

Project Completion Report Validation

Northern Rural Growth Programme

Republic of Ghana

Date of validation by IOE: February 2019

I. Basic project data

			Approval (US\$ m)		Actual (US\$ m)	
Region	West and Central Africa	Total project costs	103.6		98.4	
Country	Ghana	IFAD loan and percentage of total	22.3	22%	20.5	21%
Loan number	734-GH	IFAD grant	0.4	0.4%	0.2	0.2%
Type of project (subsector)	AGRIC	Borrower	10.4	10%	2.9	3%
Financing type	Loan	African Development Bank	61.2	59%	53.0	54%
Lending terms*	Highly concessional	Financial institutions	4.6	4%	5.2	5%
Date of approval	13/12/2007	Beneficiaries	3.7	4%	14.9	15%
Date of loan signature	12/09/2008	Private investors	0.9	1%	1.9	2%
Date of effectiveness	24/10/2008					
Loan amendments	None	Number of beneficiaries	45,000 households (direct)		53,072 households (direct)**	
Loan closure extensions	None	Project completion date	31/12/2016		31/12/2016	
Country programme managers	Mohammed Manssouri Ulac Demirag Esther Kasalu-Coffin Hani Abdelkader Elsadani Salem	Loan closing date	30/06/2017		30/06/2017	
Regional director(s)	Lisandro Martin	Mid-term review	19/10/2012			
Project completion report reviewer	Jeanette Cooke	IFAD loan disbursement at project completion (%)	92%			
Project completion report quality control panel	Shijie Yang Fumiko Nakai	Date of the project completion report	01/06/2017			

Source: IFAD 2007, President's report; IFAD 2008, Appraisal report; IFAD 2017, PCR.

* Highly concessional loan, 40 years, including a grace period of 10 years, with a service charge of three fourths of one per cent (0.75 per cent) per annum.

** NRGP 2016 RIMS report final draft (on xdesk).

II. Project outline

1. **Introduction.** The Northern Rural Growth Programme (NRGP) was an eight-year programme supported by IFAD and the African Development Bank (AfDB). It was designed to build on both past¹ and ongoing² programmes financed by IFAD, as well as other agencies.
2. The Executive Board of IFAD approved the loan on 13 December 2007 and the loan became effective ten months later. However, the general election in 2008 and a run-off election at the beginning of 2009 delayed the launch and implementation of the loan programme until April and August 2009, respectively.³ The dates of programme completion, 31 December 2016, and the loan closing, 30 June 2017, remained unchanged.
3. The loan from AfDB covered the same period, from signing on 4 March 2008 to completion on 30 December 2016, including a one-year extension. The project completion report (PCR) being validated covers the operations and results of both the IFAD and AfDB loans, which were supervised by each respective institution.
4. **Project area.** The NRGPs target area comprised all districts in the Northern, Upper East and Upper West regions and adjoining districts of similar agro-ecological character in the Brong-Ahafo region. The focus on the northern part of the country owed to higher incidences of poverty, malnutrition and vulnerability compared to the south. At the time of design, the incidence of poverty among the population ranged from 56 per cent in the Northern region to 90 per cent in the Upper West region.⁴
5. During implementation, additional districts in the southern part of the country were added to complete irrigation infrastructure started by earlier projects of AfDB.
6. **Project goal, objectives and components.** According to the Appraisal report, the overall goal of NRGPs was "to achieve sustainable agricultural and rural livelihoods and food security for the rural poor particularly those dependent on marginal lands, rural women and vulnerable groups in Northern Ghana". In the same report, the development objective was "to develop inclusive and remunerative commodity and food chains" to generate agricultural surplus production and orient it towards remunerative markets in southern Ghana and abroad".
7. Project components comprised: a) commodity chain development; b) rural infrastructure; c) improving access to financial services; and d) project coordination, management, monitoring and evaluation.⁵ The AfDB funded rural infrastructure, while IFAD funded the remaining three components.
8. **Component 1 – Commodity chain development** aimed to build long-term and sustainable physical and social capital needed to link agricultural supply in the north to demand in the centre and south of Ghana and abroad. To this end, it included sub-components to: i) strengthen producers' organizations; ii) establish commodity inter-professional bodies (IPBs); iii) prepare and implement commodity business plans; and iv) establish a commodity development fund.
9. Commodity chains selected were categorised in terms of industrial crops (soybean, groundnuts, sorghum), women's crops (sheanut, millet, sesame, moringa), fruits and vegetables for export (okra, chilly, French beans, Asian vegetables, papaya, mango) and animals (small ruminants, pigs, guinea fowl and fish farming).

