



Report Number: ICRR0022399

1. Project Data

Project ID

P096572

Project Name

NG-Fadama Development-III SIL (FY08)

Country

Nigeria

Practice Area(Lead)

Agriculture and Food

L/C/TF Number(s)

IDA-44940,IDA-52930,IDA-58490

Closing Date (Original)

31-Dec-2013

Total Project Cost (USD)

472,818,485.54

Bank Approval Date

01-Jul-2008

Closing Date (Actual)

31-Dec-2019

IBRD/IDA (USD)
Grants (USD)

Original Commitment

250,000,000.00

0.00

Revised Commitment

499,994,644.53

0.00

Actual

472,818,485.54

0.00

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2. Project Objectives and Components

a. Objectives

The original Project Development Outcome (PDO), as mentioned in the Loan Agreement, was “to increase the incomes for users of rural land and water resource within the Fadama areas in a sustainable manner throughout the Recipient’s territory”.



The PDO was revised during the second additional financing (AFII) to “increase the incomes for users of rural lands and water resources in a sustainable manner, and to contribute to restoration of the livelihoods of conflict-affected households in the selected area in the North East of the Recipient's territory”.

For the implementation and completion report (ICR) review, the revised PDO will be split into two objectives: (1) “to increase the incomes for users of rural lands and water resources in a sustainable manner”; and (2) “to contribute to the restoration of the livelihoods of conflict-affected households in the selected area in the North East of the Recipient's territory”.

The initial PDO had five indicators (see efficacy section). The target of the PDO indicator linked to agricultural yield increases was revised twice. First, the indicator itself was changed from ‘yield of primary agricultural products (disaggregated by crops/agroforestry, livestock and fisheries, etc.) of participating households’ into the ‘increase in yield of cassava, rice, sorghum, and horticulture’ during the AFI to reflect the change in project approach to focus on targeted value chains. Second, the targets of these indicators (‘percent increase in yield’) were revised during the AFII from 20% to 40%. Three additional PDO indicators were added during the AFII, linked to the second objective of the revised PDO (see efficacy section).

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

07-Jun-2016

c. Will a split evaluation be undertaken?

No

d. Components

The appraisal and actual estimates of project costs are inconsistently reported for the different components in paragraphs 10 – 16, Annex 3, and Annex 6. The numbers below are those that were shared by the World Bank team in a follow-up communication to clarify these inconsistencies.

Component 1. Capacity Building, Local Government, and Communications and Information Support (appraisal cost: US\$79.6 million, of which IDA US\$28.2 million, actual cost: US\$60.4 million (all IDA)). The ‘Capacity Building’ component aimed at strengthening the capacity of the following groups and associations supported by the project. First, the component supported the organization of user groups (Fadama User Groups, FUGs) and their associations (Fadama Community Associations, FCAs); and facilitated their registration with state cooperative departments (Local Government Authority, LGA). Second, the component supported the capacity of FCAs and their constituent Economic Interest Groups (EIGs), FUGs, Production Groups, and Production Clusters so that these groups were capable to apply for project advisory services and financing. The capacity of the FCA and EIGs was expected to be built through group mobilization and sensitization of project beneficiaries; training on the development of business plans; connection with financial institutions; support to implement business-plan activities; and training for market-oriented



facilitators. Third, the component supported the capacity of producer organizations to strengthen their contractual linkage with other actors in the value chain (e.g., agro-dealers, processing firms, etc.) by providing technical assistance. Finally, the component supported the efficiency of LGA staff by providing training on investment planning, community mobilization, and supervision and monitoring of community development projects.

Component 2. Small-Scale Community-owned Infrastructure (appraisal cost: US\$73.4 million, of which IDA US\$66.1 million, actual cost: US\$135.5 million (all IDA)). The 'Rural Infrastructure Investment' component aimed at creating economic infrastructure and local public goods to improve the productivity of Fadama beneficiaries. Rural infrastructure was expected to improve from the civil work investments on irrigation systems, storage and processing facilities, mechanized workshops, market infrastructure, access and feeder roads linking farms to markets and processing centers, internal farm roads, and hydraulic structures; leading to sustainable productivity improvements. Beneficiaries were expected to pay 10% of the construction costs of the investment in rural infrastructure.

Component 3. Advisory Services and Input Support (appraisal cost: US\$39.0 million, of which IDA 24.6 million, actual cost: US\$74.1 million (all IDA)). This component had two aims. First, the component aimed at supporting advisory services that would enable Fadama users to purchase advisory services from public and private sources. Second, the component aimed at supporting input provision that would allow users to adopt new technology – mainly seed, fertilizer, and agro-chemicals – to enhance crop output and profitability of Fadama enterprises. Improved uptake of advisory services and inputs were expected to be facilitated through matching grants of 50% given to each FUG for the purchase of advisory services or inputs (implying that FUG members would contribute the remaining 50%). The component further supported Advisory Services and Inputs Consultants (ASICs), downstream Advisory Service Providers, Smart Farmers, and Package of Practices.

Component 4. Support to the Agricultural Development Programmes (ADPs), Sponsored Research, and On-Farm Demonstrations (appraisal cost: US\$39.0 million, of which IDA US\$6.4 million, actual cost: US\$33.5 million (all IDA)). This component also had two aims. First, the component aimed at supporting public agricultural extension services in the participating LGAs by providing on-the-job training. Through these capacity-building activities, extension officers were expected to provide demand-driven advisory services to users and quality assurance to private advisory service providers. Second, the component aimed at supporting demand-driven adaptive research to demonstrate new technologies adapted to beneficiaries' needs. Activities included sponsored research and on-farm demonstrations.

Component 5. Asset Acquisition for Individual Fadama User Groups (FUGs)/Economic Interest Groups (EIGs) (appraisal cost: US\$153.0 million, of which IDA US\$105.0 million, actual cost: US\$123.5 million (all IDA)). This component aimed at facilitating individuals' or FUGs' acquisition of productive assets to improving Fadama users' productivity and income. Asset acquisition was expected to be achieved by providing matching grants that would allow beneficiaries to acquire capital assets for pursuing a wide range of small-scale income-generating activities. Fadama beneficiaries were required to pay 30% of the cost of the assets acquired. In addition, complementary support was provided to increase the value added to farm produce.

Component 6. Project Management, Monitoring, and Evaluation (appraisal cost: US\$63.4 million, actual cost: US\$48.1 (all IDA)). This component aimed at supporting new or existing institutions at the federal,



state, and local levels of government for overall project coordination and supervision to strengthen the effectiveness and quality of project operations.

Component 7: Food Security and Livelihood Support Investment Program (actual cost: US\$44.2 million). The AFII introduced a 'humanitarian relief' component intended to restore the food security and livelihoods of returnees, internally displaced persons (IDPs), and host farmers in conflict-affected communities. The restoration of food security and livelihoods was expected to be achieved through increased agricultural production, improved cash income, enhanced access to rural services, increased community entrepreneurship, and enhanced institutional capacity. The component included several activities: emergency food assistance, cash-for-work for young people, and livelihood support for (self-selected) farm or non-farm activities. Below is a more detailed description of these activities.

First, the component provided emergency food assistance for beneficiary returnees and IDPs. Second, IDPs and returnees were offered immediate employment through cash-for-work programs. This was expected to bridge the loss of income until the next agricultural production season or until they could establish a new livelihood source. The cash-for-work activities included the rehabilitation of community infrastructure damaged during the conflict. More in specific, the activities aimed to support (i) the rehabilitation of community infrastructure that enhanced agricultural productivity (rural feeder roads, storage facilities, aggregation centers, bridges) and (ii) engagement in community activities (tree planting, soil conservation, sanitation works, and initial labor on individual farms or communal farms). Third, the component provided technical assistance to beneficiaries so that they could acquire productive assets for the livelihood of their choice, either on-farm and off-farm activities. The farm production of beneficiary farm households was supported through the provision of advisory and extension services, starter packs of agricultural inputs, and improved post-harvest handling and management. In addition, the component provided support to capacity building, entrepreneurial skills training, and mentoring to help beneficiaries in rebuilding their lives and overcoming trauma. Start-up capital and skills training were directed particularly to vulnerable youth and female-headed households.

This component was implemented by two United Nations organizations partners on the ground (the World Food Programme and The Food and Agriculture Organization) and several international and local NGOs. Community Action Plans were used to disburse and provide support and conflict-affected families were identified by the Recovery and Peace Building Assessment

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

The original amount of funding committed to the project was US\$450 million, of which US\$250 million was expected to come from IDA financing and US\$200 million from non-World Bank financing. The latter financing included contributions of the borrower (US\$100 million), local communities (US\$60 million), and local governments (US\$20 million). There is no discussion on the rationale, source, or feasibility of the non-World Bank financing in the ICR. During the first AF (AFI) and the second AF (AFII), IDA committed to an additional financing of US\$200 million and US\$50 million, respectively.

As mentioned above, the reporting on project cost and financing is inconsistent in the ICR, and therefore, the figures from the follow-up communication with the World Bank team are used. At the end of the project, the actual disbursement totaled US\$522 million. The actual disbursements from IDA were as follows: \$236 million for the original project, \$182.4 million for the AFI, and \$49.2 million for the AFII. The financing from



non-World Bank sources totaled US\$54.5 million, substantially less than what was committed at project appraisal.

The project was approved on July 1, 2008, and became effective on May 23, 2009. The original date of closure was December 31, 2013; but was changed several times as a consequence of the two additional financing. On June 28, 2013, the AFI extended the closing date of the project by four years to December 31, 2017. The AFII extended the project's closing date by another two years to December 31, 2019. Thus, in total, the project got an extension of 6 years.

The project was restructured five times during the two additional financings and three project restructurings (March 19, 2012; June 20, 2017; October 23, 2018). These restructurings included a reallocation of resources among disbursement categories, revisions to the results framework, and extensions of the closing date.

3. Relevance of Objectives

Rationale

The Fadama Development-III project (FIII) was the third and last phase in the Fadama project series introduced in Nigeria to promote productivity growth and transformation in the agricultural sector. The FIII built upon the investments in the agricultural sector made by the first (1992 – 1999) and second (2003 – 2009) Fadama project. The series of Fadama projects fit within the government's national agenda to diversify its economy away from the dependence on the oil industry and use agricultural growth as a vehicle to achieve food security, economic growth, and poverty reduction. In particular, the FIII fitted in the 5-year Agricultural Transformation Agenda introduced by the Federal Ministry of Agriculture & Rural Development (FMARD) in 2011. One core element of the FIII was the community-driven development (CDD) approach in which local communities were given the responsibility to decide on the type and amount of investment in productive assets, prepare business plans, and manage the project.

