# Evidences

## Study #4541

**Contributing Projects:**
- P335 - Monitoring and learning for biofortification

## Part I: Public communications

**Type:** OICR: Outcome Impact Case Report  
**Status:** Completed  
**Year:** 2021

**Title:** Biofortified crops are sustainably integrated in Nigeria’s food systems and benefiting approximately 13 million consumers

**Short outcome/impact statement:**  
A review of the literature, monitoring, evaluation, and impact assessment data to date, and consultations with experts from the public and private sectors revealed that biofortified staples are fully embedded in the Nigerian food system. Biofortification is already benefiting approximately 13 million consumers, with potential to cover the entire country given the most recent developments in integration of biofortified seeds and grain in public policies and programs and increasing private seed and food sector interest and investment in biofortified products.

**Outcome story for communications use:**  
Not required in the 2021 template

**Links to any communications materials relating to this outcome:** [Not Defined]

## Part II: CGIAR system level reporting

**Link to Common Results Reporting Indicator of Policies:** No

**Stage of maturity of change reported:** Stage 2

**Links to the Strategic Results Framework:**

Sub-IDOs:
- Increased availability of diverse nutrient-rich foods
- Increase capacity of beneficiaries to adopt research outputs

**Is this OICR linked to some SRF 2022/2030 target?:** Yes

**SRF 2022/2030 targets:**
- # of more people, of which 50% are women, without deficiencies of one or more of the following essentials micronutrients: iron, zinc, iodine, vitamin A, folate and vitamin B12
- # of more farm households have adopted improved varieties, breeds or trees

**Description of activity / study:** [Not Defined]

**Geographic scope:**
- National

**Country(ies):**
- Nigeria
Comments: <Not Defined>

**Key Contributors:**
Contributing CRPs/Platforms:
  - A4NH - Agriculture for Nutrition and Health
Contributing Flagships:
  - F2: Biofortification
Contributing Regional programs: <Not Defined>
Contributing external partners:
  - Cato Foods
  - GAIN - Global Alliance for Improved Nutrition
  - BMZ - Bundesministerium für wirtschaftliche Zusammen-arbeit und Entwicklung / Federal Ministry of Economic Cooperation and Development (Germany)
  - HarvestPlus
  - Government of The Netherlands

**CGIAR innovation(s) or findings that have resulted in this outcome or impact:**
In general terms, the two innovations related to this outcome story are vitamin A maize and vitamin A cassava for Nigeria, which may contain more than one variety that were released before the second phase of A4NH and cannot be linked to the CGIAR reporting indicators.

**Innovations:** <Not Defined>
Elaboration of Outcome/Impact Statement:
Evolution of the HarvestPlus-led biofortification program in Nigeria was documented and assessed through a comprehensive review of the published and grey literature, analysis of available data from HarvestPlus’s monitoring and evaluation system, and semi-structured interviews with stakeholders in biofortified staple crop value chains.

With an aim to help reduce vitamin A deficiency in the country and to transform Nigeria’s food systems to deliver accessible and affordable nutritious food for all, HarvestPlus kicked off its Nigeria biofortification program in 2010. The program focused on biofortifying Nigeria’s two key staples, namely cassava and maize, with vitamin A. Through catalytic partnerships with CGIAR and National Agricultural Research and Extension Systems (NARES), as well as with the national public, private, and civil society sectors, at federal, state, and local levels, the Nigeria biofortification program reached a significant level of coverage and inclusion in national policies and programs for scaling to be considered sustainable.

By the end of 2021, six varieties of vitamin A cassava (VAC) and 10 varieties of vitamin A maize (VAM) were officially released for production, with iron pearl millet, zinc rice and zinc sorghum varieties either under testing or in the release pipeline. In 2021, an estimated 1.8 million households were growing VAC and almost 1.6 million households were growing VAM. Accounting for the overlap of the two crops among grower households, this translates into 13 million people with increased vitamin A intakes from consuming these staples.

CGIAR-funded research has shown the impact of VAM and VAC consumption on improving Vitamin A deficiency status [1, 2, 3] and related health outcomes [4, 5]. In addition, other CGIAR studies have demonstrated increasing adoption rates among farmers as a result of favorable agronomic traits of biofortified varieties and acceptance of and increasing demand for biofortified ingredients and food among processors and consumers alike [6, 7, 8]. The substantial body of evidence coupled with the significant delivery and coverage achieved to date has led to biofortification being increasingly integrated into national policies and programs.

An exponential increase in replacement of non-biofortified cassava and maize with VAC and VAM are expected in the coming years as a result of emphasis on investments in biofortification in the National Multi-Sectoral Plan of Action for Food and Nutrition (2021-25), Medium Term Development Plan (2021-30), and the National Agricultural Sector Food Security and Nutrition Strategy (2016-25) [8].
References cited:


Quantification: <Not Defined>

Gender, Youth, Capacity Development and Climate Change:
Gender relevance: 0 - Not Targeted
Youth relevance: 0 - Not Targeted
CapDev relevance: 0 - Not Targeted
Climate Change relevance: 0 - Not Targeted
Other cross-cutting dimensions: NA
Other cross-cutting dimensions description: <Not Defined>
Outcome Impact Case Report link: Study #4541
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