



HUMANITARIAN ASSISTANCE AND RESILIENCE-BUILDING

Impact of Fadama III–AF II on Food Security and Livelihood Restoration in Northeastern Nigeria

Ephraim Nkonya, Dauda Bawa, Edward Kato, David Maurice, Nasiru Murtala,
Hadiza Nuhu, Patrick Kwaghe, Yakubu Bila, and Rabiu Sani

The ongoing insurgency in northeastern Nigeria has led to the loss of over 20,000 lives and about 4,500 abductions since 2002 and, in 2015 alone, caused an economic loss of about US\$450 million, equivalent to 5.7 percent of northeastern Nigeria's gross domestic product.¹ As of October 2018, there were 2.03 million internally displaced people (IDPs) and 1.64 million returnees—a total of 3.7 million people in need of humanitarian support, or 14 percent of northeastern Nigeria's population.² Communities affected by conflict experience severe food and nutrition deprivation and difficult mental health conditions.³ Beyond political and military efforts aimed at ending conflicts, approaches to helping conflict-affected communities have evolved over time from a focus on humanitarian support to more dynamic and sustainable strategies. These approaches follow provision of humanitarian assistance with support for restoring livelihoods and building resilience against potential shocks.⁴ This new approach of humanitarian assistance plus resilience-building has experienced both successes and challenges. The challenges have largely stemmed from the limited experience of actors, short intervention periods, and insufficient resources to address the many problems experienced by conflict-affected communities.

KEY FINDINGS

Study of the Fadama III–AF II project in northeastern Nigeria found significant positive impacts from the multipronged national effort.

- › **COMPARED TO CONTROL GROUP HOUSEHOLDS, FADAMA III–AF II BENEFICIARIES HAD SIGNIFICANTLY GREATER:**
 - › Quantity and nutritional quality of food consumed.
 - › Access to markets and extension services.
 - › Diversity of agricultural advisory services received, allowing greater market participation.
 - › Crop yields, due to input “starter packs.”
- › **HOUSEHOLD INCOME OF BENEFICIARIES INCREASED BY 53 PERCENT OVERALL.** But only 58 percent of households met the project target of increasing household income by 40 percent. The impact on income was greatest for households in the lowest income tercile—suggesting that the project effectively targeted the neediest households.
- › **FADAMA III–AF II DID NOT HAVE SIGNIFICANT IMPACT ON NONFARM ACTIVITIES**—an aspect that needs improvement to help beneficiaries diversify their livelihoods to build stronger resilience.

In collaboration with 65 development partners, the government of Nigeria—through its Presidential Committee on the North East Initiative (PCNI)—has implemented strategies both to restore peace and security and to provide humanitarian support and restore livelihoods for IDPs, returnees, and other conflict-affected people. The most recent of these is the Fadama III-AF II project, a US\$50 million investment that combines humanitarian assistance with resilience-building. To evaluate the impact of this project, IFPRI conducted a study to assess its impacts on food and nutrition security and restoration of livelihoods.

FADAMA III-AF II INTERVENTION IN NORTHEASTERN NIGERIA

Fadama III-Additional Financing (AF) phase II was initiated in 2016 to build on five prior Fadama projects implemented in Nigeria since 1993. Unlike many interventions that aim to reduce rural poverty, Fadama II and all subsequent Fadama projects have adopted a multipronged approach—comprising several interventions intended to increase agricultural productivity and productive asset creation, enhance access to rural services, and increase community entrepreneurship and institutional capacity. Multipronged approaches have been shown to be more cost-effective and successful in reducing poverty than those that address only one aspect of rural poverty.⁵ The Fadama III-AF II Project comprises five major interventions that aim to:

1. IMPROVE FOOD AND NUTRITION SECURITY BY:

- a. Providing food through food-for-work and cash-for-work programs. Food assistance provided was valued at US\$200 per household, and was expected to last about 60 days. It included 200 kg of cereals, 25 kg of beans, and 20 kg of vegetable oil.
- b. Providing nutrition advisory services targeted to women through community radio, media vans, and extension services.

2. SUSTAINABLY INCREASE HOUSEHOLD INCOME USING THE FOLLOWING STRATEGIES:

- a. Increasing agricultural productivity by providing agricultural inputs (starter packs).
- b. Improving access to agricultural extension services.

- c. Improving community infrastructure for production (such as irrigation pumps).
- d. Adding value through provision of processing equipment.

