.

Climate change threatens to intensify water insecurity on an unparalleled scale. Even with an agreement to mitigate carbon emissions through international cooperation, dangerous climate change is now almost inevitable, and the most severe consequences will be experienced by countries and people who bear no responsibility for the problem. Parts of sub-Saharan Africa are facing crop losses of up to 25 percent from climate-change-induced weather patterns. Meanwhile, accelerated glacial melt and reduced rainfall threaten major food systems in South Asia.

The way forward

The Report recommends three primary courses of action to address the crisis threatening poor farmers around the globe:

- **Securing farmers’ rights:** When water is in short supply, the powerful get it and the weak don’t, says the 2006 HDR. Secure rights to water give poor people opportunities to escape poverty, while the absence of those rights renders them unable to compete on any level. Women are doubly disadvantaged, suffering from a lack of formal rights to land and a lack of informal rights inside and outside the home. The Report states that to maintain human progress, governments must recognize, extend and protect the water rights of the rural poor.



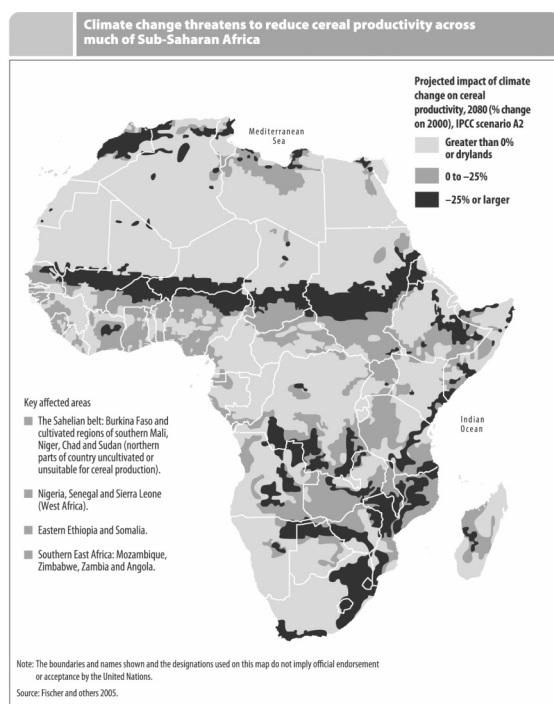
- **Irrigation and technology:** Farmers with access to irrigation are less likely to be among the poorest, stress the authors. But new sources of water for irrigation are increasingly expensive and ecologically damaging, so the danger is that those with no rights will get no access. And marginal farmers' lack of formal land titles can easily exclude them from irrigation schemes. The Report therefore recommends putting a price on irrigation use—a price directly linked to people's ability to pay. Efficient and fair cost-recovery systems linked to the benefits gained from irrigation would help to rationalize the use of water and to pay for maintenance of irrigation infrastructure, it says.
- **Adaptation:** Climate change is no longer a distant worry—it is happening, says the 2006 HDR, and the poor need more and better assistance if they are to adapt to it. International aid for adaptation ought to be a cornerstone of multilateral action on climate change, yet aid transfers have been woefully inadequate, says the Report. The Adaptation Fund attached to the Kyoto Protocol will mobilize only about US\$20 million by 2012 on current projections, while the Global Environmental Facility—the principal multilateral mechanism for adaptation—has allocated \$50 million to support adaptation activities between 2005 and 2007.

Beyond the multilateral framework, developing countries as a group have seen aid to agriculture fall from 12 percent to 3.5 percent of total aid since the early 1990s. Reversing these trends will be critical to successful adaptation. The Report says tripling aid to agriculture—from \$3 billion annually to \$10 billion by 2010--should be a minimum requirement.

Climate change

Efforts thus far to help the poor to adapt to climate change have been 'spectacularly inadequate,' says the Report. As dry areas get drier, wet areas get wetter and extreme weather becomes more common, the poor—who are usually most exposed to the elements and most directly dependent on the natural world for resources—will become more vulnerable to hunger, poverty and environmental degradation. Inequality will intensify.

Agriculture will be the hardest hit. In some regions, changing rainfall patterns and declining water availability will reduce yields by a quarter or more by 2050. Global malnutrition could increase by 15 to 26 percent, says the Report, with 75 to 125 million more people facing malnourishment by 2080.



But suffering for lack of water isn't just a problem for future generations. Today in northeast Kenya, three million people risk starvation from drought. Entire pastoral communities have seen their herds and assets depleted, leaving them increasingly vulnerable to all future risks. Violent clashes between farmers and pastoralists over water have become increasingly common, while Kenya's GDP fell 16 percent between 1998 and 2000 due to drought. The full economic costs are probably much greater since these figures fail to count the effects of malnutrition, reduced investment in agriculture and a loss of investment in industry, stress the authors.

Competition

As climate change disproportionately hurts the rural poor who depend on agriculture but lack established rights, economic empowerment and a political voice, increasing competition for water has the potential to push these people ever closer to disaster, says the Report. More and more, farmers are losing out to the growing thirst of cities and industries. Within agriculture, larger

commercial producers are siphoning off the lifeline water supplies of poorer farmers, who then can neither produce a secure food supply for themselves nor begin to compete with these commercial rivals, let alone the heavily subsidized agricultural might of the developed world.

Rapid economic growth has put a serious strain on China's water resources, for example, especially in the country's north. With only eight percent of the country's water resources, the Huai, Hai and Huang (Yellow) River Basins (3-H river basins) supply water to almost half of the country's population and 40 percent of its agricultural land, so they are already under great strain, says the 2006 HDR. But rapid economic growth has caused industry's share of that water to double since 1980 to 21 percent, while the urban share has tripled. The Report estimates that demand from non-agricultural sources will rise a further 30 percent by 2030.

As demand increases in China, poor farmers are losing their entitlements to water, often without compensation. Attempts by water-user associations to establish water rights and claims linked to the transfer of water have come under pressure from powerful groups in industry and municipalities.

As people get wealthier, they get 'thirstier'

Compounding the formidable dual challenge of competition and climate change is the fact that the number of people who need to be fed continues to rise. And it takes more water to feed people than ever before: As people get wealthier, they tend to eat different things, and meat and sugar are much more water-intensive to produce than wheat or rice. Producing a single hamburger takes about 11,000 litres of water—roughly the same daily allotment as that of 500 residents of an urban slum without a household water connection.

Dependent on their increasingly volatile natural surroundings and squeezed by powerful competition for water resources, poor farmers in the developing world risk losing the ability to make a living. The 2006 Human Development Report makes clear that without secure water rights, better access to irrigation and help in adapting to climate change, their water security will be eroded, and their lives will be increasingly fragile.

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BROADCAST FOOTAGE ON THE 2006 HDR IS AVAILABLE under embargo from Wednesday, 1 November at <http://hdr.undp.org/hdr2006/media>. For broadcast enquiries, please contact Boaz Paldi, boaz.paldi@undp.org, +1 917 213 7520.

ABOUT THIS REPORT: The Human Development Report continues to frame debates on some of the most pressing challenges facing humanity. It is an independent report commissioned by the United Nations Development Programme (UNDP). Kevin Watkins is the Lead Author of the 2006 report, which includes special contributions from U.K. Chancellor Gordon Brown, Nigeria's Finance Minister Ngozi Okonjo-Iweala, President Lula of Brazil, Former U.S. President Carter, and UN Secretary-General Kofi Annan. The Report is translated into more than a dozen languages and launched in more than 100 countries annually. Further information can be found at <http://hdr.undp.org/hdr2006>. The 2006 Human Development Report is published in English by Palgrave Macmillan.

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