The PDO to sustainably increase incomes (or restore livelihoods) of project beneficiaries and the CCD approach to agricultural development remain highly relevant today. The original and revised PDOs are in line with several objectives of the 5-year Agriculture Promotion Policy introduced by the FMARD in 2016. This five-year policy aimed at improving the production and quality of food by addressing (i) the low productivity levels that are insufficient to satisfy domestic food demand and (ii) the inability to comply with food quality standards required by export markets. The project contributed to addressing the fundamental challenges holding back the development of the agricultural sector in Nigeria.

The PDOs of the FIII are also relevant for achieving the World Bank Group's twin goals of poverty reduction and shared prosperity in Nigeria. More in specific, both objectives of the revised PDO contribute to the country's priority to diversify economic growth and job creation, with a focus on social inclusion of youth, women, and the poor in marginalized areas.[1] The first objective directly addressed one of the key constraints to inclusive growth ('difficult access to land and technology condemns agriculture to low productivity') identified in the most recent Systematic Country Diagnostic (2020). The second objective of the revised PDO, introduced by the AFII of the FIII, was important in supporting the World Bank Group's effort to improve service delivery, social cohesion, and livelihood diversification of individuals in the conflict-



affected northeastern part of Nigeria. It addressed the constraint of ‘violent internal conflicts’ to inclusive growth identified in the Systematic Country Diagnostic (2020).

While the PDOs are relevant to address both the low agricultural productivity levels and high rural poverty rates in rural Nigeria, a few issues arise in how the PDO is framed. The first part of the revised PDO aims to improve incomes ‘in a sustainable manner’. However, the ICR does not explain how sustainable increases in income are defined. Is it unclear whether the term sustainable refers to: (i) the sources of income growth (i.e. sustainable intensification of resource use), (ii) the management of resources (sustainable land management practices) and equipment (operation and maintenance), (iii) the environment, (iv) social inclusion (avoiding conflict between the different land users or beneficiaries and non-beneficiaries), (v) integration into financial and output markets, or (vi) all of these experts. The PDO is also vague in the definition of beneficiaries which is labeled as ‘users of rural land and water resources’. The ICR refers to farmers, pastoralists, and EIGs as Fadama users. While it is clear from the project activities that the agricultural production of farmers would be directly supported, it is less clear how the project would directly support pastoralists. This is important, as the earlier phases of the Fadama learned that conflict between Fadama beneficiaries relying on the same resources (that is, land with customary tenure systems) is likely to arise when one group of users is favored over the other group.

Finally, it is difficult to assess how ambitious an objective ‘to increase income’ is without a clear target (or baseline). Instead, the target of the first PDO indicator (to measure achievement to increased household income) was very ambitious: 75% of all beneficiaries would see an increase in their income of at least 40%. Between Fadama II and III, the target was changed from “increasing the average real incomes of 50% of the targeted project beneficiaries by 20%” to “increasing the average real incomes of 75% of the targeted project beneficiaries by 40%”. This is a doubling in terms of the average income increase and a 50% increase in the number of beneficiaries expected to achieve this. The ICR, however, does not discuss the assumptions or justification for this increased target of expected income increases. As a result, it is difficult to assess whether the objectives were overly ambitious, especially given the challenges the FII had to demonstrate income effects.

Conclusion: The project was relevant, at appraisal and closure, to help address Nigeria’s challenges to improve agricultural productivity and rural incomes, which were both identified by the government and the World Bank as key priorities for intervention. Despite the relevance to World Bank and government strategies, the definition of sustainability and project beneficiaries, as well as the ambition to increase income, were unclear. The Relevance of the PDO indicator is rated Substantial.

[1] Note that the latest Country Partnership Framework of the World Bank Group for Nigeria is not publicly available yet. The World Bank Group’s strategy for Nigeria was taken from the website on its engagement in the country: <https://www.worldbank.org/en/country/nigeria/overview#2>

Rating

Substantial

4. Achievement of Objectives (Efficacy)



OBJECTIVE 1

Objective

Objective 1 – to increase the incomes for users of rural lands and water resources in a sustainable manner

Rationale

Theory of change. The ToC identified that the project objective to increase incomes in a sustainable manner would be achieved through increased quantity of and better prices for crops, livestock, and fisheries output. The link between these two outcomes and the objective is logical. It is further plausible that their achievement will contribute to the achievement of the stated objective: to earn higher agricultural incomes you need both more agricultural output and higher prices for the realized output.

The intermediate outcomes to achieve **increased agricultural output** are (i) enhanced farmer capacity; (ii) increased utilization of land, livestock, fisheries; (iii) increased productivity of land, livestock, fisheries, (iv) increased participation by youth and woman in agriculture, and (v) off-farm and value addition. Note that the ToC does not refer to 'enhanced farmer capacity' but includes the intermediate outcome 'productivity enhanced'. However, this label overlaps with another intermediate outcome 'increased productivity of land, livestock, fisheries'. The ICR review, therefore, refers to 'enhanced farmer capacity' based on the inputs linked to this intermediate outcome in the ToC.

The outputs expected to 'increase farmer capacity' were improved collective action that would result in improved access to finance, production, management, and capacity of farmer groups. The 'increased utilization of farm assets' was expected to be achieved both from increased intensification and extensification of agricultural land. The ToC does not explain how the project expected to intensify the use of agricultural assets other than land. Further, the ToC identified several outputs related to increased market access (reduced post-harvest losses, improved market access, improved transportation) that would lead to increased utilization of farm assets, but the logic of the direct link is not clear. The ToC could have mentioned whether this effect is hypothesized through price or incentives effects. Moreover, these outputs are more likely to contribute to the intermediate outcome of increased access to markets, but there is no connection in the ToC.

The expected outputs to 'increase productivity of land, livestock, fisheries' were the timely access to agricultural inputs, timely access to advisory services, improved access to extension, improved access to quality seeds, and improved sorting and grading capacities. Achievement regarding these outputs are all logically connected to improved productivity. However, the ToC also identified 'improved production and consumption capacity' as an expected output for increased productivity, but it is not clear what this output means and how it links to productivity. Finally, the 'increased participation by youth and woman' in agriculture was expected to be achieved by the output of equitable access to services.

The intermediate outcome to achieve **better prices** in the ToC is 'increased market access'. The expected outputs to contribute to increased market access were the same outputs as those that would contribute to increased farm productivity. However, it is not clear how access to extension and modern inputs would *automatically* result in better market access and higher prices. On the contrary, it is remarkable that the ToC puts 'increased market access' as expected outputs to contribute to 'increased utilization of farm inputs' outcome, but does not connect this output with the intermediate outcome 'increased access to markets'.

The ToC lacks an important additional pathway through which the project was expected to affect the objective of increased income. More in specific, the ICR (para 33) mentions that household income would increase



from diversified non-farm income-generating activities. This was expected to be achieved through the increased purchase of productive assets for income-generating activities to beneficiaries (from the matching grants). However, from the ToC, it is not clear how diversification into non-farm activities would lead to increased output or better prices. It could have been included as a separate outcome.

As matching grants for advisory service and productive assets were provided to groups (FUGs and FCAs) rather than on an individual basis, individual access depends on the sharing of services or equipment between members of the groups. The ToC should have been clear that it makes the important assumption that intragroup dynamics allow for fair and equitable access of members (and there is no elite capturing).

Finally, it is not clear from the ToC how the project expected to achieve **sustainable** increases in the quantity of and better prices for crops, livestock, and fisheries output. Similarly, even though the project 'explicitly supported vulnerable populations, including women' (ICR para 62), it is not clear whether women were targeted as direct beneficiaries or would benefit indirectly through the project participation of their husbands.

For detail on the various approaches to compiling evidence against the project's objectives, please refer to section 9 on M&E utilization.

The efficacy discussion is structured as follows: a detailed list of outputs and outcomes the project aimed to achieve are listed first. Then, the project's stated achievement regarding outcomes is discussed.

Outputs. An overview of the different outputs linked to the first objective is provided below using the information reported in Annex 1 and 6 of ICR. Because the results framework of the project contained many output indicators, the overview is structured according to the different project components. In general, the achievement concerning the output is reported using the information at the end of the project, unless noted otherwise.

Beneficiary outreach:

- 1,165,132 direct project beneficiaries, against a (revised) target of 1,014,000. The target of this indicator was achieved by 115%. Note that Annex 6 of the ICR refers to 1,218,824 direct beneficiary households of which 36.2% were headed by women.
- 37% of project beneficiaries are females, against a (revised) target of 30%. The target of this indicator was achieved by 123%.
- 95% of assets and community-owned infrastructure are operating satisfactorily and are maintained and utilized, against a (revised) target of 50%. The target for the indicator is achieved by 190%.

Capacity building:

- 101,845 of FUGs and FCAs have been registered, against the target of 118,280. The target for this indicator was achieved by 86%.
- 80,329 FUGs and FCAs have been trained, against the target of 117,680. The target for this indicator was achieved by 68%.
- 2,713 LGA staff have been trained in project management skills, against the target of 3,000. The target for this indicator was achieved by 90.4%.
- 9 information dissemination media were made available in participating states, against the target of 10. The target for the indicator is achieved by 90%.



- 82% of beneficiaries have successfully negotiated contracts, against the target of 75%. The target for this indicator was achieved by 110%.
- 97% of participating local communities have Local Development Plans (LDPs) developed against the target of 75%. The target for this indicator was achieved by 131%. This achievement was reported by MTR.
- 55% of participating LGAs integrated LDPs in their annual plans, against the target of 30%. The target for this indicator was achieved by 183%. In part A of Annex 1, the target is 20%.
- 85% of FUCs and FCA have fully implemented approved LDPs against the target of 75%. The target for this indicator was achieved by 114%.

Infrastructure:

- 46% of Fadama communities have at least one productive infrastructure constructed or rehabilitated, against the target of 40%. The target for this indicator was achieved by 115%.
- 15,792 productive rural infrastructures constructed in the participating communities, against the target of 12,000. The target for this indicator was achieved by 152%. Annex 6 of the ICR provides a more detailed overview of the infrastructure completed, which is summarized here:
 - Road investment: 30 feeder roads, 1,842 km access roads, surface-dressed feeder roads 222.3 km.
 - Water control structures: 1,943 ha of rehabilitated irrigation systems surface; 20.8 km of rehabilitated irrigation canals; 1,050 ha new surface irrigation systems; 6,553 tube wells, 11,759 wash bores; 49 drainage facilities; 594 culverts; 16 small earth dams; 67 small bridges; and 11 sprinkler irrigation systems.
 - Mechanization support: 19 Agricultural Equipment Hiring Enterprise centers, area cultivated using mechanization support increased from 6,976 ha at the MTR to 207,160 ha.
 - Market infrastructure: 1,736 markets; 324 storage facilities; 709 lock-up shops; 1,736 market stalls; 125 cooling sheds; 177 cold storage facilities; 11 drying slabs; 465 VIP toilets; 47 net tomato houses; 21 water harvesting facilities; 612 boreholes; 61 watering points; 2,591 poultry houses; 1,416 concrete fishponds; 13 abattoirs; and 2,765 units of processing equipment housing.