¹ Upper West Agricultural Development Project (UWADEP) and the Upper East Regional Land Conservation and Smallholder Rehabilitation Project (LACOSREP II).

² Northern Region Poverty Reduction Programme (NORPREP), Rural Enterprises Project (REP), Rural Financial Services Project (RFSP) and the Root and Tuber Improvement and Marketing Programme (RTIMP II).

³ IFAD. 2011 and IFAD. 2017b.

⁴ IFAD. 2017b.

⁵ IFAD. 2008.

10. **Component 2 – Rural infrastructure** was to support commodity chain development by financing the development of small-scale irrigation and market infrastructure. Small-scale irrigation development was to include the construction of small-scale irrigation schemes, establish public owned water distribution and drainage systems, strengthen water users’ associations, develop water control structures and support the adoption of rainwater management and soil and water conservation techniques. Market infrastructure development was to support the construction and rehabilitation of farm access tracks, feeder roads, trunk roads, bridges and market facilities.
11. **Component 3 – Improving access to financial services** aimed to institutionally strengthen inter-professional bodies and participating financial institutions (PFIs) and financial NGOs in the programme area. It was also to provide funding to small-scale farmers through matching grants and micro leasing.
12. **Component 4 – Project coordination, management, monitoring and evaluation** was to cover the costs of establishing and operating a Programme Management Unit (PMU) based in Tamale, in Northern Ghana.
13. **Target group.** NRGF aimed to reach 45,000 households directly. The target group comprised small-scale farmers, especially women and small artisans who made up most of the poor rural population in Northern Ghana. In addition, the youth and the most vulnerable groups, including the disabled and the blind were to be reached through special targeting mechanisms.
14. The target group also included the broader rural community that would use the improved road infrastructure and a limited number of private investors that would benefit from co-financing the development of commodity chains.
15. **Financing.** Total estimated costs of NRGF were US\$103.6 million. The bulk of funding was through loans from AfDB of US\$61.2 million and from IFAD of US\$22.3 million. Table 1 shows that at project completion US\$98.4 million (95 per cent) of funds had been disbursed. For IFAD, US\$20.5 million (92 per cent) of the loan and US\$0.2 million (41 per cent) of the grant were disbursed. Table 2 shows estimated versus actual expenditure by financier by component.

Table 1
Project costs at completion

<i>Source of funding</i>	<i>Type of financing</i>	<i>Estimated amount (US\$000s)</i>	<i>Estimated amount (% total)</i>	<i>Actual expenditure (US\$000s)</i>	<i>Actual expenditure (% total)</i>	<i>Disbursements (% appraisal)</i>
IFAD	Loan	22,325	22	20,466	21	92
IFAD	Grant	400	0	162	0	41
AfDB	Loan	61,215	59	52,975	54	87
GoG	-	10,370	10	2,872	3	28
PFIs		4,608	4	5,172	5	112
Beneficiaries		3,699	4	14,850	15	401
Private investors		936	1	1,912	2	204
TOTAL		103,553	100	98,409	100	95

Source: PCR.

Table 2
Component costs (US\$ millions)

Component	IFAD			AfDB			GoG			PFIs			Beneficiaries			Private investors			TOTAL		
	Est.	Act.	%	Est.	Act.	%	Est.	Act.	%	Est.	Act.	%	Est.	Act.	%	Est.	Act.	%	Est.	Act.	%
Commodity chain	17.2	11.1	65	-	-	-	2.1	0.4	20	4.2	5.2	122	2.0	14.9	715	0.9	1.9	204	26.6	33.5	126
Rural infrastructure	-	-	-	61.2	53.0	87	7.8	0.6	8	0.4	0	0	1.6	0	0	-	-	-	71.0	53.6	76
Access to rural finance	1.0	0.5	50	-	-	-	0.1	0	48	-	-	-	-	-	-	-	-	-	1.1	0.6	50
Project coordination management M&E	4.5	9.0	200	-	-	-	0.4	1.8	490	-	-	-	-	-	-	-	-	-	4.9	10.8	221
TOTAL	22.7	20.6	91	61.2	53.0	87	10.4	2.9	28	4.6	5.2	112	3.7	14.9	401	0.9	1.9	204	103.6	98.4	95

Key: Est - Estimated amount; Act. – Actual expenditure.