3. CREATE TEMPORARY AND PERMANENT JOBS:

- a. Cash-for-work and food-for-work. The cash-for-work component aimed to support 12,000 farming households, each receiving about US\$450, and targeted youth. Work activities under cash-for-work included conservation and natural resource restoration, repair of damaged houses, access roads, small irrigation canals, and village buildings, and well cleaning.
- b. Agri-entrepreneurial capacity building. To support youth investment in business using their income from the cash-for-work program, entrepreneurship training was provided to the Fadama Vanguard—a group of youth participating in the cash-for-work program.

4. IMPROVE RURAL INFRASTRUCTURE AND ACCESS TO MARKET INFORMATION.

This component was the largest, accounting for 42 percent of the Fadama III-AF II investment, and included rehabilitation of fences, markets, storage and aggregation facilities, production pens and shelters for livestock, rural roads, irrigation schemes, canals, and ponds.

5. INCREASE COMMUNITY AND LOCAL GOVERNMENT MANAGERIAL SKILLS THROUGH COMMUNITY-ACTION PLANS (CAPS) AND OTHER PARTICIPATORY PLANNING INITIATIVES.

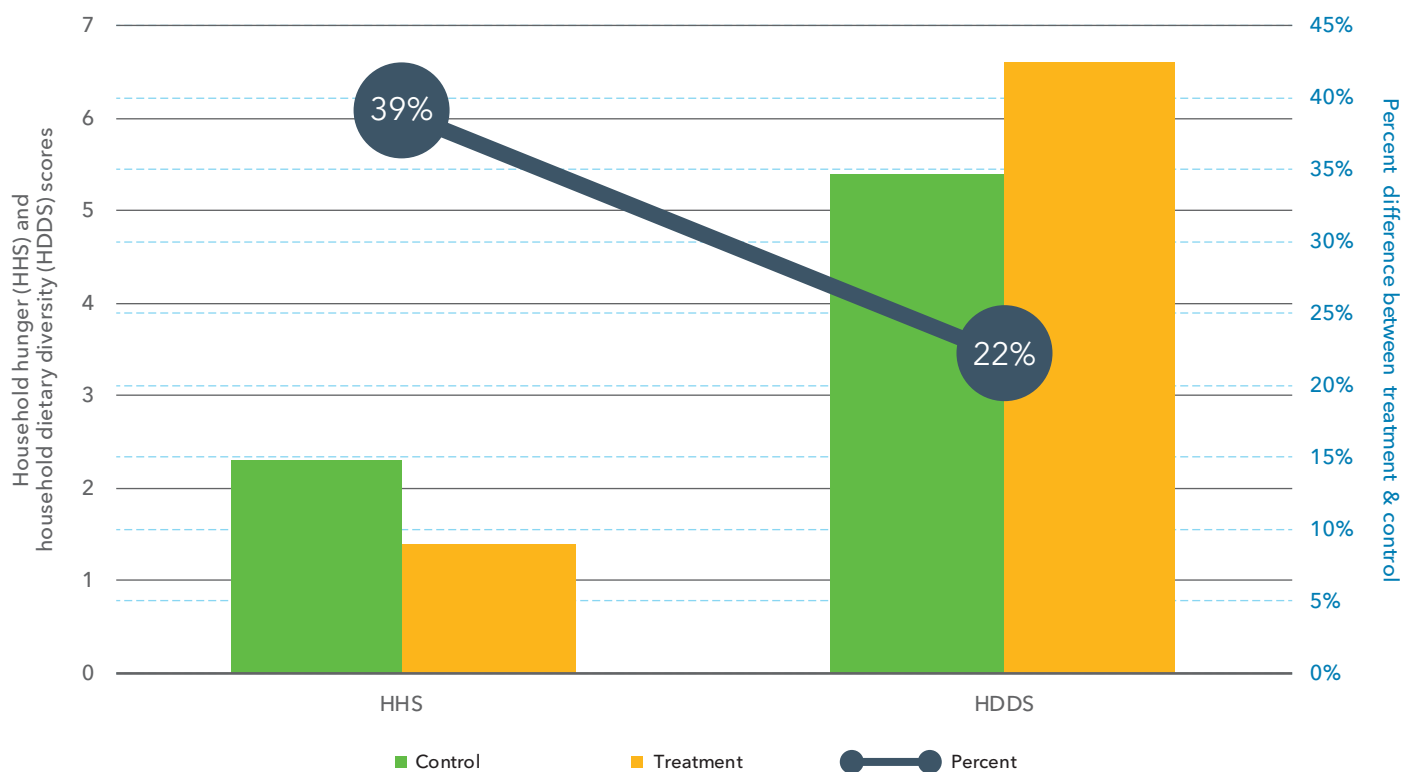
A total of 792 CAPs—one in each community—have been approved for implementation.