Advisory services:

- 91% of the Fadama users in the participating communities had procured advisory services, against the target of 30%. The target for this indicator was achieved by 303%. This share corresponds to 200,241 producers of which 154,040 men and 46,201 women. Other outputs achieved were the certification of 6,650 service providers, engagement of 4,587 service providers (3,460 private and 1,127 public), and technical assistance of 214,874 farmers by 1,099 ASICs.
- 214,381 FUGs and FCAs receiving matching grants for the purchase of agricultural inputs, against the target of 50,000. The target for this indicator was achieved by 429%.
- 200,241 FUGs and FCAs receiving grants procured advisory services, relative to the target of 117,668. The target for this indicator was achieved by 170%.
- 97% of beneficiary Fadama farmers received access to agricultural inputs, against the target of 50%. The target for this indicator was achieved by 194%. In total, 709,181 farmers obtained agricultural inputs (ICR para 24). As an example, the share of farmers with access to improved seed rose from 2% to 93% (ICR para 24).



Research:

- 96% increase in Fadama farmers receiving extension services from ADP, against the target of 80%. The target for this indicator was achieved by 120%.
- 183% increase in the adoption of new technologies in Fadama communities, against the target of 20%. The target for this indicator was achieved by 915%.
- 63 research institutes received research grants, against the target of 12. The target for this indicator was achieved by 525%.
- 40,140 ADP staff had been trained in the management and delivery of extension services, against the target of 2,000. The target for this indicator was achieved by 2,007%.
- 63% of beneficiaries had received e-extension services, against the target of 50%. The target for this indicator was achieved by 126%.
- 61% of beneficiaries had received nutrition awareness information, against the target of 50%. The target for this indicator was achieved by 122%.
- 35% of beneficiaries used inputs rich in micronutrients, against the target of 20%. The target for this indicator was achieved by 175%.

Productive assets:

- 64% of FCAs had access to market information, against the target of 30%. The target for this indicator was achieved by 213%.
- 297,571 pieces of equipment were acquired by FUGs and FCAs, against the target of 110,000. The target for this indicator was achieved by 271%. 88,456; 94,540; 6,121; 140,367 equipment were acquired for crop production, livestock production, fisheries and agro-processing. According to Annex 6 (para 35), Fadama beneficiaries acquired 537,832 productive equipment. 186,114 of the 537,832 productive equipment were directly used to generate income. The total number includes assets purchased under the original project (178,385), the AF1 (305,048), and AF2 (45,932). The most commonly acquired assets were used for crop production (408,763), livestock production (91,669), and agro-processing (23,640).
- 33,975 unemployed graduate youths received project support to engage in agriculture and agribusiness, against the target of 1,800. The target for this indicator was achieved by 1,888%. Annex 6 also mentions that 5,059 young people (of which 29% females) received start-up support under the Graduate Unemployed Youth and women Support (GUYS).

Outcome. An overview of the outcomes identified in the TOC is provided below.

- 100% of beneficiaries, who benefit directly from Project supported activities, have increased their average real incomes by at least 40%, against a target of 75%. The data come from the results framework. However, according to the ICR “Attributing these improvements in income solely to the project’s interventions disregards the effects of factors exogenous to the project [...]. For that reason, this ICR assesses achievement of this indicator based on rigorous impact evaluations undertaken by teams from the [IFPRI] and other independent consultants” (ICR para 30). Therefore, we rely on the evidence generated by the impact evaluations on changes in household income:
 - The endline survey report (Nkonya et al. 2017) shows that 36% of the beneficiaries of the original Fadama III project saw their real income increase by 40%. On average, beneficiaries increased their real income by 28%.



- The impact assessment of the AFII (Nkonya et al. 2019) found that 60% of AFII-beneficiaries saw their real income increase by 40% and that the average increase in income was 53%.
- Thus, according to the IE data, the project did not achieve to increase the income of a sufficient number of beneficiaries by over 40%, irrespective of the type of beneficiary.
- The ICR also refers to the PES data to assess achievement to the income outcome disaggregated by the type of beneficiary:
 - 60% of the beneficiaries of the AFI saw their real income increase by 40%. The average increase in these beneficiaries' income was 154%.
 - 51% of the beneficiaries of the AFII saw their real income increase by 40%. Their increased – on average – by 109%.
- However, as mentioned before, the PES data allow for a descriptive assessment and impact is measured by comparing individual-level outcome in 2018 with the average group-level outcome in 2014 (thus only a before and after comparison using mean levels, without controlling for confounding factors).
- 330% increase in beneficiaries' yield of cassava, rice, sorghum, and horticulture against a (revised) target of 40%. The target for this indicator was achieved by 825%.
 - The indicator was originally labeled "increase in yields of primary agricultural products (disaggregated by crops/agroforestry, livestock, and fisheries)" and had a target of 20%. In a follow-up communication, the World Bank team explained that the difference in indicators was related to the different approach of the original project and AFI: "Under the Fadama III Project, beneficiaries were supported to add value to their primary production and that explain why mention was made of the different sub-sectors of Agriculture such as Livestock, Fisheries and off-course crops. While under the Fadama AF I, emphasis was only on the four value chains supported by the Project and computations were made with respect to [...] these value chains as a result of value addition between 2015 – 2018."
 - Regarding the individual yield increases of the four crops, the ICR reports: 313% increase in cassava yield (from the baseline of 5.27t/ha), 60% increase in rice yield (from 2.8t/ha), 176% increase in sorghum yield, (from 1.5t/ha), and 709% increase in tomato (from 1.6t/ha). The World Bank team clarified that the reported figure of '330% increase' is 'the average increase in yield across the 4 value chains against the Baseline figure'. It was further confirmed that 'PES data was used for the computation of the yields'. It, however, remains unclear for which beneficiaries these yield increases are representative:
 - The PES collected yield data on AFI beneficiaries and reported the following yield increases (compared to the baseline in 2014): 47% for cassava (from 12t/ha), 60% for rice (from 2.84 t/ha), 120% for sorghum (from 1.14 t/ha), and 10% for tomatoes (from 12.56 t/ha). For AFII beneficiaries, the yield increases measured were 56% for rice, 45% for sorghum, and 3% for tomatoes (from the same 2014 baseline values).
 - Note that achievement is measured for the four key crops supported by the project but not for livestock or fishery products. According to the ICR (Annex 6 p97): "The emphasis on measuring crop yields rather than assessing the production of all primary agricultural products occurred largely because non-crop enterprises such as livestock, agro-processing, and fisheries were not as widespread. [...] No data were reported on livestock productivity because of the methodological challenges involved in collecting baseline data".
- 18% of the replacement value of the common asset used by the beneficiaries for income-generating activities is saved annually (with effect from year 2), against a target of 10%. The target for this indicator was achieved by 180%. There is inconsistent information in the ICR (main text vs. Annex 6):



- In a follow-up communication, the World Bank team clarified that ‘The replacement value of an asset is that value that would replace the asset after its useful life making provision for depreciation of the asset as it is being used. This is expected to be saved from the second year of the use of the assets before it gets used up in what we referred to as Fadama User Equity Fund (FUEF). The measure is gotten from the administrative records of the Project’.
- In paragraph 41, it is stated that “[21,126 FUGs] saved ₦842,047,315.41, equivalent to 7.32 percent of the replacement value of the assets acquired.” The World Bank team clarified that this was the ‘status as at close of Fadama III’.
- However, Table A6.4 in paragraph 7 of Annex 6 reports that between 2015-2018, project beneficiaries saved a total amount of ₦652,154,514 which generate 41% replacement value of the asset saved. The World Bank team clarified that this was ‘at Mid- Term under AF I’.
- Later, in paragraph 37, Annex 6 states that “At project closing, savings in the FUEF account to operate, maintain, and replace that equipment totaled ₦609,189,766, representing 15.3% of the replacement value of the assets—5.3% higher than the target”.
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- 96% of beneficiaries are satisfied with operations, maintenance, and utilization of community-owned infrastructure and capital assets acquired through the FIII, against a target of 75%. The target for this indicator was achieved by 128%. Note that the main text of the ICR mentions an achievement of 94% (ICR para 44).
- 37% increase in project beneficiaries’ income through sales from value-added agricultural products, against the target of 20%. The target for this indicator is achieved by 128%.
 - Note that the ICR puts increased outcome from sales as an output, but it is considered as an outcome here. Note also that it is gross income and not net income.
 - Annex 6 presents data on sales using two different indicators: Table A6.19 reports the ‘Percent increase in income from sale value of value added agricultural products’ for livestock, fisheries, and crops and table A6.21 reports the ‘Additional gross income obtained from sales of value-added agricultural products’ for Cassava, Rice, Sorghum, and Tomato, which is specific to four crops. As mentioned above, the follow-up communication clarified that this was due to the change in project approach to specific value chains during the AFI.
 - Table A6.19 reports that the gross income from the sales of livestock, fisheries, and crops increased by 7, 9, and 88%, respectively. Table A6.19 reports that the additional gross incomes from the sales of Cassava, Rice, Sorghum, and Tomato were 30, 74, 209, and 0.

Discussion. The project set a very ambitious target to achieve a 40% increase in the income of 75% of the beneficiaries. To measure achievement, different independent impact evaluations were commissioned. In addition to the issues of the impact evaluation identified before, interpretation of the evidence it generates suffers from the following shortcomings.

- Increased agricultural output was the first pathway in the ToC through which the project would achieve sustainable increases in beneficiary incomes. The indicator on yields shows a tripling of aggregated commodity yields, mostly driven by substantial increases in the yield of cassava and tomato. The output indicators document achievements on the delivery of public infrastructure (including irrigation), farm advisory service, farm inputs (through matching grants), agricultural extension, and productive assets. It is, however, unclear which output is the driver behind these spectacular productivity increases (for particular crops) and whether these increases are sustainable. For example, the access to irrigation might have allowed for an additional cultivation season in dry areas, but the increased usage of water resources or more intensified use of land might be unsustainable in the long term.