Source: PCR.

16. **Project implementation.** The Ministry of Food and Agriculture (MoFA) bore overall responsibility for implementation. A Programme Steering Committee chaired by MoFA provided strategic direction for implementation, reviewed and approved Annual Work Programmes and Budgets (AWPBs) and assessed implementation progress. The PMU comprising a Programme Coordinator, 11 subject matter specialists and a Monitoring and Evaluation (M&E) specialist managed and coordinated day-to-day operations.
17. **Intervention logic.** The main thrust of NRGF was through the first component to develop value chains by strengthening farmer-based organizations (FBOs) and their apex bodies through training and extension services in agricultural production and business and management skills. The other two components would support this effort by constructing and rehabilitating irrigation and market infrastructure and improving farmers' and agribusiness operators' access to financial services. The main expected outcomes of the project were increased yields and production of rainfed and irrigation agriculture, leading to improved food security and surplus produce to sell. Additional expected outcomes were improved bargaining power of farmers and increased access to markets, ultimately leading to higher incomes and poverty reduction.
18. **Changes and developments during implementation.** Several changes were made to NRGF at mid-term and the logical framework was updated accordingly. The overall goal and development objective were simplified to clarify what NRGF was trying to achieve.⁶ The goal became "to contribute to an equitable and sustainable poverty reduction and food security among rural households in northern Ghana". The objective was "to increase northern Ghana area rural households' income on a sustainable basis". Clear objectives were also stated for each component and sub-component to clarify what was to be achieved and how.⁷
19. The sub-components of component A on Commodity chain development remained structurally similar, but titles were adjusted to better reflect their aims and some

⁶ Note it is not clear when the change took place. The mid-term review (MTR) report refers to there being no changes to the goal and objective but this can't be verified with the logical framework from the mission because it is unavailable at the time of the PCR. The logical framework in the supervision missions after the MTR all show that the goal and the objective have changed.

⁷ The component objectives are detailed in section III A under Effectiveness of the PCR.

content was changed to overcome implementation issues. The commodity development fund proposed in sub-component A.4 was changed to a Productivity Investment Fund (PIF) as a financing facility for matching grants for private investment, public goods and regional exchange visits. Commodities were also changed within the categories. Rice was included and groundnuts removed (from industrial category), baobab was added in place of millet (in women's category) and pepper, butternut squash, tomato and onions were added in place of French beans and Asian vegetables (in the fruit and vegetables category).

20. Component B on Rural infrastructure saw the revision of a couple of targets, see Annex III. In response to requests by the Government of Ghana, the component also financed the completion of additional agricultural water infrastructure from closed AfDB projects⁸ located outside the target area. This comprised nine small scale irrigation schemes and 20 inland valley rice production schemes. Some activities were also dropped (trunk roads, bridges, boreholes, shallow wells).
21. Component C on improving access to rural finance remained largely unchanged except for more emphasis on engaging larger banks where warranted.
22. **Delivery of outputs.** The PCR presents the physical outputs achieved during implementation and compares them to the targets set during design and updated at mid-term in 2012. In most cases, output targets were exceeded but several activities underperformed and are discussed under Effectiveness. The results of physical output delivery are tabulated in Annex III.