As of May 2018, about 32,000 households from 790 communities had benefited from Fadama III-AF II. The total number of people who benefited directly from the project is estimated at 309,164—which is only 8 percent of the population in need of help in the northeastern region.

METHODOLOGY AND DATA

To begin the study, we reviewed literature on the insurgency in northeastern Nigeria and on past efforts to address the challenges facing the region's communities, as well as Fadama III-AF II Project documents and data. A qualitative evaluation was conducted using 27

FIGURE 1 Impact of Fadama III-AF II on household food and nutrition security



Source: Household Survey 2018.

community case studies purposively selected for key informant interviews (KII). The KII approach is used to gain insight from people with first-hand experience of the problems under study. The key informants included community and traditional leaders, and other knowledgeable people. Such community experts can provide insight and recommend solutions to problems. Focus group discussions were also conducted in 55 communities to get a deeper understanding of the project’s implementation and impacts.

In addition, we evaluated the impact of Fadama III-AF II using a more quantitative approach. We randomly selected 1,787 households from communities benefiting from the Fadama III-AF II project (the treatment group) and control communities not benefiting from the project. Both treatment and control communities were affected by the insurgency, and the households selected from both groups were IDPs, returnees, or people affected by the conflict who had not migrated. Details of the analytical approach and the panel household data used for identification of the project’s impacts are provided in a separate forthcoming publication.

RESULTS

IMPACT OF FADAMA III-AF II ON FOOD AND NUTRITION SECURITY

As a first step toward restoration of livelihoods, Fadama III-AF II provided humanitarian support to beneficiaries through food-for-work and cash-for-work programs. This study measured the project’s success in reducing hunger and malnutrition using a household hunger score, an indicator of food deprivation on a scale of 1 (little to no household hunger) to 3 (severe household hunger).⁶ The nutritional quality of food intake was measured using a household dietary diversity score, based on a scale of 1 to 12, with 1 indicating the least diversity. The household hunger score for the Fadama III-AF II beneficiaries was 39 percent lower than that of the control group, suggesting that food deprivation was significantly reduced among beneficiaries (Figure 1). Similarly, the household dietary diversity score among project beneficiaries was 22 percent higher than that of the control group, reflecting a positive impact from the nutrition education provided by Fadama III-AF II project and higher income.