There is also no evidence of increased productivity of non-crop agricultural commodities (e.g. livestock).

- There is no evidence on how and whether the second pathway in the ToC, higher prices, has contributed to income increases.
- There is no discussion on how income is measured, namely, which sources of income are considered and how this data was incurred (what recall period). From the baseline report, a distinction is made between crop income, livestock income, remittances, and non-farm income; but a definition of these income sources is missing. For example, what is considered as remittances, and what sources of non-farm income were asked? Which type of crops are considered in the construction of crop income, and how was autoconsumption valued (if at all)?
- When discussing why the project did not achieve the income target, the ICR states that the project 'successfully targeted the poor' because the average income increases were higher for female and landless beneficiaries. However, there are several issues with this statement.
 - First, the results of Nkonya et al. (2019) show a non-linear effect: the increase in income of both the poorer and wealthier households is statistically significantly different from zero, but not for the middle-income group. Thus, the ICR should have been more clear that the income increases were significant for groups at both ends of the income distribution. Second, if we compare achievements across different income terciles, the same nominal increase will result in a larger relative change for the poorest group, because of their low base. While poor households gained the most in relative terms, the absolute gain for the beneficiaries in the highest income tercile is double in magnitude. A more nuanced interpretation of the finding across the income distribution would be more appropriate.
 - Second, the finding that average income increases were higher for female and landless beneficiaries does not mean that the project was more successful in targeting poor households. Ceteris paribus, landless and female beneficiaries are likely to be poorer households. Thus, the project was successful in increasing the income of households at the lower end of the income distribution, but that does not imply that the project explicitly *targeted* these households. There is no evidence in the ICR that the project targeted specific vulnerable groups.
- The finding that the project increased the income of vulnerable (female and youth) beneficiaries must be interpreted with caution because of two problematic issues in the analysis. First, as noted in the methods section, there is a significant drop in the number of female interviewees in the IE. This results in an attrition issue (it is unclear which type of female interviewees dropped out and how attrition occurs by age cohort) and small-sample issues complicating identification of the project impact on females (Nkonya 2017: p13). Second, the ICR does not provide evidence on why the project was more successful in increasing the income of vulnerable groups. On the contrary, the PES report states that "Access to input advisory services by female beneficiaries was dismally low, mostly less than 15% compared to their male counterparts. Similarly, access to input advisory services by youth beneficiaries was low, mostly less than 15% compared to adults" (PES 2020:p160). Thus, it is unclear how the project was more successful in supporting the agricultural practices of vulnerable beneficiaries, and through which mechanisms that support would have resulted in the more significant positive effects.
- Overall, the analysis conducted in the impact evaluation generates evidence that the project achieved some significant and beneficial achievements with respect to outputs and outcomes. However, the ambitious level set for the target of the main PDO indicator on income (to raise the real income of 75 percent of beneficiaries increasing their incomes by at least 40 percent) makes that the project did not achieve the ultimate income objective despite significant progress. The ICR notes that "the design



increased and doubled the targets [compared to the previous Fadama projects, which was increasing the average real incomes of 50% of the targeted project beneficiaries by 20%]. In a country with high rates of inflation, it was highly ambitious (in hindsight) to raise the target for increasing real income from 50 percent to 75 percent of beneficiaries increasing their incomes by at least 40 percent” (ICR para 72). However, without a discussion on how the target was set, it is difficult to assess whether this target was overly ambitious. Moreover, it is unclear what aspect of FIII (the demand-driven service delivery, integrated package, or value-chain focus) the project identified as a potential driver of the expected doubling of the income effect compared to the FII.

- The ICR concludes that “Overall Project Efficacy is rated as Substantial, given that the project virtually achieved or surpassed all of its objectives/intended outcomes”. The ICR also notes that the project is highly innovative in the demand-driven, comprehensive and integrated delivery of inputs and services to beneficiaries (see section 8a). The ICR, however, does not provide an overview of the share of farmers or farmer associations that simultaneously received the integrated package. In specific, it is unclear whether the FCAs that receive matching grants for agricultural inputs or advisory services are the same groups, and whether these groups are located in the communities where infrastructure was rehabilitated. The overlap in service and input delivery is important information to understand whether the target to increase the real income by 40% for 75% of the beneficiaries was realistic or overambitious.

In conclusion, the impact evaluation provides the most robust evidence on the project’s achievement regarding the target for 75% of beneficiaries to increase their average real income by at least 40%. According to this data, the FIII achieved less than half of the target (36%) for ‘original’ FIII beneficiaries. The impact evaluation of the AFII found that 60% of the households achieved an income increase of 40%, which is two-thirds of the target. Besides achievement regarding the outcome indicator, the ICR provides evidence that the project significantly (over)achieved all of the targets related to yields, savings, and sales from value-added agricultural products. Thus, the FIII contributed significantly to different drivers of change (e.g. yield) and increased average incomes by between 28% and 40%. While compared to the target of the PDO indicator, the project only partly achieved expectations, FIII did achieve substantial income increases, and (relatively more so) for vulnerable beneficiaries. Nonetheless, there is no evidence presented in the ICR that demonstrates the sustainability of the increases in income. The rating for objective 1 is, therefore, substantial.

Rating

Substantial

OBJECTIVE 2

Objective

Objective 2 – to contribute to restoration of the livelihoods of conflict-affected households in the selected area in the North East of the Recipient's territory

Rationale

Theory of change. There is no formal ToC for the second objective.

In the discussion of the ‘Revised Components’ (para 19), the expected outcome of the second objective is the “[reduced] vulnerability to a food crisis among conflict-affected returning and host farmers in North East Nigeria”. This outcome was expected to be achieved through the restoration of livelihoods, improved food and



nutrition security, and increased household incomes. The different pathways were expected to manifest as follows. First, improved food and nutrition security was expected to be achieved through the delivery of emergency food assistance. Second, the restoration of livelihoods was expected to be achieved through the delivery of cash-for-work programs, which would, directly and indirectly, affect communities. The rehabilitation of community infrastructure (rural feeder roads, storage facilities, soil conservation activities, sanitation works) would directly provide income for young people to bridge their income gap and indirectly improve market access of the communities. Third, increased household incomes were expected to be achieved through the delivery of training, technical assistance, agricultural inputs, and starter packs.

While it is clear that food assistance and cash-for-work programs would increase household livelihoods in the short run, it is unclear how agricultural investments can result in sustainable increases in household incomes given the uncertain and insecure environment created by the Boko Haram insurgency.

Outputs. The following three outputs related to objective 2 are listed in Annex 1:

- 833 villages/settlements engaged in participatory processes for beneficiary selection, against the target of 600. The target for this indicator was achieved by 138%.
- 950,400 days of work provided to returnees and conflict-affected households, against a target of 720,000. The target for this indicator was achieved by 132%.
- 812 community/farmer organizations trained to enhance their managerial and technical skills, against the target of 600. The target for this indicator was achieved by 135%.

The following four indicators are listed as PDO-outcome indicators in the ICR but are considered as output indicators here as they refer to service delivery and not project outcomes:

- 32,480 Direct Project beneficiaries households in the North East, against a target of 24,000. The target for this indicator was achieved by 136%.
- 9,841 Female Direct Project Beneficiaries Household in the North East, target a target of 30% of the envisioned 24,000 beneficiaries (7,200). The target is achieved by 137%
- 32,480 Households receiving **food assistance**, against a target of 24,000. The target for this indicator was achieved by 136%. Note that the data used to report achievement on this output indicator are the same as for the output indicator on direct project beneficiaries.
 - The food assistance consisted of 4,692 tons of various cereals, 306,400 liters of cooking oil, and 161 tons of condiments. The ICR (table A6.26), however, notes that beneficiaries (had to) share(d) food with non-beneficiaries as entire communities were facing food challenges. This resulted that in an 'unremarkable' effect of food assistance because the assistance was spread too thinly.
- 950,400 Days of **cash-for-work** provided to returnees and conflict-affected households, against a target of 720,000. The target for this indicator was achieved by 132%.
 - 7,920 youths (of which 32% females) were engaged for 475,200 days for construction works to develop community infrastructure. Additionally, 7,920 youths (of which 28% females) were engaged in community activities (e.g. tree planting).
 - These cash-for-work activities resulted in the construction of 537 surface water facilities, the rehabilitation of 146 surface water facilities, the provision of 6,519 units of irrigation equipment, and the construction of 119 market stalls and lock-up shops.



- 32,480 Households provided with **livelihood support**, against a target of 24,000. The target for this indicator was achieved by 136%. Note that the data used to report achievement on this output indicator are the same as for the output indicator on direct project beneficiaries.
 - These 32,480 households were supported (under component 7) as follows: 14,023 households to produce crops through the distribution of starter packs; 18,153 households to produce livestock; and 304 households to engage in fish farming. Nkonya et al. (2019) report that 47% of the AFII recipients received the starter packs, while 7% of the control households received similar support from NGOs not affiliated with FIII.
 - 5,350 households acquired assets (for example, electricity generator) to support a non-farm livelihood activity. It is not clear from the ICR whether these 5,350 households are a subset of the 32,480 households receiving livelihood support.
 - 812 Community organizations trained for technical and managerial skills, against a target of 600. The target for this indicator was achieved by 135%. Nkonya et al. (2019) report that AFII beneficiaries were 8 percentage points more likely to receive advisory services compared to control households (32% and 24%, respectively). Note, however, that the ICR mentions that beneficiaries were 5 percentage points more likely to receive advisory services compared to control households (10% and 5%, respectively) – while referring to Nkonya et al. (2019) for these numbers.
 - 812 Village settlements engaged in participatory process for site and beneficiary selection, against a target of 600. The target for this indicator was achieved by 135%.
 - 812 Village of selected project intervention communities have at least one of their infrastructure constructed/rehabilitated, against a target of 600. The target for this indicator was achieved by 135%.

Outcome. There are no outcome indicators specific to the second objective in the results framework presented in the ICR. The ICR, however, refers to the findings of an independent evaluation conducted by Nkonya et al. (2019). The evaluation documents how the access to rural services provided by the AFII affected the yield levels, market access, and market participation of beneficiaries compared to other conflict-affected persons not supported by the project.