III. Review of findings

A. Core criteria

Relevance

23. **Project objectives.** NRG objectives were relevant to the northern Ghanaian context of constrained agricultural production and marketing resulting in widespread food insecurity, child undernutrition and relatively high levels of poverty. The PCR explains how the objectives were consistent with Government policies and strategies, which promoted agricultural transformation and poverty reduction, with a focus on value chain and private sector development: the Growth and Poverty Reduction Strategy 2006-2009, the Ghana Shared Growth and Development Agenda, the Food and Agriculture Sector Development Policy 2007 and the Medium Term Agriculture Investment Plans (METASIP I and II).
24. At the time of design, northern Ghana was also characterized by growing gender inequality and the increasing out-migration of youth from rural areas, resulting in a loss of human capital and economic development. The NRG development objective to develop *inclusive* value chains was therefore highly relevant. A special focus was placed on the participation and empowerment of women, as well as youth and other vulnerable groups.
25. The PCR also finds that NRG was in line with the IFAD 2006 Country Strategic Opportunities Paper for Ghana, namely: to achieve sustainable agricultural livelihoods and food security through the development of agriculture and food commodity chains; and, to develop pro-poor rural enterprises and rural finance in the context of an inclusive private sector. Since mid-term, the NRG objectives have also been consistent with the IFAD 2012 Country Strategic Opportunities Paper for Ghana that continues to support urban and rural market connections, transforming subsistence farming into market-oriented enterprises and improving their access to financial services.
26. **Project design.** The PCR explains the internal logic of NRG and describes how the design of each component proved relevant to meet project objectives. In brief,

⁸ Inland Valley Rice Development Project (IVRDP) and Small Scale Irrigation Development Project.

the project took a private sector, demand driven approach to assist markets to develop pro-poor value chains to increase agricultural productivity and farmers' incomes. The main thrust of NRGPs was through the first component, which developed value chains by strengthening FBOs and their apex bodies and by stimulating investment in both physical and human capital along these chains. The other two components supported this effort by constructing and rehabilitating infrastructure (irrigation, markets and roads) and improving farmers' and agribusiness operators' access to financial services. However, the 2012 Country Programme Evaluation identified that design underestimated the national implementation capacity to deliver the relatively new market orientated approach. It underestimated the availability of experienced value chain specialists and private sector actors to support the project and to fully appreciate the investment risks involved.⁹

27. The PCR explains that the use of a "programme approach" in implementation was relevant to attain the objective. Design was not too prescriptive enabling programme management and project participants to contribute to shaping project supported activities - encouraging beneficiary participation and bottom up planning. The first phase (2008–2012) assumed a learning-by-doing and piloting approach while the second phase (2012–2016) built on lessons learnt, innovations and emerging opportunities.
28. **Project adjustments.** As mentioned above, NRGPs were adjusted at mid-term to remain relevant. The objectives were simplified and clarified to aid implementation, but the change to the development objective eliminated the project's clear intention to support *inclusive* development.
29. The changes to component A on commodity chain development proved relevant. Sub-component A.1 to strengthen POs changed the focus to FBOs to be consistent with Ghanaian lexicon. Sub-component A.2 to establish commodity IPBs changed the focus to District Value Chain Committees (DVCCs) because DVCCs were grassroot manifestations of IPBs and proved to be more practical and able to give faster and effective results.
30. Sub-component A.3 to prepare and implement commodity-based plans was changed to the development of value chain organizations in response to the need for more business and other advisory services to value chain actors.
31. The revision of infrastructure targets on land under irrigation and farm access tracks made them more realistic and achievable. The PCR does not refer to how the adding and dropping of some commodities and infrastructure investments were relevant to prevailing district priorities and target group needs.
32. **Targeting.** The design of NRGPs targeted poor small-scale farmers through geographic, sectoral, social and direct targeting. The geographic targeting was pro-poor by focusing on the three poorest regions in the north of the country, followed by some districts in the Brong Ahafo region based on agro-ecological and poverty indicators. Sectoral targeting facilitated outreach to the target group by identifying commodity chains using appropriate criteria, namely that they: had clear market potential; were financially viable; were central to poor farmers' livelihoods so the farmers were likely and willing to adopt new technologies and venture into commercial agriculture; reflected women's crop and farming systems; and, were not targeted by significant interventions by government and donors.
33. Social and direct targeting of poor small-scale farmers proved insufficient to meet objectives. On the positive side the design included directly targeting women's groups and their economic enterprises and replicating interventions focussing on the disabled, the blind and other vulnerable groups. However, the 2012 Country Programme Evaluation of Ghana pointed out that by emphasising support to

