



## Better yields for FAO-supported farmers

Yield outcomes from the 2019 rainy season intervention

### Context

Northeastern Nigeria has faced significant instability for over a decade due to an armed insurgency. More than 1.8 million people remain displaced by the crisis across Adamawa, Borno and Yobe, the worst-affected states. About the same number of people have returned to their villages of origin with little or no productive resources, including the seed and fertilizer required to produce food and generate income, causing severe levels of food insecurity and malnutrition. It is within this framework, as well as low availability of improved varieties of crop seed and the breakdown of seed systems in the region, that the Food and Agriculture Organization of the United Nations (FAO) began distributions of important cereal, vegetable, pulse and legume seeds central for food security. Since the programme began in 2016, over 400 000 households (close to 4 million people) were reached with crop seed and fertilizer, of whom 98 400 during the 2019 rainy season intervention.

### Methodology

As part of the yield assessment, 11 local government areas were selected from the three states, as follows: Gombi, Michika and Numan in Adamawa; Askira/Uba, Chibok, Jere, Kaga and Konduga in Borno; and Damaturu, Fune and Geidam in Yobe. Data collection was conducted at the time of harvest, between October and December 2019. FAO beneficiaries provided sample plots and non-beneficiaries were used as controls.

### Key findings

- Across crop types and on per hectare basis, FAO-supported farmers harvested significantly more crop than farmers using locally available and unimproved crop varieties of all crops surveyed.
- There is an urgent need to strengthen extension services on good practices in crop production and integrated pest management to ensure better crop performance and improved yields.

### Increased production

Thanks to the assistance provided by FAO, sorghum production expanded, with FAO-supported farmers producing 1.23 tonnes on average, nearly double the harvest produced by non-FAO supported farmers. In the case of maize, farmers using inputs distributed by FAO produced an average of 2.8 tonnes per hectare, a 22-percent increase compared with the production of non-FAO supported farmers. Okra production was also impressive with FAO-supported farmers recording an average of over 7.4 tonnes per hectare, a 68-percent increase compared with unsupported farmers. FAO's beneficiaries also reported 6.5 tonnes per hectare of amaranth, approximately 325 percent more than other farmers.



### In numbers



**Beneficiaries reached:**  
**98 400** households,  
of whom 35% female-headed and  
23% IDPs, 28% returnees and  
49% host community members

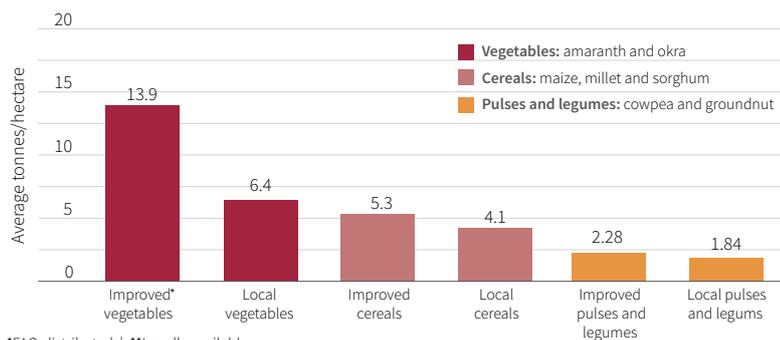


**Types of kits distributed:**  
**Kit 1:** 10 kg of maize seed, 8 kg of sorghum seed or 8 kg of millet seed along with 10 kg of cowpea seed and 25 kg of 15-15-15-NPK fertilizer  
**Kit 2:** 80 g of amaranth seed and 100 g of okra seed, and 25 kg of 15-15-15 NPK fertilizer  
**Kit 3:** 10 kg of groundnut or 15 kg of sesame and 25 kg of 15-15-15 NPK fertilizer



**Resource partners:**  
the European Union Trust Fund for Nigeria, the European Civil Protection and Humanitarian Aid Operations, the United States Agency for International Development, the Swedish International Development Cooperation Agency and the Governments of Norway and Germany

## 2019 Average rainy season crop performance of selected crops in Adamawa, Borno and Yobe States



\*FAO-distributed | \*\*Locally available



### Pest and diseases – common causes of loss

Pests and diseases were observed to be key contributing factors to crop losses during the 2019 rainy season. Increased farmer knowledge of good crop production techniques and integrated pest management are essential to reducing the impact on pre-harvest and post-harvest losses. The most prominent challenge to pest and disease management was the wide-scale occurrence of fall armyworm, particularly in the maize-growing areas of southern Borno and parts of Yobe and Adamawa. Other pests include the Quelea birds who ravaged millet and sorghum fields in northern and central Borno. Common fungal diseases, particularly on crop varieties not distributed by FAO, included head smut and downy mildew on cereals such as maize, millet and sorghum. Research has indicated that the majority of the soils in the North-East are heavily infested with striga, a parasitic plant, due to soil degradation and crop intensification. A good practice to curb the striga infestation is the adoption of crop rotation practices and the use of striga-tolerant varieties of maize including the Sammaz 27 variety, which FAO distributed in the 2019 rainy season. As rainfed agriculture remains the main source of food and livelihood for farmers in the North-East, their food security is especially vulnerable to the myriad of abiotic factors such as flooding and drought. The heavy rainfall recorded across the region in July–August 2019, were observed to have a negative effect on maize yields in the region.

### Conclusion

The improved seed and fertilizer distributed enabled FAO-beneficiary farmers to obtain significantly higher yields than other non-FAO supported farms using less productive varieties. Nonetheless, crop harvests were affected by common crop pests and diseases caused by poor pest management and sporadic floods linked to heavy rainfall. FAO will publish a comprehensive post-harvest assessment report of the findings of its 2019 rainy season response in April 2020.

Beneficiaries obtained a 30–360 percent increase in production, compared with unsupported households, which is enough to ensure the food coverage of each beneficiary household for about 6–8 months.

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