Almost all AFII beneficiaries receiving starter packs experienced a significant improvement in crop yields, compared with only two-thirds of control group households that received the packs from other NGOs. It is also noted that AFII beneficiaries had significantly higher yields for maize and rice compared to control households, but that there was no significant difference for sorghum or millet (because of the limited adoption of improved varieties and inputs). The ICR refers to the Nkonya et al. (2019) report and states that “users of starter packs who received advisory services obtained significant yield increases (55.9% on average) in rice (high average yields of 4.83 t/ha), cassava (24.31 t/ha), and tomatoes (26.31 t/ha)” (ICR para 50). There is no mentioning of how the project’s support to 18,153 households and 304 households for their livestock and fish production, respectively, has affected their agricultural productivity. The ICR does mention that “productivity improvements are anticipated in livestock through breed improvement (artificial insemination)” (ICR para 50) but does not provide evidence.

Beneficiaries of the AFII saw a significant increase in their access to the nearest town and a reduction in travel time to an all-weather road. Nkonya et al. (2019) further note that the share of marketed surplus of rice, cowpea, and millet sold increased significantly for FII beneficiaries compared to control households. The magnitude of both significant effects is, however, not reported. The report does mention that “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” (Nkonya et al. 2019:p4). However, given the



high level of uncertainty and insecurity, it would be important to know whether significant marketing opportunities exist in the conflict-affected region, and how sustainable marketing investments would be.

Regarding higher-level outcomes, Nkonya et al. (2019) note that AFII-beneficiaries had higher incomes, lower hunger scores, and higher dietary scores compared to households not supported by the project. As mentioned in the M&E section, the 3-level scale of hunger is difficult to interpret, but the report shows that the household hunger score was 39 percent lower for FII beneficiaries compared to the control group, suggesting reduced food deprivation. Similarly, the dietary diversity score of project beneficiaries was 22 percent higher compared to the control group, suggesting improved nutritional outcomes. Finally, and mentioned under the outcome of the first objective, beneficiaries of the AFII increased their income on average by 53%. However, only 60% of beneficiary households achieved the expected 40% increase in household real income.

Discussion. The ICR and Nkonya et al. (2019) provide evidence that the AFII had a significant contribution to improved service delivery to beneficiaries active in crop, livestock, or fish farming. Crop farmers were found to have higher yields and higher marketed surplus for some crops (mainly staples). Another achievement of the AFII is that the incomes of project beneficiaries in the conflict-affected states increased on average by 53%. While this is a significant achievement, the project did not achieve the ambitious target of the '75 percent of beneficiaries to increase their average real income by at least 40 percent', as discussed extensively for the first objective. However, it is unlikely for a short-term additional financing to achieve large increases in household income for conflict-affected households, and a doubling of household income in these settings is remarkable.

While the income effects of the project are encouraging, the scale of the project support was limited, there is no evidence on how and why incomes for non-crop beneficiaries have increased, and the project did not promote off-farm diversification. The impact evaluation does not provide evidence on how the productivity levels of livestock farmers increased (which are the majority of households that received livelihood support). Moreover, as the AFII supported about 32,000 households, the project reached only 8% of the total population in need of humanitarian support (Nkonya et al. 2019). Finally, even though the 'multipronged' approach is considered a driver of the success of the FIII (see section 8), the project did not support the development of non-farm activities.

The rating for the second objective is, therefore, substantial.

Rating
Substantial

OVERALL EFFICACY

Rationale

Overall, the project significantly increased the incomes of land and water resource users: average incomes increased by between 28% and 40%, for vulnerable beneficiaries, and in conflict-affected communities.



Moreover, the ICR provides evidence that the project significantly (over)achieved all of the targets related to drivers of change (yields, savings, and sales from value-added agricultural products).

However, as shown by the impact evaluation, the project did not achieve the target for the PDO indicator on income, namely, 75% of beneficiaries to increase their average real income by at least 40%. The documented increases in yields and marketed surplus, moreover, pertain to outcomes of staple crop producers. No evidence is provided on how the project affected the livelihoods of livestock farmers, which constitute over half of the project beneficiaries. Similarly, despite the multipronged approach, no evidence is provided on how the non-farming activities of households were affected. Finally, there is no evidence of the sustainability of the income increases. Overall, the project achievements are substantial given the complex setting, and the rating on efficacy is Substantial, noting these shortcomings.

Overall Efficacy Rating

Substantial

5. Efficiency

Methodology. The analysis of economic efficiency in the ICR is based on an estimation of the economic rates of return (ERR) and net present values (NPV) of benefits generated by project support. The net incremental benefits aggregated at the project level were estimated over 25 years and compared with and without project support. The timeline of 25 years covers the 10 years of the project (2009 – 2019) and an additional timeline of 15 years. After the project's investment and land development manifested in the first year, benefits were expected to accrue as of the second year.

Project beneficiaries were expected to receive direct or indirect benefits from project support. Direct benefits would come from their improved access to rural infrastructure through the development of rural roads, market access facilities, and water boreholes. The construction of rural roads and markets would give farmers a larger price premium in markets compared to the farm gate, and boreholes would provide farmers access to water. At the same time, beneficiaries would see their production increased from the access to agricultural inputs facilitated by the project. A third direct benefit was the expected increased employment (income) from the project's promotion of productive activities. Finally, the project indirectly supported the productivity of beneficiaries through capacity-building support and advisory services.

The financial analysis of efficiency considered three different types of beneficiaries (or so-called representative enterprise models): farmers, managers, and owners. The financial analysis developed cost-benefit models for farm and processing enterprises. For farmers, project benefits would come from increased agricultural income. For processing entities, the benefit of participation in the FIII would materialize in the higher value of processed products and byproducts. Both models considered investment, operating expenses, and taxes as costs to the beneficiaries. The financial analysis was based on an estimation of financial flows with and without project support. The financial analysis adjusted economic prices to account for price distortions in the exchange rate, major imported inputs (fertilizer), import substitution outputs produced by the project (e.g. palm or groundnut oil), in the wage rate (to account for cyclical labor patterns in agriculture), and non-traded inputs and outputs (to account for distortionary policies).



ex-ante assessment of efficiency. The ex-ante assessment of the ERR and NPV were 29 percent and US\$439 million (₦57,073.9 million), respectively.

ex-post assessment of efficiency. The ex-post assessment updated the assumptions on the project's costs and benefits using actual data on accrued benefits and project expenditure from external data collection, M&E records, and the borrower's ICR. It further differentiated the ERR and NPV based on the different types of beneficiaries. The ex-post ERR for all beneficiaries was 47% which represents a 62% increase compared to the ex-ante assessment. The ERR was the highest for the beneficiaries of the AFII (53%) compared to beneficiaries of the FIII (47%) and AFI (49%). The ex-post NPV for all beneficiaries amounted to US\$226.9 million (₦69,200.9 million) which corresponds to a 21% increase compared to the ex-ante assessment.

general discussion of efficiency. The ex-ante and ex-post assessment of efficiency provide favorable estimates of the ERR and NPV, and were based on a robust method.

implementation efficiency. While the project was approved on July 1, 2008, it became effective after 9 months (i.e., March 23, 2009). During this period, the project staff updated project manuals, prepared initial procurement plans, and prepared safeguard documents. Building upon the institutional structures and delivery mechanisms developed under the second Fadama (FII) project, the implementation of FIII started immediately after the project became effective. An efficient implementation of the FIII resulted from the institutionalization of the CDD approach in Nigeria, which increased the capacity, inclusiveness, and effectiveness of local development interventions (ICR para 68). Moreover, the multi-agency approach of the FII fostered strong collaboration and partnerships between actors within and outside the agricultural sector. Finally, an innovative system was developed to deliver technical and advisory services to rural farmers. Some of these innovations included the use of private service providers (ASICs), an e-voucher platform to access inputs, and a farmer-to-farmer advice system. The overall administrative cost of the project was 3.4% of the total cost, which is below the average administrative cost of World Bank projects (ICR para 37).

Despite the installment of a functional delivery system and a tested CDD approach, several factors reduced the implementation efficiency. The irregular counterpart funding resulted in high staff turnover and delayed the implementation of some project activities (especially those related to component 4). According to the ICR, because the project was operational in 36 states and 685 LGAs, "the effects of defaults and delays in some states did not weigh significantly on overall project outcomes" (ICR para 82). However, the ICR also states that "a couple of states paid nothing at all" (ICR para 82). More problematic was the inability, reluctance, or unwillingness of beneficiaries to pay their contribution to specific project activities (e.g. purchase of assets) at the initial stage of the project. This delayed the implementation of the LDPs and the project had to make some course corrections. The initial grant/beneficiary contribution ratio of 50:50 for the acquisition of assets was adjusted to 70:30. Also, the initial requirement of a 10% contribution for community infrastructure was eliminated later on.

A final note relates to the overall project financing. From the project information in the ICR (p3), it appears that the borrower, local governments, and local communities would jointly contribute USD 200 Million in cofinancing. This financing did not materialize fully: In a follow-up communication, the World Bank team informed IEG that the actual counterpart funding amounted to USD 200 Million. Besides being insufficient, the ICR (especially para 82), also mentioned that counterpart funding was irregular and delayed. This is possibly related to 'a national financial crisis provoked by plummeting world oil prices over the project period' (ICR para



59). Thus, with a shortfall of USD 145 Million counterpart funding, the project had to do more (and achieved more) with less budget than was initially anticipated.

conclusion. Despite some implementation challenges, the favorable and robust economic and financial analysis, as well as the innovative and community-driven aspects of service delivery paint a rosy picture of the efficiency of the FIII. Therefore, efficiency is rated substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	29.00	100.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	47.00	100.00 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The relevance of the project was Substantial to the government's and World Bank strategy to support agricultural development as a driver of economic growth and poverty reduction in Nigeria, but the PDO lacked clear definitions of beneficiaries and sustainability. The efficacy of the project was substantial: despite not achieving the ambitious PDO indicator target, substantial increases in income and yield are measured for crop farmers and also for vulnerable beneficiaries in conflict-affected communities. Evidence is, however, lacking on whether these increases have been sustainable, as per the PDO statement. Moreover, no evidence on income gains is presented for livestock farmers and for household's diversification into non-farm activities. The economic efficiency analysis in the ICR provides very favorable estimates of the internal rate of return despite the counterpart financing shortfalls.

According to IEG's rating guidelines, a Substantial rating for Relevance, a Substantial rating for Efficacy, and a Substantial rating of Efficiency indicates an overall Outcome rating of Satisfactory.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome



The project aimed at minimizing the risk to the development outcome of beneficiaries by incorporating several mechanisms in the project's design that would ensure the sustainability of project activities. We discuss these issues in the quality-at-entry section.

Social. In essence, the project's approach of forming local institutions (the FCA and FCAs), building their institutional capacity, and supporting their members in a bottom-up, demand-driven manner ensured that the right institutional and human capacity was available to sustainably manage the assets provided by the project. It also laid the foundation of local institutions and social cohesion so that project impacts could be sustained after the project support ended.