⁹ IFAD 2012a.

farmers that were already members of FBOs and thus likely to be comparatively better-off, it was unclear how poorer farmers would be reached. In addition, the matching grants were designed for the entrepreneurial poor with previous business experience, rather than for new entrant smallholder farmers. Nor were adequate outreach activities specified to give many poor (and potentially creditworthy) farmers access to information about the grant.¹⁰

34. **Monitoring and evaluation.** The logframe in the appraisal report was clear, concise and included targets, but it primarily focused on outputs and the use of quantitative indicators. This was rectified at mid-term when a greater focus was put on measuring outcomes and impact and quantitative indicators were included.
35. NRGF was relevant in terms of its objectives and adjustments and in much of its design. Shortcomings are however evident in the design's assumptions of national implementation capacity to develop value chains with private sector actors. Targeting mechanisms to reach the poorer and more vulnerable farmers were also insufficient. Overall, the rating for relevance is moderately satisfactory (4), one level lower than the Programme Management Department (PMD).

Effectiveness

36. The following assessment is based on the results of NRGF's M&E system and two Participatory Outcome Assessments (POAs) conducted in 2013 and 2016. However, due to data quality limitations, results need to be interpreted with caution.
37. **Outreach and poverty focus.** According to the PCR, outreach targets were exceeded. The number of beneficiaries reached through participating FBOs totaled 201,746 versus the target of 50,000 at mid-term.¹¹ But it should also be noted many FBOs "reached" by the programme were brought by implementing partners who started working with the programme in 2015 (see also paragraph 40). The gender balance (41 per cent men to 59 per cent women) shows that the project successfully put an emphasis on engaging women, as intended. The successful construction of feeder roads linked 345 communities in 41 districts, benefitting about 250,000 rural dwellers.¹² Youth were targeted through support to 525 youth groups in irrigated agriculture, but it is not reported how many young men and young women this involved. The 2016 POA reports that as many as 21 per cent of youth beneficiaries in the sample had a "bad" or "very bad" impression of NRGF, mainly because they felt they had been "ignored". Overall, a total of 53,072 households were reached compared to the target of 45,000, but it is not clear how outreach to households was calculated in the project appraisal report (including working papers) and the PCR.
38. The project reached poor farmers in the main, with only some limitations. In addition to limited outreach to youth, the more vulnerable groups, such as the elderly, the blind and people with disabilities, were not reached as planned. Although they were not excluded, they were not actively included, as per design which clearly explains the need and provides practical examples of how to do so.¹³ There was also possible elite capture of: the conservation agriculture pilot that used large tractors on wealthier lead farmers' fields that would not have been appropriate on the much smaller fields of poorer smallholders; and, the matching

¹⁰ IFAD 2012a.

¹¹ Which had assumed the participation of 2,000 FBOs with 25 members each, while over 8,000 FBOs had participated by completion.

¹² IFAD 2014b.

¹³ IFAD 2008, appraisal report volume II, working paper 1 explained that there was a disproportionate number of the elderly in households in Northern Ghana that were compelled to continue working in the fields and that the market-driven models in the area had largely ignored the disabled, widows, single mothers and the blind (who are many in the area owing to the high incidence of river blindness). It goes on to provide practical examples of NGO interventions that target these vulnerable groups that could be replicated by the project.

grant, that demanded 10 per cent counterpart funding, beyond the means of poorer farmers.¹⁴

