



The Challenge

As African diets and food consumption patterns change, the continent needs a rapid solution to its growing dependence on costly wheat imports.

Improved wheat varieties: a solution to African import dependence

The impressive performance of improved varieties of high-yielding, heat-tolerant wheat developed in Sudan has convinced Nigerian decision makers that a viable solution to their country's growing dependence on wheat imports is domestic production – a policy shift that will protect Nigerians from the vagaries of global commodity markets and strengthen national food security.

Nigeria currently imports four million tons of wheat, spending \$4 billion on the commodity every year – a figure expected to reach \$10 billion by 2030 when Nigerians are predicted to consume over 10 million tons of imported wheat to satisfy their growing demand for non-traditional foods like pasta, noodles, and bread.

Faced with a growing demand for wheat and wheat products, the continuation of this import-based approach could generate immense consequences for Nigerian food security. The Nigerian population will be exposed to the fluctuations of global commodity markets and increased susceptibility to sudden food price hikes – particularly the poor who spend a disproportionate amount of income to feed their families.

The solution: domestic production

The government of Nigeria has been considering options to increase domestic wheat production to progressively reduce import dependence. However, many traditional wheat varieties grown in Nigeria are prone to pests, have poor baking qualities, and rarely generate yields that exceed two tons per hectare (t/ha). The memory of previous wheat production drives is also prominent in the minds of many. In the late 1980s and early 1990s, for instance, seeds more suited to temperate climates were introduced to Nigeria and failed in the hot, dry conditions prevalent across the country's wheat-growing regions.

Fortunately, advances in crop science mean that the situation today is very different. Introduced to Nigeria from Sudan where similar conditions prevail, improved high-yielding, heat tolerant wheat varieties – developed in Sudan with ICARDA's support over the past three decades – are now generating 5-6 t/ha on farmer fields in Kano and Borno states.

These results are shifting opinion and convincing policymakers that wheat can be grown on a large scale in northern Nigeria. As a result, wheat has been included as a priority in the Nigerian government's Agricultural Transformation Agenda (ATA). "I told [the President] that if we found the right science and technology, and the right policies that would allow us to produce wheat economically and competitively, then I would go after it," claimed Nigeria's Minister of Agriculture, Dr. Akinwumi Adesina, speaking at a recent Farmer Field Day in Kadawa, Kano, where he announced his government's full support of the recommendations provided by ICARDA's research team and its national partner, the Lake Chad Research Institute.

PROJECT IN NUMBERS:

- 58 tons of improved seed distributed to 1600 farmers for seed multiplication
- Improved wheat varieties produce 5-6 t/ha – significantly more than the 1-2 t/ha average of traditional varieties
- Within the government's ATA Initiative, the Project will help to generate an estimated 1.5 million tons of wheat – enough to cut the cost of Nigeria's import burden by 40-45%
- Through the ATA Initiative, the Project is helping to expand the land devoted to wheat production - from 70,000 ha to 300,000 ha over the coming five years.

Maximizing farmer production

Working through the wheat component of the project, Support to Agricultural Research for Development on Strategic Commodities in Africa (SARD-SC), funded by the African Development Bank (AfDB), ICARDA is mobilizing a fast-track seed multiplication program that has already distributed 58 tons of improved seed to 1600 Nigerian farmers. The SARD-SC Wheat initiative is pursuing similar activities in 11 countries throughout Sub-Saharan Africa.

Alongside national partners, the SARD-SC Wheat will expand the land devoted to wheat production over the next five years – from 70,000 to over 300,000 hectares. Combined with the wider adoption of improved wheat varieties, Nigeria would be able to produce around 1.5 million tons of wheat each year, guaranteeing a 40-45% reduction in Nigeria's unsustainable import burden. At current market rates, this reflects a saving of around \$2 billion each year in import costs.

Beyond seed: an integrated policy-technology approach

In addition to improved seed, ICARDA and its partners are supporting Nigerian farmers through the dissemination of proven technologies such as raised-bed irrigation, and other agronomic practices to ensure optimal growing conditions. While seed is the crucial ingredient in Nigeria's wheat transformation, seeds alone will not bring the required change.

The Project is also recommending a package of policy interventions, an enabling environment conducive to the expansion of wheat production. Potential policies include the creation of public-private partnerships to fund the scaling-up of new technologies and the distribution of improved seed. Project leaders also speak of the need to 'create a market' for Nigerian wheat through production incentives such as minimum price guarantees for farmers, and adopting a value chain approach that encourages Nigerian millers to buy domestic wheat.

A revolution in rural Nigeria

The impressive performance of improved varieties of high-yielding, heat-tolerant wheat is generating a policy shift in Nigeria. Convinced that wheat can now be grown on a large scale in Nigeria, domestic wheat production is perceived as a solution to the country's growing import dependence.

Looking beyond food security, Nigerian policy makers are also considering the income-generation potential of domestic wheat production, believing that higher yields and incomes will help to eradicate the endemic poverty that characterizes many parts of rural Nigeria. In the words of Minister Adesina, "No nation that ever moves forward, abandons its farmers. We are not going to grow poverty. A defining characteristic of our rural areas will be wealth, not poverty."



Dr. Akinwumi Adesina, Nigeria's Minister for Agriculture (Center), has placed the improved varieties at the center of a national wheat enhancement program.

POLICY ISSUES:

- 'Create a market' for domestic wheat – with minimum price guarantees for farmers and incentives for millers to buy domestic wheat
- Establish public-private partnerships to fund mechanization and scaling-up of technologies and seed
- Mobilize integrated solutions – introduce intervention packages combining improved seed and crop management practices
- Farmer cooperatives can create economies of scale and facilitate access to new inputs – seeds, fertilizer, irrigation pumps etc.

Project contact:

Dr. Solomon Gizaw Assefa (S.Assefa@cgiar.org)

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Communications Unit (CODIS), PO Box 950764, Amman 11195, Jordan

Publications@cgiar.org