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## **Climate change-related water scarcity to affect global food production – UN**



A herder pours water for his camels at a water catchment point in Harshin district, Ethiopia, which is affected by drought

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The world will increasingly experience water scarcity for agriculture as a result of climate change, a phenomenon that will affect the livelihoods of rural communities and the food security of urban dwellers, the United Nations Food and Agriculture Organization ([FAO](#)) said in a survey released today.

The impact of climate change on the availability of water include reduction in river run-off and aquifer recharges in the Mediterranean and the semi-arid areas of the Americas, Australia and Southern Africa, regions that are already showing signs of water stress, according to the FAO survey entitled “Climate Change, Water, and Food Security.”

In Asia, large areas of irrigated land that rely on snowmelt and mountain glaciers for water will also be affected, while heavily populated river deltas are at risk from a combination of reduced water flows, increased salinity, and rising sea levels.

The findings of the survey also show that an acceleration of the world’s hydrological cycle is anticipated as rising temperatures increase the rate of evaporation from land and sea. Rainfall will increase in the tropics and higher latitudes, but decrease in already dry semi-arid to mid-arid latitudes and in the interior of large continents.

A greater frequency in droughts and floods will need to be planned for, but already water scarce areas of the world are expected to become drier and hotter.

The report points out that even though estimates of groundwater recharge under climate change cannot be made with any certainty, the increasing frequency of droughts is expected to encourage further exploitation of available groundwater to boost production for farmers.

Loss of glaciers, which support around 40 per cent of the world's irrigation, will eventually have an impact on the amount of surface water available for agriculture in key producing basins.

Rising temperatures will lengthen the growing season in northern temperate zones, but reduce the length almost everywhere else. Increased rates of crop moisture loss will also result in reduced yields.

“Both the livelihoods of rural communities as well as the food security of city populations are at risk,” [said](#) Alexander Mueller, the FAO Assistant Director General for Natural Resources. “But the rural poor, who are the most vulnerable, are likely to be disproportionately affected.”

The FAO report recommends that countries implement effective systems for “water accounting” through measurement of water supplies, transfers, and transactions to inform decisions about how water resources can be managed and used under increasing variability.

“Water accounting in most developing countries is very limited, and allocation procedures are non-existent, ad hoc, or poorly developed,” according to the survey. “Helping developing countries acquire good water accounting practices and developing robust and flexible water allocations systems will be a first priority.”

At the farm level, growers can change their cropping patterns to allow earlier or later planting, reducing their water use and optimizing irrigation. Yields and productivity can be improved by shifting to soil moisture conservation practices, including zero- and minimum tillage. Planting deep-rooted crops would allow farmers to better exploit available soil moisture, FAO recommends.

Mixed agro-forestry systems also hold promise. The systems both sequester carbon and also offer additional benefits such as shade that reduces ground temperatures and evaporation, added wind protection, and improved soil conservation and water retention.

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