

## ASIA: Water scarcity adds to food pressures



Photo: [David Swanson/IRIN](#)

Rice farmers are under pressure to produce more

HANOI, 12 November 2010 (IRIN) - Millions more people across Asia will become food insecure due to increased water scarcities, reinforcing the need for greater efficiency in both irrigated and rain-fed rice production.

"The food security of hundreds of millions of people will be adversely affected," Robert Zeigler, director-general of the International Rice Research Institute (IRRI) told IRIN on the sidelines of the 3rd International Rice Congress in Hanoi.

The five-day conference - which concluded on 12 November - brought together more than 1,200 farmers, scientists and industry experts.

Rice is the staple food for more than half the world's population, including 640 million undernourished people living in Asia, where approximately 90 percent of all rice is grown.

Asia's 200 million rice farms - most of which are smaller than one hectare - typically use about 3,000 litres of water in their paddy fields to produce

1kg of rice. Less than half of that water is consumed by the plant.

Areas of particular concern include the Indo-Gangetic Plain in India, China, northwestern Bangladesh, parts of Pakistan, as well as drought-affected northeastern Thailand, currently the world's largest exporter of rice, Zeigler said.

### Global demand

Global average rice yields need to rise by at least 1.5 percent annually to keep pace with expected demand. Over the past 20 years (1989-2009), average rice yields have increased by only 1 percent, IRRI reported.

In 2009, the UN Food and Agriculture Organization (FAO) estimated the annual global rice harvest at 678 million MT.

But with the world's population expected to top eight billion by 2030, keeping pace with demand will prove a challenge.

Global rice demand currently increases by about eight million MT annually. In 10 years the world will need to produce 80 million MT more than it does today.

Compounding this are competition for domestic and industrial water usage, the impact of climate change, environmental pressures, less available land to grow rice, and the need to intensify [rice research](#).

"It's no longer business as usual," Thierry Facon, senior water management officer for the FAO said, advocating for a more integrated approach. "We simply cannot produce enough with the water and land that is available," he said.

"Water will be the single most important constraint to achieving levels of food production that are needed," Norman Uphoff, head of the [Cornell International Institute for Food, Agriculture and Development](#), added.

According to the International Water Management Institute (IWMI), between 24 and 30 percent of the world's accessible freshwater resources (rivers, lakes and aquifers) are used to irrigate rice, with as many as two billion people already affected by water scarcity worldwide.

The pressure on agriculture will thus increase, say experts, and climate change-induced higher temperatures will add to water requirements for crops, so shortages will become more serious.

### IRIN film: The Gathering Storm - Holy Forests



The Prey Koki Forest in Svay Rieng Province was severely degraded during Cambodia's years of conflict, after which surrounding villages were impoverished and demoralized. But in 1994, monks from Santi Sena, a local Buddhist organization, began working with local people to regenerate the forest. [View Film](#)

By 2025, 15 to 20 million of the world's 79 million hectares of irrigated rice lowlands - which provide three-quarters of the world's rice supply - will likely experience some degree of water scarcity, the IWMI reported.

Meanwhile, drought in rain-fed lowlands reduces crop productivity, depending on when this occurs relative to the growth of the rice plant. Drought also affects the availability of soil nutrients for plant uptake and can increase weed pressure, experts say.

"Addressing the issue of water scarcity will not be done with one solution. We need an integrated approach," Frederic Arboucalot, global head of rice seed and traits for Bayer CropScience, one of the world's leading crop science companies, emphasized.

According to the recent international [task force report](#), Never an Empty Bowl, Sustaining Food Security in Asia - nearly two-thirds of the world's 1.4 billion poor live in Asia, and spend on average about half their income on food.

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**Theme(s):** [Food Security](#), [Water & Sanitation](#),

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#### Global Fresh Water Use by Sector:

- Irrigated rice: 24 to 30 percent
- Other agriculture: 40 percent
- Domestic: 10 percent
- Industrial: 20 percent

Source: Data from IWMI (2007) and WRI (2005)



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