IMPACT OF FADAMA III-AF II ON ACCESS TO RURAL SERVICES

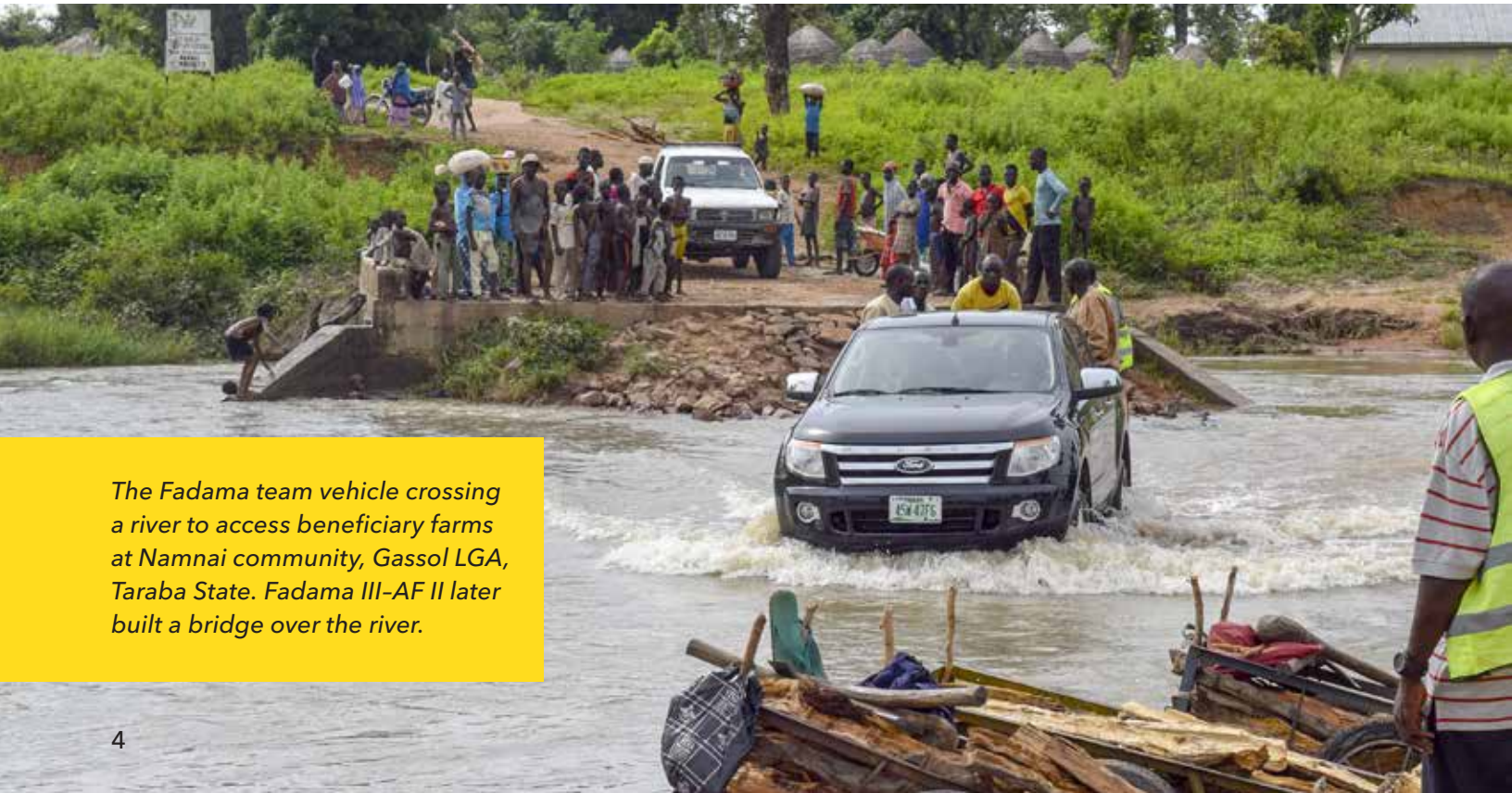
Fadama III-AF II also supported infrastructure rehabilitation and rural advisory services. Beneficiaries reported significant (at $p=0.01$) improvement in access to the nearest town or agricultural market and reduced distance and travel time to an all-weather road. For example, the Dokshi community in Yobe State had been attacked and community infrastructure destroyed, hampering the community's access to markets. Project funds rebuilt a damaged bridge, significantly reducing the distance to the nearest city.

Overall, about 32 percent of Fadama III-AF II beneficiaries reported receiving advisory services, compared with 24 percent of control households. Beneficiaries also received more diverse advisory messages, including advice on production, postharvest handling, and marketing; control group households primarily received advice on production. This focus on production advisory services and limited attention to postharvest handling and marketing is a common problem across Africa south of the Sahara.⁷

Fadama III-AF II had a significant impact on crop yields and market participation—measured as share of marketed surplus of major crops. The agricultural input “starter packs” targeted women and youth. About 47 percent of project beneficiaries reported

