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“Can agroecological farming feed the world?
Farmers’ and academia’s views”

Selection of varieties of deep-water rice for the cuvelai system of seasonal wetlands in Namibia

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Abstract

In the communal area of north-central Namibia, most residents are subsistence farmers. Pearl millet, the main food crop, provides only low yields, causing frequent famine in Namibia.

In the wet season, flood waters flow from the Angolan Plateau through seasonal rivers (oshanas), and surface water appears around early January toward the middle of March. The area is utilised by communal farmers as grazing land. The region is called the Cuvelai system of seasonal wetlands and covers approximately 800,000 ha, of which 250,000 can realistically be cultivated.

The basic idea was not to bring water to the plants, but to bring a suitable plant to the water, i.e., not to redesign the environment with irrigation facilities, but to choose crops that will grow in the given ecosystem.

The method chosen was on-site trials carried out at the Ogongo campus of the University of Namibia (UNAM) as well as at the Ministry of Agriculture’s Mahenene Research Station, both located in the middle of the wetlands.

The National Botanical Research Institute of Namibia (NBRI), located in Windhoek, owns three wild rice species endemic to Namibia.

Preselected deep-water varieties from IRRI (International Rice Research Institute) and WARDA (West Africa Rice Development Association) nurseries were tested (n=588). On-farm trials were carried out to see how the rice cultivation fits into existing farm activities.

The results are more than promising.

The three selected varieties are a short-season, early ripening variety (114–122 days), a late variety (143–158 days) and a variety with awns that defend it against *Quelea* birds (132–164 days).

The selected varieties are reasonably salt resistant.

Yields are significantly higher than those of pearl millet. With soil improvement or fertilisation, yields can be increased considerably.

So far, there are no rice pests or diseases in Namibia, so its cultivation is purely organic.

Outlook

Wetlands cover 6% of the earth’s land surface and their use is important for food security.

Rice cultivation in wetlands can improve farmer’s resilience to climatic change by growing an additional crop on underused land, increasing the productivity of agroecological farming by using natural waters.

Keywords: Agriculture, communal areas, Cuvelai System of Seasonal Wetlands, deep-water rice, food security, job-creation, namibia, natural resources management, poverty alleviation , resilience to climatic change, variety selection