Political. Some risks are inevitably outside the control of the project's design. The insecure and violent situation in the northeastern part of Nigeria where the Boko Haram was active is likely to lead to conflicts, disruption of communities and their infrastructure, and displace people long after the project support ended. The ICR (table A6.26) already refers to the resurgence of attacks on beneficiary communities which resulted in previously displaced beneficiaries being robbed of food, assets, and livestock.

Governance. The government's commitment to further invest in agricultural credit or agricultural services is uncertain, and high levels of fund mismanagement, elite capturing, and corruption persist (ICR para 109). In the absence of agricultural credit and adequate support systems for agricultural production pose, the maintenance of assets, equipment, and infrastructure developed by the project is threatened. A final risk is, despite the local ownership established through the CCD, the continuation of a 'business-as-usual culture associated with a traditional, top-down development approach' and gender biases (ICR para 109).

Technical. Nonetheless, some risks are related to the way the project introduced some of its support activities. For example, the project promoted the inclusion of private service providers and digitization of extension delivery. However, as the PES report documents, private and online extension services might not be inclusive for poorer beneficiaries with limited access to liquidity, internet or mobile communication, or electricity networks. Moreover, the project sought to establish contracts between producers and off-takers, but the ICR mentions that "some parties on both sides reneged on contracts" (ICR table A6.10). The non-honoring of contracts is likely to be detrimental to trust between the different parties, and once broken, very hard to rebuild. Yet, trust is of crucial importance to establish an inclusive and sustainable value chain to commercialize agriculture and include farmers in contractual engagement with agribusinesses.

Scope. Finally, the ICR draws a valuable lesson that, despite the national coverage of the project (80% of LGAs were covered), only 4.2% of farmers were directly supported by FIII (ICR para 110). This project scope (limited in terms of beneficiaries but extensive in geographical scope) resulted in thinly spread project investments. According to the ICR, this is because of the "huge demand from states and local governments" (ICR para 110). Hence, even if the project has significantly contributed to improvements of beneficiaries' income – albeit below target – the project is unlikely to substantially affect the higher-level objective of the Fadama project series (to use agricultural growth as a vehicle for economic growth) as very few beneficiaries were reached.

8. Assessment of Bank Performance

a. Quality-at-Entry



Building upon the experiences of the earlier phases of the Fadama project, the World Bank team had access to lessons on factors of success and challenges of the previous phases. Two elements were of particular importance to ensure a sound quality-at-entry. First, the CDD approach, on which the participatory and demand-driven design was built, had been introduced and field-tested during FII in some (but the minority) of FIII states. The demand-driven and bottom-up approach of the CDD allowed beneficiaries to identify the required assets to be supported by the project which were complemented with capacity-building and advisory services to help communities to develop and manage these livelihood assets. Similar to FII, the FIII supported the organization of beneficiaries in local institutions (FCAs, FUGs, EICs, and FFCAs) and provided support to build the institutional, technical, and social capital needed for the management of these institutions. These organizations were also responsible for use of different planning tools – such as LDPs or Community Action Plans – once approved. Thus, the driving force behind the project was the local communities.

The demand-driven approach benefited from a solid participatory and analytical preparation of the project. The project design was extensively discussed with local governments, local communities, project beneficiaries, NGOs, researchers, donors, and technical specialists during several awareness, engagement, and sensitization activities (ICR para 75). These consultations led to more ownership and buy-in of community leaders and local stakeholders. The quality-at-entry was further enhanced through solid analytical work (background and preparatory studies and technical support) with assistance from the Government of Japan and the Global Environment Facility.

The evaluation of FII also identified some challenges and risks to the development outcomes. One of the main challenges was the massive scale-up from FII to FIII to provide nationwide coverage of the project (including fragile areas affected by the Boko Haram insurgency). To minimize this challenge, a team of stakeholders across sectors was assembled. The state and local governments were responsible for the coordination and oversight of the project. States and LGAs were supported to better manage the bottom-up approaches and oversee the LDP implementation (and integration into LGA plans). The monitoring of project activities was conducted by third parties and independent consultants. The oversight at the national level was facilitated by the establishment of six zonal offices.

To facilitate the implementation of project activities in the conflicted-affected zones of North-East Nigeria introduced by the AFII, the project partnered with NGOs, other projects, and institutions specialized in service delivery in fragile settings. The project subcontracted the World Food Programme and the Food and Agriculture Organization of the United Nations to make use of their experience, skills, and comparative advantage to implement humanitarian support and distribute agricultural services (starter packs and advisory services), respectively. These collaborations have enchanted the implementation of field-level interventions and are beneficial for the sustainability of project achievements.

The second element of sound project design was the innovative delivery system of advisory and technical assistance to farmers. Overall, project support sought to simultaneously support both 'hardware' and 'software' constraints of rural households to ensure that investments in livelihood assets would maximize the returns to local communities. The project refers to this as a 'multipronged' approach where the project provided a comprehensive and integrated package of activities to beneficiaries to support their livelihoods. This integrated approach combined support to "increase agricultural productivity, develop productive assets, enhance access to rural services, and increase community entrepreneurship and institutional capacity" (ICR para 102).



The FIII also innovated several farm support activities. First, the project included the private sector in the delivery of extension services through the ASICs. Second, the project customized the training material for the Package of Practices (e.g. translation to local languages) to promote the adoption of good agricultural practices. Third, an online platform – as well as an ICT facility in each ADP – was developed to timely and cost-effectively distribute extension information and to facilitate farmers' feedback. A similar e-voucher platform was developed to distribute farm inputs, track deliveries, and manage other logistical tasks. The project also collaborated adaptive research with national and international research institutes to develop improved technologies to enhance agricultural productivity. Finally, the project promoted the sharing of information, lessons, and experience between beneficiaries. An example is the introduction of the farmer-to-farmer extension approach through the 'Smart Farmers' tool.

A final innovation introduced by the project was the FUEF savings mechanism to sustain assets developed under the project. This revolving fund was expected to provide sufficient resources (savings) for the maintenance and replacement of assets created by the project. The fund was expected to meet the (stated) beneficiaries' desire to continue investing in their enterprises after the matching grant ended (ICR para 103). It is the main pathway through which the project's approach towards sustainable impacts is formalized.

The expansion of the CDD that showed promising results in FII to match local needs with rural service delivery and the innovations in farm service delivery tools contributed to a sound quality at entry for FIII. However, several lessons on project design from the evaluation of FII were not addressed in FIII. IEG's evaluation of FII showed that, despite the socially inclusive design, the project was not poverty-targeted and the participation of marginalized groups (youth, widows, physically challenged, people living with HIV/AIDS) was limited. The PAD of the FIII mentions that the rural poor (engaged in economic activities) and disadvantaged groups were, among others, FIII's target groups. However, the ICR does not explain how these disadvantaged groups were targeted for (additional) project support.[1] Project support was channeled through farmer organizations, of which FII illustrated that membership can be restrictive (even though the share of marginalized members was a criteria for groups to participate in the FIII). An indicator for the struggle of marginalized farmers to participate in the project was the needed course corrections to lower the beneficiary constriction for assists purchase from 50:50 to 70:30 and the elimination of the 10% contribution for public investments. This suggests that marginalized members struggled to meet contribution criteria, which had to be relaxed identically as FII (suggesting that limited learning occurred on this aspect).

The biased design and M&E system of FII towards farmer groups persevered in FIII: the share of all FIII beneficiaries (n=1,165,132) that received support for livestock (n=18,153) and fish (n=304) production is very low at 1.6% and 0.0003%, respectively. The ToC does not discuss pathways for non-farmer beneficiaries and the M&E system was not designed to measure changes in their income due to project activities. Similarly, while the project provided comprehensive support to agricultural productivity, very little was done to support non-farm activities. Nkonya et al. (2019) identify this as one of the main limitations of FIII.

Related to the bias towards farmers and farm support, is the virtual absence (in the ICR) on how conflicts between different land users. The ICR refers to grievances reported and resolved for FI (158) and FII (15) but does not mention any grievances for FIII. The ICR does not even mention the mechanisms or approaches installed on how the conflicts between farmers and herders would be avoided and resolved once occurred. This is surprising, as the ToC makes the crucial assumption that "conflicts arising between farmers and pastoralists competing for land and water could be resolved" (ICR para 16).



Instead, the conflict aspect has been entirely focused on support areas affected by conflict stemming from the Boko Haram insurgency. In conclusion, while the project built upon the groundwork of the CDD in FII and introduced technical and institutional innovations in the delivery of farm services and in conflict-affected areas, FIII lacked a clear poverty-targeting approach and maintained a bias towards farming communities at the neglect of (potential conflict with) non-farming communities. These two challenges were learned in FII but not addressed in FIII. The project approach resembled more a value chain approach (which became ‘formalized’ during the AFI) than a poverty-targeting and inclusive approach. The rating of the quality-at-entry is therefore Moderately Satisfactory.

[1] The ICR mentions that “matching grant arrangements deliberately waived the contribution for female beneficiaries” but as discussed below (assuming the ICR refers to contributions to community assets), the requirement to contribute to community assets was eliminated altogether.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

There is little information in the ICR to assess the quality of supervision. The in-country-based World Bank Task Team provided close and timely support and monitoring of activities to the PCU. For example, support missions were organized twice a year and the Task Team worked proactively with the project implementation team to address challenges. Reporting on Implementation Status and Results Reports and supervision missions was adequate as well as the oversight in fiduciary and safeguard issues.

The project management made use of the MTR to update and discuss project progress and implementation challenges. One important decision was to reallocate the IDA funding towards the activities to build stakeholder capacity and support farmers to procure the inputs and productive farm assets.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The M&E design learned important lessons from the FII and established a results-based and user-friendly M&E system that would allow for the real-time monitoring of progress, processes, and performance for the entire project cycle (that is, from inputs to outcomes). The M&E system was designed bottom-up and



information would be collected and shared from farmer groups to the community, LGA, state, and national levels. This was facilitated by the Management Information System that would monitor results at the FUG and GCA levels and aggregate them at the state level. Different information sources fed into the M&E system: the self-monitoring by communities, input-output monitoring through the Management Information System, a process monitoring system, impact evaluation, and the methodical inclusion of knowledge management. The hiring of full-time and specialized M&E experts increased the quality and capacity of the M&E system.