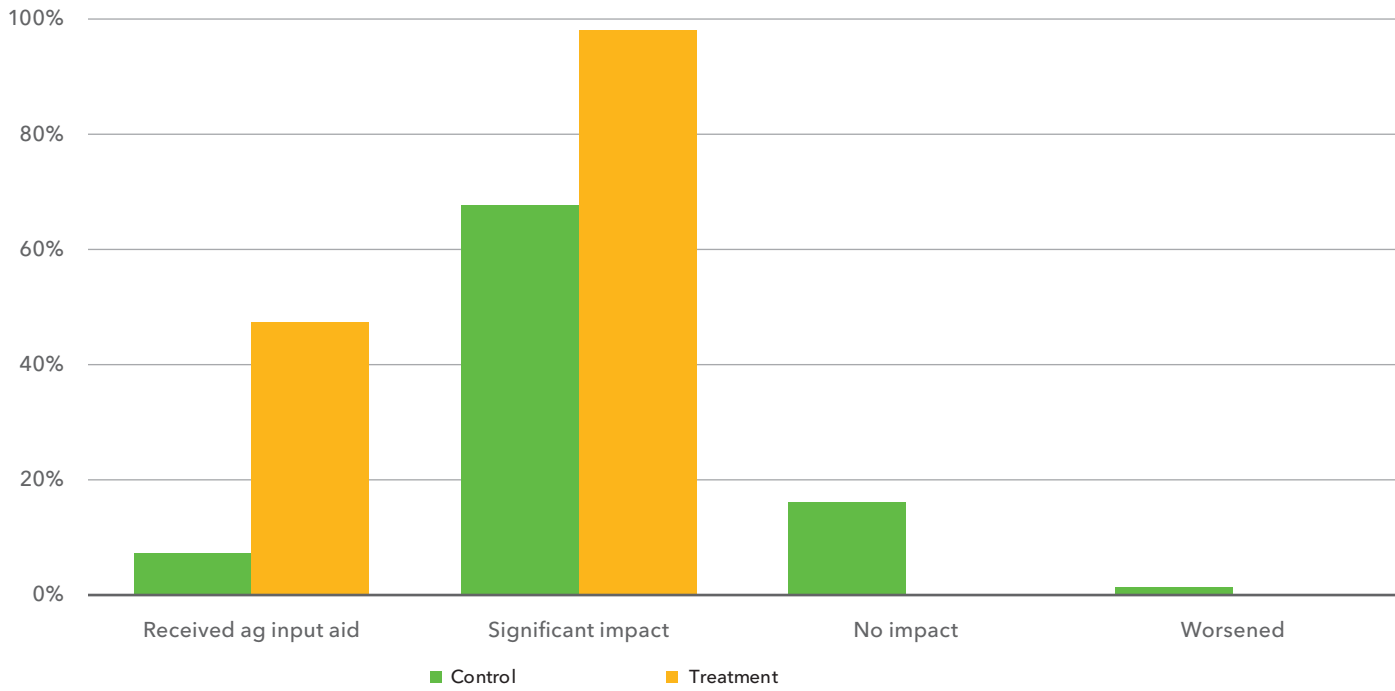
receiving this support; 7 percent of control households received similar support from nongovernmental organizations (NGOs) not affiliated with Fadama III-AF II (Figure 2). Almost all Fadama III-AF II beneficiaries receiving starter packs reported significant (at $p=0.01$) improvement in crop yields, compared with only two-thirds of control group households that received the packs. This suggests that Fadama III-AF II implemented its starter packs in a way that had greater impact than the approach used by other NGOs. Fadama III-AF II participation had a significant (at $p=0.01$) impact on yields of maize and rice, but no significant impact on yields of sorghum or millet (Figure 3). One potential reason for the weak impact of sorghum and millet is the limited adoption of improved varieties and limited external inputs applied to both crops.

In terms of market participation, the share of surplus rice, cowpea, and millet marketed by all beneficiary households increased significantly compared with the control group. Similarly, the share of beneficiary households practicing group marketing increased by 14 percent between 2016 and 2018, while the share for control group households rose by only 4 percent. The high beneficiary participation in group marketing suggests that the postharvest and marketing advisory services and entrepreneurial capacity-building efforts undertaken by Fadama III-AF II had favorable impacts for beneficiaries.



The Fadama team vehicle crossing a river to access beneficiary farms at Namnai community, Gassol LGA, Taraba State. Fadama III-AF II later built a bridge over the river.

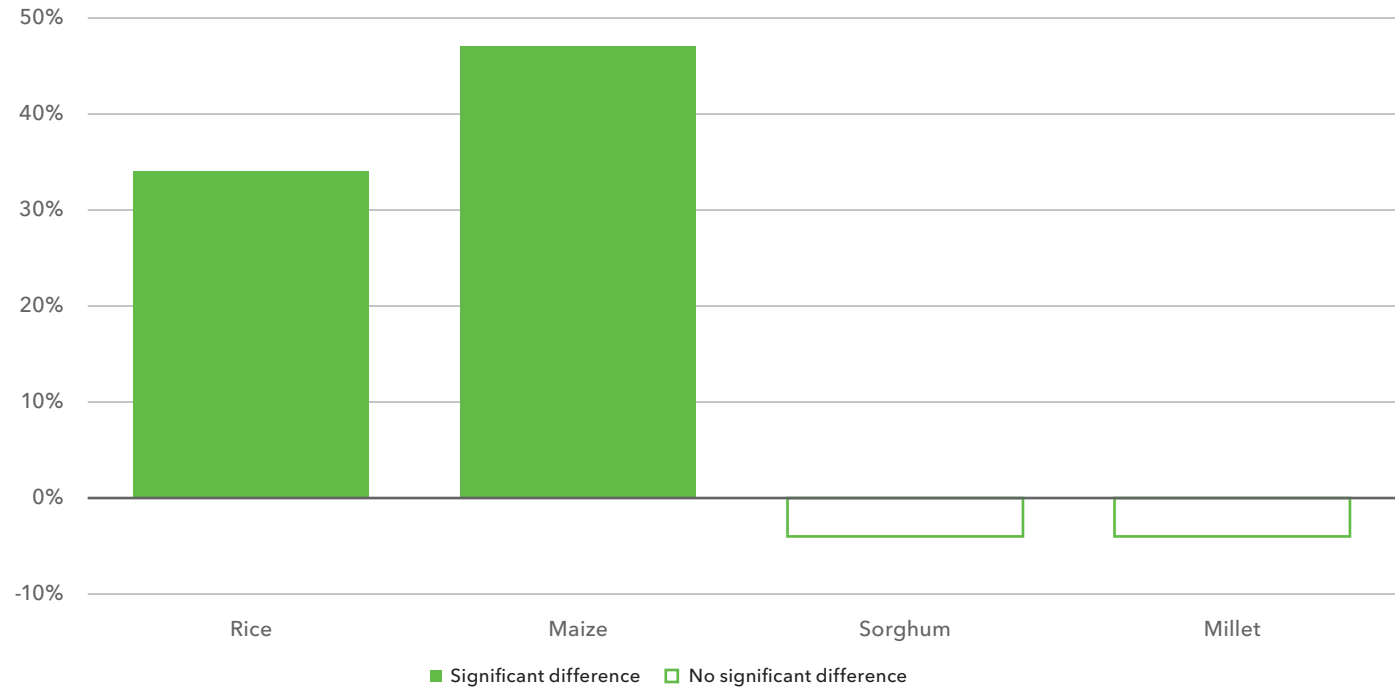
FIGURE 2 Agricultural starter packs and their impacts on crop yield