39. **Objective: to strengthen value chains for greater efficiency in distribution and marketing of produce, expansion of markets and attainment of higher incomes for rural producers.**
40. A total of 8,127 FBOs were reached compared to the updated target of 2,000 at mid-term. Over attainment owes to when new implementing partners joined the programme in 2015, bringing with them other FBOs with whom they already worked.¹⁵ It would appear that these numbered at least half of the 8,127 FBOs reached, given that NRGF had reached just under 3,000 FBOs by end 2014.¹⁶ Overall, the majority of FBOs (5,382 or 66 per cent) focused on industrial crops, followed by women's crops (1,359 or 17 per cent), fruits and vegetables (1,184 or 15 per cent) and livestock (202 or 2 per cent).
41. The capacity of FBOs was strengthened, but the effectiveness of activities was negatively affected by the delayed engagement of service providers. FBOs were strengthened with training on business and management skills by seven Facilitating Agencies (FAs)¹⁷ and four Public Private Partnerships (PPPs).^{18,19} Working with these implementing partners also meant they benefitted from improved access to markets and finance.²⁰ MoFA further supported the strengthening of the FBOs through extension services to introduce good agricultural practices. However, until 2014 (two years after mid-term), FAs and PPPs were largely unavailable in the target area and attempts to engage them had failed, except in the case of ACDEP²¹ working in the industrial crops category. Implementation of commodity chain development concerning the categories of women's crops, fruits and vegetables, and livestock was therefore hindered to just over 12 months.²²
42. By completion, 1,625 FBOs were functional,²³ representing 20 per cent of the FBOs reached. Among the functional FBOs, 1,268 were linked to input dealers, marketing agents and financial institutions. The PCRV finds it unreasonable to expect NRGF to quickly strengthen the additional FBOs brought on board by the six FAs and four PPPs in the last year of operations.
43. In total, 57 DVCCs were established in all 57 districts of NRGF and 60 per cent of them were functional by completion. The remaining 40 per cent needed further strengthening. In addition, 20 value chain nodes were set up where the DVCCs were weak to ensure farmers still enjoyed value chain services. DVCCs were reported to assist members of FBOs to link up to other actors such as Output Aggregators, Financial Institutions, Input Dealers, Processors, among others in the value chain.²⁴ Some DVCCs reportedly managed warehouses for District Assemblies.²⁵ Although perceptions of market reliability²⁶ improved from before NRGF to the end of the project, there were no marked differences in perceptions of market reliability between beneficiary and non-beneficiary households.²⁷

¹⁴ IFAD 2017b.

¹⁵ IFAD 2017a.

¹⁶ IFAD 2014b.

¹⁷ One or two FAs for each category of commodity.

¹⁸ Two PPPs each in the categories of livestock and women's crops.

¹⁹ The FAs were mainly NGOs experienced in mobilizing farmers and intent on empowering farmers to make farming a sustainable business. The private sector partners were mainly agribusinesses that worked with farmers to access inputs for their operations and they were driven by the profit motive.

²⁰ IFAD 2017a.

²¹ ACDEP (Association of Church Development Project).

²² IFAD 2017b.

²³ The PCR does not breakdown the number of functional FBOs by category of produce (industrial, women's, fruit and vegetables, and livestock).

²⁴ Ghana University for Development Studies. 2016.

²⁵ IFAD 2017a.

²⁶ The probability, in qualitative terms, that there will be adequate and stable demand for produce.

²⁷ Ghana University for Development Studies. 2016.

44. There is evidence though of significant increases in volumes of agro-inputs traded per input dealer²⁸ and commodities traded per marketer²⁹ between 2007 (before NRGF) and 2015 (near completion of NRGF). The 2016 POA also shows greater ease of access to tractor services by men, women and youth over this period.
45. **Objective: to develop infrastructure for enhanced market-oriented rural production.** Small-scale irrigation and market infrastructure (feeder roads, farm access tracks, warehouses and pack houses) were rehabilitated and constructed, largely meeting output targets, with the exception of farm access tracks.³⁰ The planned 41 agricultural water management schemes were identified,³¹ leading to just over 2,100 hectares of land under irrigation, representing 75 per cent of the target. NRGF also succeeded in meeting targets to construct flood recession, inland valley rice production and river pumping schemes. The construction of 69 feeder roads totalling 646 kilometres linked 345 communities in 41 districts, resulting in improved access to markets in the target area. By completion, 68 per cent of beneficiaries had access to feeder roads compared to 47 per cent prior to NRGF.³²
46. The market facilities completed comprised nine out of the planned ten³³ warehouses and all four of the planned pack houses, increasing the potential for better scheduling of the sale of produce. However, the 2016 POA reports no significant difference in the type of storage facilities used by beneficiary and non-beneficiary households. Post-harvest losses also remained an issue in the target area³⁴ (touched on further under Rural Poverty Impact, below) and the 2016 Impact Assessment Initiative (IAI) report shows only a 5 per cent increase in the crops sold by beneficiaries at market compared to the control group. In short, outputs were largely met but the extent to which infrastructure outputs enhanced the market orientation of smallholder production is less clear and/or mixed.
47. **Objective: to assist PFIs to provide innovative financial products for value chain actors to increase profits in their businesses.** NRGF partnered with 26 out of the planned 30 PFIs, comprising rural and community banks and universal banks,³⁵ but only 17 were still actively engaged with farmers by October 2016.³⁶ Engagement comprised several initiatives, including: training staff from PFIs on value chain financing and financial product development; providing transport equipment for rural and community banks; and developing and applying a cashless credit system for use by farmers and input/service providers.³⁷ As a result, US\$4.9 million of PFI's own funds were leveraged to provide credit to smallholder farmers. A total of 21,349 farmers accessed this credit and the recovery rate of loans was between 95 and 99 per cent.³⁸ Prior to NRGF there was almost no private lending by rural and community banks to smallholder farmers³⁹ so the US\$5 million of funds leveraged represents a significant achievement.
48. During implementation, NRGF also collaborated with the IFAD-supported Rural and Agricultural Finance Programme regarding the training of PFIs, product