The project expected to achieve a target of 75% of beneficiaries that would see their real income increased by 40%. As mentioned in section 8, the project implemented an integrated approach to input and service delivery. However, it is unclear how the target of 75% for the income PDO indicator translates into the targets of output indicators. For example, the project set a target of 50,000 and 117,668 FUGs and FCAs receiving matching grants for agricultural inputs and advisory service, respectively. Under the assumption of perfect overlap in the targeting of both activities, 50,000 farmer groups or about 500,000 farmers would receive the integrated package of inputs and advisory. The target of total beneficiaries supported by the project was set at 1,014,000 beneficiaries. Hence, the target of the 50,000 FUGs and FCAs would correspond to only half (and not 75%) of the beneficiaries.

As discussed below, the project also invested in external impact evaluations to complement the data collected under the M&E system and the Management Information System. The use of impact evaluation, supported by panel survey data, to provide evidence of project achievement is a recommendable effort.

b. M&E Implementation

Project implementing agencies reported on project performance in quarterly and mid-year reports that resulted in a database of performance indicators. Following the baseline survey, the M&E system provided data for the mid-term survey and the impact evaluation of the project. The M&E unit prepared annual work plans and monthly progress reviews and physically visited project sites. This information was reported in monthly and quarterly reports that were shared with the relevant government agencies at the federal, state, and steering committee levels. All stakeholders were trained to improve their periodical record-keeping and reporting quality.

c. M&E Utilization

The properly designed and implemented M&E system generated useful information that was used as a feedback system to improve the implementation of the project. M&E experts also supported the supervision system by conducting studies on the costs, impacts, and implementation challenges of specific subprojects. These findings were used to update the list of subprojects offered by the project or the eligibility criteria to participate in subprojects. Knowledge was shared across states to improve the scale-up and management of project activities.

Data collection- Because the project did a recommendable effort to collect survey-based data (implemented by external institutions) to generate evaluative evidence on the different steps in the ToC, the different data sources are discussed in more detail here and had considerable impact on the findings for Efficacy - section 4 above.



Impact evaluation of FIII. An impact evaluation (IE) was designed to carefully measure the impact of the FIII on the income of project beneficiaries. Treatment is defined at the group level (to which the individuals belong) but income effects were measured at the household level. The IE identifies the impact of FIII on income by looking at a difference-in-difference estimation, which consists of two comparisons. First, it compares the difference in income before and after the project was implemented (the before-after comparison). Second, it compares this income difference between (groups of) individuals supported by the project and those not (the with-vs-without comparison). To estimate this difference-in-difference effect, data were collected (i) for selected households that benefited from FIII or not and (ii) at multiple moments in the project timeline. A baseline survey collected data before the project was implemented (August – November 2009), a midline during the project (March – April 2012), and an endline survey after the project was completed (2015).

Each survey round produced a report describing the evaluation design, project design and implementation, and implementation of the survey. The baseline report is provided by Nkonya et al. (2010)[1], the midline report by Nkonya et al. (2012)[2], and the endline report by Nkonya et al. (2017)[3]. The baseline report presents a careful analysis of the cross-sectional data to illustrate how project components are anticipated to have an impact on poverty reduction. For example, households in the baseline sample with access to finance or extension are more likely to be above the poverty line. Hence, the report recommends the need for technical assistance and more inclusive microfinance institutions in the implementation of FIII. The survey reports also provide a clear discussion on some of the issues in the survey sampling and data collection that complicate the identification and analysis of project impact in a non-experimental setting.

The with-vs-without comparison was not straightforward. First, as project activities were implemented in all states, a control group had to be constructed within each state (instead of using states not covered by the project). This increases the likelihood that local spillover effects dilute the estimated project impact. Second, because of the overlap in states covered by the FII and FIII, the ‘intensity’ of treatment received by households varies between the different states. For example, in the states where both the FII and FIII were implemented, the group of treated LGAs contains LGAs that received support from FII but also those that did not. Thus, some households received support from FIII while others received support from both FII and FIII, making it more difficult to attribute the treatment effect to FIII activities alone. In total, there were 6 different treatment and control groups in the baseline survey. However, the endline simplified the treatment groups, and treatment was identified as ‘participation in FIII or FII or a combination of the two treatments’. While this simplified the interpretation, attribution of income effect identified in the IE to the FIII remained.

The number of households to be interviewed, i.e., the sample size of the IE was determined using power calculations. Power calculations are done ex-ante the baseline survey to obtain a certain degree (95%) of confidence that any effect measured in the data is attributable to the project and not the result of a statistical artifact (i.e., because of random noise). Thus, the power calculations will indicate the number of groups and individuals that need to be interviewed for a statistical test to reject the null hypothesis that the project had no income effect – in the case the project had an actual effect. The power calculations identified that a total of 1,110 of FCAs/EIGAs was needed. Within each LGA, it was decided to sample 10 households, making an anticipated sample of in total 11,100 households. Simple power calculations assume only two treatment statuses (i.e., one treatment and control group) and a balanced number of observations within both groups. Thus, ideally, there would be 555 FCAs and 555 control LGAs (with 10



households interviewed within each FCA/LGA). Another important assumption is that power calculations are valid only for the outcome indicator under consideration, which was income effects in this IE.

The sampling of households to be interviewed for the IE followed a two-stage approach. The first stage sampling was done at the level of community groups, where the IE selected groups that were either recipients or non-recipients of project support. For beneficiary groups, the list of all (4,362) registered FCAs that received Fadama III was used as the sampling frame. Each state had between 20 – 30 FCAs, and 376 FCAs were randomly selected. For the control group, the list of all LGAs that did not receive support from FIII at the state level was generated as the sampling frame. However, as these LGAs had to be comparable to FCAs, the IE restricted the list to cooperative unions, which are – similarly to FCAs – apex organizations of smaller society and equivalent to the FUGs. A total of between 0-14 cooperative unions was available in each state. In a second step, individuals were selected within organizations. To do so, a sampling frame of all households in EIGs that constitute the selected FCA/EIGAs was prepared, and 10 households in each of the selected FCAs/EIGAs were then randomly selected for interviews.

This sampling procedure resulted in 9,176 households and 1,161 economic interest group associations (EIGAs) from all 36 states and the Federal Capital Territory FCT.

There are, however, several issues with the sampling strategy. First, while it is applaudable that the project used power calculations to calculate the sample size, there were a few flaws to begin with. As mention before, power calculations assume a simple comparison of treatment vs control, but the IE initially identified 6 different treatment groups. Moreover, the IE used the sample size powered to detect income effects for detecting project effects on additional indicators (yield, input uptake, etc.). In this case, the issue of multiple-hypothesis testing occurs. While these are technical considerations for the ex-post data analysis, the most important aspect is that the sample size had to be larger (not smaller) than the identified 11,110 households to account for these deviations. Secondly, from the sampling strategy, it is unclear what type of support the interviewees would receive from FIII (extension, inputs, matching grants, or all).[1] Finally, and more importantly, the baseline sample contains an imbalance in the number of households in the treatment and control groups. While the sample includes 600 FCAs (with 7,281 households interviewed), it contains only 122 control LGAs (with 1,752 households). Thus, only 20% of the sample belonged to the control group, which is far below the 50% assumed in the power calculations. Moreover, there is a third category of 439 ‘undetermined’ groups. This is 38% of all groups included, but only a total of 143 households were interviewed in these undermined groups.

The most important consequence is non-compliance, that is, groups and households receive a different treatment than was assumed during the design. The IE deals with non-compliance by looking at the actual treatment received instead of the treatment initially assigned. In practice, this means that the IE moved the FCAs that did not receive the ‘full’ FIII treatment to the control group. For example, if a LGA that was identified as FCA – and thus assigned to the treatment group in the baseline survey – but ended up not receiving treatment from the project, then this LGA is considered as a control group in the midline survey. However, if this compliance issue is not random (for example, initially assigned LGA that are younger in existence systematically drop out of the project), then the incompliant FCA does not constitute a good control LGA because it is not comparable to the FCAs in the treatment group.

A related issue, discussed in the baseline report, is the imbalance in the characteristics of households that constitute the treated and control group. The sampling at the association groups makes the implicit assumption that LGAs are comparable to FCAs. However, participation by LGA in the project might not be random, resulting in a placement bias when better-performing LGAs are (self-)selected to participate.



The baseline report indeed identified an imbalance between households in the treatment and control group in terms of their level of income and existing poverty levels before the project started. The magnitude and statistical significance of these differences varies across regions. On the contrary, control households have better access to credit and used more sustainable land management practices. The baseline survey rightly questions that “the slightly lower severity of poverty in the treatment group raises some questions on the ability of the very poor to organize themselves to an extent of developing viable economic projects that could get approved by Fadama III ” (Nkonya 2007:p28).

The IE addresses the non-random participation of LGAs by using statistical techniques (such as matching, weighted regression, and instrumental variables) that control for observable differences between the control and treatment group. While the IE identifies different solutions to these problems, it does not discuss the analytical models used nor their underlying assumptions. Yet, the analytical models rely on some important – but stringent – statistical assumptions (e.g. balancedness for matching) that need to be validated before the analytical models can be applied to the data.

The final data issue of attrition occurs in the mid- and endline surveys. Of the 9,176 households interviewed in the baseline survey; 8,234 households – or 91% – were interviewed in the midline survey. During the endline survey, 5,984 households – or 65% of the baseline sample – could be interviewed. This results in an unbalanced panel. Moreover, between surveys, the number of households interviewed in the different treatment groups differs significantly. The number of treated households goes from 7,281 (baseline) down to 3,407 (midline) and back up to 4,201 (endline). On the contrary, the number of control households from 1,752 (baseline) up to 3,460 (midline) and back down to 1,783 (endline).

It seems that there are two factors at play. First, between the baseline and midline, households within groups initially assigned to treatment groups ended up receiving no treatment and are, therefore, recorded as controls in the midline. However, as mentioned before, this non-compliance is not likely to happen randomly. Equally worrying is that the share of beneficiary women in the sample drops significantly: from 36% of all interviewees in the baseline ($n=3,303$) to 13% in the midline survey ($n=940$). However, even if we assume that households only shift between treatment status and all of the interviewees that dropped out in the midline are women ($9,176 - 8,234 = 1,942$), this unrealistic assumption does not explain the observed drop in female interviewees ($3,303 - 940 = 2,663$). Second, between the midline and endline survey, it seems that households were added to the survey to increase the number of treated individuals. On the contrary, the number of control farmers drops considerably: only 1,783 were retained. Thus, the attrition bias disproportionately affects the control group. According to Nkonya et al. (2017:p10) “The attrition bias is significant in many variables compared (Table 6). For example, the results show that the households who did not participate in the endline survey were significantly poorer, older and lived further away from the roads. [...]. The significant attrition implies that the results presented in the paper are biased and should be interpreted with care.”