Source: Household Survey 2018.

Note: The difference between treatment and control is statistically significant at p=0.01 for all statistics reported.

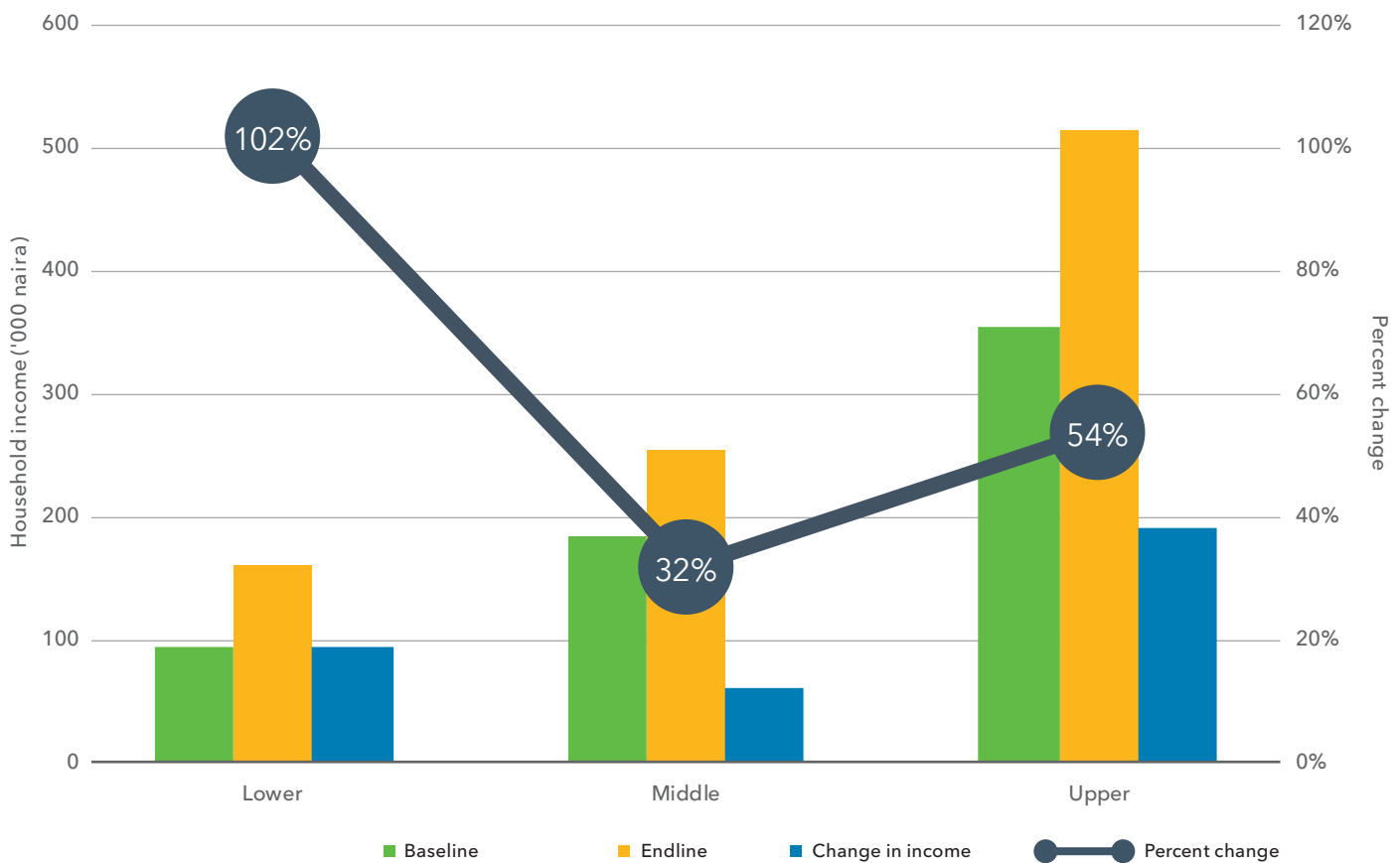
FIGURE 3 Difference between crop yields for beneficiary households and control households



