

Bountiful rice harvest from 'Sawah' system

In light of food crisis, new production system to boost West Africa rice output

A new rice-growing system developed for the wetlands of West Africa could significantly increase the region's yield capacity, bridging the gap between production and consumption and offering a long-term solution to the food crisis in Africa.



West Africa has moved closer to attaining domestic self-sufficiency in rice, its fastest-growing and most costly food import. IITA, the International Institute of Tropical Agriculture, has developed a rice growing system, termed 'Sawah' (Indonesian for "wet rice-field"), which makes it possible to grow the crop in the region's wetlands and with more than twice the yield of traditional dryland rice farms. IITA estimates that some 10 million rice farmers stand to benefit from the adoption of the system. As Africa imports about 40% of its rice and accounts for more than

one-third of the rice traded globally, the 'Sawah' system could save rice-consuming countries in the region some US\$2 billion in annual import payments. But more importantly, it could help ease the food crisis in Africa where riots have erupted in recent months in several countries due to acute food shortage.

The 'Sawah' rice-growing system, developed through IITA's five-year "Hirose Project" and validated in the rain-fed wetland areas of central Nigeria, produces average yields of 3.5 tons per hectare compared to 1.5 tons per hectare in traditional lowland rice farms. Dr. Oluwarotimi Fashola, agronomist at IITA's Headquarters in Ibadan, Nigeria, says that "the widespread adoption of the technology could bring West Africa's rice production capacity to levels closer to the world's major producers."

Although rice production in West Africa steadily grew over the past 20 years, reaching 5.75 million tons in 2006, it only supplies 58% of domestic demand. The Africa Rice Center (WARDA), in its "Africa Rice Trends" report early this year, notes that from 2001 to 2005 rice production increased 5.1 percent yearly, while consumption increased 6.5 percent annually during the same period.

Expansion into wetland areas offers the greatest potential for increasing rice production in Africa. Dry-land rice, which occupies about half the area planted to the grain, is low yielding and depresses annual production. Yields could be increased by improving water control, but significant problems hinder irrigation.

"By expanding rice production to the wetlands, where the crop is not traditionally planted, and intensifying yield per unit area, the basic principles of the 'Sawah' system, Nigeria alone could be producing up to 10 million tons of rice annually by the year 2020," Fashola explains. Although developed and tested in Nigeria, the system could be applied in similar wetland ecosystems in West Africa or even the entire African continent.

"Sawah could provide a long-term solution to the food crisis in Africa," Fashola adds, "The Hirose Project proves that Nigeria and other West African countries hold great potential to produce large quantities of high-quality rice comparable to those coming from Asia. Global market competitiveness and self-sufficiency remain challenging goals, but we believe these will be achieved over time."

The Hirose Project was led by Prof T. Wakatsuki of Kinki University, Japan, and funded by the Development Corporation of Japan (JSPS). It forms part of IITA's research into watershed ecological engineering covering a wide range of factors essential to improve Nigeria's rice output such as genetic plant stock, soil fertility, land preparation, harvesting and marketing.

IITA's rice research has now been transferred for further development and up-scaling to the National Cereal Research Institute, a Nigerian government partner.

IITA also partners with other CGIAR-supported centers for its Africa-based rice research such as WARDA and the International Rice Research Institute (IRRI).

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