Finally, there is no detailed discussion on how crucial indicators in the data collected are defined. First, the IE does not discuss how the most important indicators of the project were measured. There is no discussion on the different sources of income that are considered and how they are measured. Similarly, there is no discussion on how yields are calculated, that is, using self-reported values or validated by using crop cutting techniques and plot size measurement. Moreover, it is unclear how female participants were defined. Were they female-headed households or females within the household that received project support (as the only member in the household)? This information is crucial to carefully interpret the findings documented in the midline and endline survey reports.



In summary, the project did a commendable effort to collect survey-based data and identify project effects. However, the above detailed discussion of the quality of the impact evaluation shows that the results reported in the endline report (and used in the ICR) need to be interpreted with care regarding the income effects. First of all, due to the issues of non-compliance and attrition in the household sampling, it is unclear who exactly is part of the analytical sample used in the endline study, and whether retained interviewees are substantially different from those that dropped out. Second, the low statistical power and the unclear definition of key indicators imply that the evidence presented is suggestive rather than conclusive. Finally, as the impact evaluation did not define or measure an indicator of sustainability, the impact evaluation does not allow to assess the project's contribution to the sustainability of income effects.

Impact evaluation of AFII. In addition to the extensive IE to measure the overall effect of FIII on beneficiaries' income, a separate IE was designed to measure the impact of the AFII activities related to humanitarian assistance and resilience-building on the restoration of the livelihoods of conflict-affected households. The results of the AFII IE are documented in a project note of Nkonya et al. (2019).[4] This document is very brief in explaining the design of the IE. It mentions that 1,787 households were randomly selected from communities supported by the AFII (treatment group) and compared to households in communities not supported by the project (control group). Interviewed households lived in communities affected by the Boko Haram insurgency and included IDPs, returnees, or people affected by the conflict who had not migrated. However, detailed information on the sampling, data collection, or data analysis is missing.

The lack of a detailed description of the AFII IE does not allow an assessment of the data quality. Data issues similar to those mentioned above are to be expected. For example, the project note reports evidence on hunger and nutrition using a categorical indicator. This is especially problematic for the hunger indicator, which has a scale of 1 to 3, ranging from 'little to no household hunger' to 'severe household hunger'. While the report refers to a technical note[5] on a simple measure of household hunger, it is unclear whether a three-score scale can capture the complexity and seasonality of hunger, especially for agriculture-dependent households in conflict-affected areas.

Performance Evaluation Survey (PES). The National Fadama Coordination Office organized a PES in 19 states which were purposely selected. All northern east states – the target zone of the additional financings – were included and additional states were included based on the number of farmers in each state. A total of 3,275 respondents (consisting of 865 females and 2,410 males) were eventually surveyed. These beneficiaries were interviewed twice, baseline data were collected in 2014 and the endline data were collected in 2019. These farmers were initially distributed across 6 treatment groups, but because of the insufficient number of observations in each group, two treatment groups were retained. These were all AFI beneficiaries (individuals receiving AFI only or in combination with the original FIII) and AFII beneficiaries (individuals receiving AF2 only or in combination with the original FIII).

The PES data are purely descriptive. The effect of the project on households' income is identified as the change in individual-level outcome in 2018 with the average group-level outcome in 2014.

Agricultural Production Surveys. To measure agricultural production and yields, the project contracted with the ADPs in each participating state to carry out annual yield surveys on Fadama



intervention sites. The ICR does not provide information on how households were sampled and how yields were measured.

[1] Nkonya E., H. Markel, E. Kato, A. Alomolaron, A. Gana Shetima, S., Ingawa, M. Madukwe, J. Olukosi, D. Phillip, D. Park. 2010. Baseline report of Fadama III impact assessment study. Mimeo.

[2] Nkonya E., D. Phillip, E. Kato, B. Ahmed, A. Daramola, S. B., Ingawa, I. Luby, E.A. Lufadeju, M. Madukwe, and A.G. Shettima. 2012. Medium-term impact of Fadama III project. IFPRI mimeo.

[3] Nkonya, Ephraim, Edward Kato, Timothy Johnson, and Philip Dayo. 2017. "End-Term Impact of Fadama III

in Nigeria." Report Submitted to the National Fadama Office, Abuja.

[4] Nkonya, Ephraim, Dauda Bawa, Edward Kato, David Maurice, Nasiru Murtala, Hadiza Nuhu, Patrick Kwaghe, Yakubu Bila, and Rabiun Sani. 2019. "Humanitarian Assistance and Resilience-Building: Impact of Fadama III-AFII on Food Security and Livelihood Restoration in Northern Nigeria."

Project Note. International Food Policy Research Institute (IFPRI), Washington, DC.

[5] 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.

[1] In a follow-up communication, the World Bank team clarified that '[overlap in activities] may not be ruled out but reduced to the barest minimum because the Groups and associations supported in the different operations Fadama III, AF I and AF II were distinct and carried unique Identification tag'.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

At appraisal, the project was classified as Category B and triggered eight safeguard policies: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Pest Management (OP/BP 4.09); Physical and Cultural Property (OP/BP 4.11); Involuntary Resettlement (OP/BP 4.12); Forests (OP/BP 4.36); Safety of Dams (OP/BP 4.37); and Projects on International Waters (OP/BP 7.50). The project prepared and disclosed the required safeguard instruments (Environmental and Social Management Framework, Resettlement Policy Framework, and Integrated Pest Management Plan). Site-specific safeguard instruments (Resettlement Action Plans and Environmental and Social Management Plans) were prepared to manage site-specific environmental and social risks.



While the ICR rates the safeguard compliance satisfactory and states that “Environmental and Social Management Plans were adequately funded and properly implemented” (ICR para 96), the ICR does not discuss the compliance of FIII to each of these safeguards separately. Hence, the ICR review is not able to assess project compliance for each individual safeguarded.

b. Fiduciary Compliance

The risk of financial mismanagement was considered high at project appraisal. Hence, the project designed a robust financial management system with sound procedures, accounting systems, and trained staff to minimize the risk. As a consequence, the quality of financial management was adequate, and FIII publicly disclosure all expenditures and implemented internal quality controls. The activities of the FIII were audited by private auditors and received unqualified opinions.

c. Unintended impacts (Positive or Negative)

Overall, the project experienced few procurement issues. The post reviews of procurement under FIII by the World Bank concluded that procurement aligned with World Bank regulations. The ICR does mention that delayed uploading of procurement documents in the World Bank’s Systematic Tracking of Exchanges in Procurement system.

d. Other

The ICR mentions three (positive) unintended outcomes: the institutionalization of the CDD approach, functional system for delivering advisory and technical services, and improved collaboration in the multi-agency partnership. However, all of these elements are assumptions in the ToC of which the underlying system (CCD, delivery, and collaboration) were actively supported by the project to achieve the stated project outcomes. Hence, the ICR review considers no unintended impacts reported in the ICR.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Moderately Satisfactory	While the project built upon the CDD and introduced technical and institutional innovations in services delivery, FIII lacked a clear poverty-targeting approach and maintained a bias in favor of farming communities at the



neglect of non-farming communities. These two challenges were learned in FII but not addressed in FIII.		
Quality of M&E	Substantial	Substantial
Quality of ICR	---	Modest

12. Lessons

The ICR provides 6 brief lessons, of which the following lessons are retained (with language adapted):

- 1. Decentralization of decision-making and coordination to local communities ensures buy-in and commitment.** The decentralization of decision making, management, and coordination to Management Committees of FCAs, Desk Officers, and Facilitators in addition to the State Project Implementation Unit enhanced empowerment, social inclusion, participation, ownership, and sustainability.
- 2. The presence of good local institutions, and strengthening of their institutional capacity, is important to translate local aspirations into collective action, and it is a core element of a good CDD project.** Fadama III created and supported several local institutions, most of which have remained operational, albeit at different capacities, and continue to provide vital services to project beneficiaries.
- 3. An integrated and demand-driven approach to service delivery is important to ensure that project investments will be effectively and sustainably used.** The project combined 'hard' investments (FUG asset creation and community infrastructure) with soft technical support (capacity building and advisory support). The integrated package of interventions simultaneously addresses the multiple constraints to agricultural developments to reap the synergetic effects of a package of interventions. The project implemented a demand-driven approach to investments in infrastructure, implying that local communities had to decide on the type of investments (from a menu of options) that they deemed most necessary for the community. This creates local ownership, commitment, optimum use, and sustainability of the assets provided to communities, even after the project ended.

13. Assessment Recommended?

Yes

Please Explain

The Fadama project series constitute three phases (with two AF in the last phase) of support to agricultural development using a CDD approach. The sustainability of these impacts could not be verified using the panel data set, where the endline data were collected immediately after the project ended. A follow-up assignment, given the rich data that are already collected, would be useful to assess the sustainability of the project



outcomes. Furthermore, a detailed assessment is warranted on why the initial commitment of USD 200 million from the borrower, local communities, and local governments did not materialize as planned.

14. Comments on Quality of ICR

The ICR was logically written with enough information on the project background, previous phases of the Fadama projects, implementation challenges, and project achievements. The arguments made in the different sections are to-the-point, yet with sufficient detail and some concrete examples. Annex 6 of the ICR provides a detailed overview of the delivery and achievement for each output per component, which was very useful for the more detailed assessment of the evidence in the ICR review. In general, the ICR provides a candid discussion of the achievements and design (issues) of the project.

The ICR is particularly strong on the discussion of the efficacy and efficiency of the project. It also provides the different building blocks of project preparation and design that have contributed to project effectiveness.

There are a couple of issues with the ICR that make the quality of the ICR modest. First, and most importantly, the ICR does not explain how sustainable increases in income are defined in the PDO, and for whom. Second, the decision to increase the target of the PDO indicator on 'real income increase' made the project very ambitious but the reasons behind this decision are not discussed in the ICR. Third, several important pathways and assumptions in the ToC are missing, most importantly how the project expected to achieve higher prices. Fourth, the ICR is silent on why the counterpart funding was only a quarter of the appraisal estimate. Related, the project costs of different components are inconsistent in the ICR and the numbers presented in a follow-up communication are significantly different for several components (a magnitude of double for components 2 and 3). Fifth, the ICR's interpretation of distributional income effects and the conclusion that the project successfully targeted poor households is also flawed. Finally, the ICR is brief in its discussion on procurement, financial management, and safeguard compliance.

a. Quality of ICR Rating

Modest