Source: Household Survey 2018.

Note: The histograms with no fill show no significant yield difference between beneficiary and control households at p=0.10.

FIGURE 4 Impact of Fadama III-AF II on real household income by income tercile



Source: Household Survey 2018.

IMPACT OF FADAMA III-AF II ON HOUSEHOLD INCOME

Household income is a key indicator of livelihood restoration. On average, household income of beneficiaries increased by 53 percent—well above the project’s target of increasing income by 40 percent for 70 percent of beneficiaries. However, only 60 percent of beneficiary households achieved the 40 percent increase in household real income. To evaluate the effectiveness of the project in targeting the neediest households, we measure its income impact across poverty terciles (determined by value of household asset endowment). Figure 4 shows that Fadama III-AF II had the greatest impact on the lowest tercile, whose income doubled. Household income of the middle tercile increased by 32 percent, and of the upper tercile by 54 percent. These results show effective targeting of the neediest households, and are consistent with Fadama II’s effective targeting to the poorest.⁸

DRIVERS OF FADAMA III-AF II ACHIEVEMENTS

The key informant interviews—which included NGOs operating in northeastern Nigeria—and focus group discussion results indicate that Fadama III-AF II has achieved remarkable success, and stands out as the most effective project in the region in terms of providing humanitarian support and restoring livelihoods. What explains this success? When compared to the 65 NGOs and other actors operating in northeastern Nigeria, Fadama III-AF II has the following unique advantages:

- › **LONG-TERM ENGAGEMENT.** The National Fadama Development Project’s 25-year engagement in rural development in northeastern Nigeria, carried out in three phases, has given it a rich regional experience and institutional memory of opportunities and challenges.

› **DOMESTIC ACTORS AND GOVERNMENT INVOLVEMENT.**

While all 65 NGOs and projects operating in northeastern Nigeria are either international organizations or managed by foreign agencies, Fadama is a local project—operated by Nigerians and financed by the Nigerian government with a loan from the World Bank. Government involvement has been crucial to the sustainability of successful interventions.

› **MULTIPRONGED APPROACH.** Most NGOs have been simultaneously providing humanitarian support and livelihood restoration, but their interventions have been limited in scope. For example, most of the NGOs do not invest in community infrastructure development—the area where Fadama III-AF II invested the largest share of its funds. The multipronged approach has been shown to create co-benefits that enhance the impacts of individual interventions.

› **BOTTOM-UP APPROACH.** Community-Action Plans identified the most critical investments to address local challenges, improving the impact of interventions.

› **COLLABORATION WITH NGOS.** Fadama III-AF II subcontracted NGOs and organizations to implement some of its interventions. This collaborative engagement leveraged the comparative advantages of NGOs and other projects. For example, the World Food Programme was contracted to implement humanitarian support.

IMPROVING FADAMA III-AF II

The success of the Fadama III-AF II approach in combining humanitarian assistance and resilience-building has been documented by this study, but there is room for improvement. Investment in irrigation equipment was limited—only 319 irrigation pumps were provided among the 32,000 beneficiary households. Given the dry conditions in northeastern Nigeria and the impacts of climate change, Fadama III-AF II should consider increasing investment in dry-season irrigation. The benefits of irrigation investments for food and nutrition security and incomes are realized quickly, and many people in the community—including non-beneficiaries—enjoy benefits as consumers of the produce.

Fadama III-AF II had little impact on nonfarm activities, primarily because of its focus on restoration of agricultural activities. Livelihood diversification is an important strategy for building resilience against shocks, and nonfarm activities should be considered in Fadama III-AF II initiatives.

Fadama III-AF II has reached only 32,000 households, just 8 percent of the total population in need of humanitarian support and livelihood restoration. More resources should be allocated to the region by both the government and development partners. The success stories suggest that Fadama III-AF II is in a unique position to use the pooled resources efficiently for livelihood restoration. The Fadama approach should be mainstreamed to ensure that its extensive experience and institutional memory contribute to the design and cost-effective implementation of government humanitarian and livelihood restoration programs.

NOTES

- 1 UNHCR and World Bank, *Forced Displacement by the Boko Haram Conflict in the Lake Chad Region* (Geneva and Washington, DC: 2016).
- 2 International Organization for Migration, Round 25 Displacement Tracking Matrix (October 2018); National Bureau of Statistics, Nigerian Gross Domestic Product Report Quarter Four 2014.
- 3 B. Roberts, K. F. Ocaika, J. Browne, T. Oyok, and E. Sondorp, "Factors Associated with the Health Status of Internally Displaced Persons in Northern Uganda," *Journal of Epidemiology & Community Health*, 63 no.3 (2009): 227-232.
- 4 T. R. Frankenberger, M. A. Conostas, S. Nelson, and L. Starr, [Resilience Programming among Nongovernmental Organizations: Lessons for Policymakers](#) (Washington, DC: IFPRI, 2014).
- 5 M. J. Friedrich, "Multipronged Approach Helps Alleviate Poverty," *Jama* 314, no. 3 (2015): 216-216; UNDP, Expert Group Meeting on Strategies for Eradicating Poverty to Achieve Sustainable Development for All, New York, May 8, 2017.
- 6 M. Deitchler, T. Ballard, A. Swindale, and J. Coates, "Introducing a Simple Measure of Household Hunger for Cross-Cultural Use," Technical Note No. 12, Food and Nutrition Technical Assistance II Project, FHI360, Washington, DC, 2011.
- 7 E. Nkonya and J. Koo, "[The Unholy Cross: Profitability and Adoption of Climate-Smart Agriculture Practices in Africa South of the Sahara](#)," in *A Thriving Agricultural Sector in a Changing Climate: Meeting Malabo Declaration Goals through Climate-Smart Agriculture: 2016 ReSAKSS Annual Trends and Outlook Report*, ed. A. De Pinto and J. M. Ulimwengu (Washington, DC: IFPRI, 2017).
- 8 E. Nkonya, D. Phillip, T. Moguees, J. Pender, and E. Kato, [From the Ground Up: Impact of a Pro-poor Community Driven Development Project in Nigeria](#) (Washington, DC: IFPRI, 2010).

Ephraim Nkonya is a senior research fellow and **Edward Kato** is a senior research analyst, Environment and Production Technology Division, International Food Policy Research Institute, Washington, DC, USA. **Dauda Bawa** is a professor, University of Jos, Plateau State, Nigeria. **David Maurice** is a professor, Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria. **Nasiru Murtala** is a professor, Abubakar Tafawa Balewa University, Bauchi State, Nigeria. **Patrick Kwaghe** is a professor, University of Jos, Plateau State, Nigeria. **Yakubu Bila** is a professor, University of Maiduguri, Borno State, Nigeria. **Rabiu Sani** is a professor, Abubakar Tafawa Balewa University, Bauchi State, Nigeria. **Hadiza Nuhu** is a professor, University of Maiduguri, Borno State, Nigeria.

The authors are grateful to the World Bank and the National Fadama Coordination Office (NFCO) for funding this study. The farmers, key informants, and community members who participated provided valuable information, and their contribution is gratefully acknowledged. The authors are grateful to the six state Fadama offices for providing logistical support and guidance during the study. The effort and commitment of the enumerators who collected data in a short time and in an insecure environment are gratefully acknowledged. The authors are also grateful to IFPRI communications staff, who provided helpful support. Likewise, the authors are grateful to NFCO staff for their excellent logistical support. Only the authors are responsible for errors or omissions.

This publication has been prepared as an output of IFPRI's Impact Assessment in the Implementation of Fadama III-Additional Financing (AF) II project. It has not been independently peer-reviewed. Any opinions expressed here belong to the author(s) and do not necessarily reflect those of IFPRI.

Photo: Ms. Regina Festus

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info

© 2019 Copyright remains with the author(s). All rights reserved.