²⁸ Input dealers of fertilizers, certified seeds, herbicides, insecticides and knapsack sprayers.

²⁹ Marketeers of maize, soybeans, sorghum and rice.

³⁰ Only 100 kilometres out of the planned 200 kilometres of farm access tracks were rehabilitated and constructed to improve linkages between irrigation sites, farms and markets. In 2014, the identification and design of these tracks had been delayed, so it was decided to limit this activity to those linked to ongoing works in irrigation development. IFAD 2014b.

³¹ Made up of 12 schemes in the target northern regions and an additional 29 schemes in the southern part of the country that were identified at mid-term.

³² Ghana University for Development Studies. 2016.

³³ The construction of one warehouse was cancelled due to challenges related to land acquisition. IFAD 2014 Supervision mission November 2014.

³⁴ Ghana University for Development Studies. 2016.

³⁵ The number 26 comes from the PCR main text but 30 PFIs are reported in the PCR logframe in appendix 4 and the revised 2016 RIMS indicators.

³⁶ Ghana University for Development Studies. 2016.

³⁷ IFAD 2012b.

³⁸ Ghana University for Development Studies. 2016.

³⁹ Ghana University for Development Studies. 2016.

development, rolling out Fidelity Bank's card based financial services in the North, and to a degree in addressing universal banks for value chain financing.⁴⁰

49. Results under the Productivity Investment Fund for matching grants, public good investments and regional exchanges were less positive, with only 51 per cent disbursed due to several problems. Firstly, methods were not harmonized between projects. Ghana Commercial Agriculture Programme and USAID offered up to 80 and 70 per cent of matching grants, making the IFAD-supported NRGP 30 per cent matching grant uncompetitive. Secondly, some farmers were not able to raise the 10 per cent counterpart funding required. Thirdly, farmers were often unable to secure financing from some financial institutions because the institutions lacked liquidity to support matching grants and did not offer term loans.⁴¹ The allocation of US\$231,000 to invest in public goods was not spent. The PCR explains that some public good investments were nonetheless made and financed under the AfDB-supported activities in rural infrastructure. In general, the PMU cited overload of work on NRGP staff as a contributory factor in unsatisfactory performance.⁴²
50. In conclusion, the effectiveness of NRGP was mixed. There was good overall outreach to target beneficiaries but the *inclusiveness* of target mechanisms to effectively engage youth and vulnerable groups could have been stronger. Value chains were developed for industrial crops through strengthened FBOs and DVCCs. Although the development of value chains concerning other categories was limited to one year of implementation, there is some evidence of positive impact on agricultural production, productivity and income (see Rural Poverty Impact, below). Infrastructure outputs were largely met and appear to have enhanced the market orientation of smallholder production. Access to rural finance improved through PFIs and the cashless credit model, although the number of PFIs engaging with farmers dwindled towards completion. The PIF to invest in market orientated production was also underused. Overall, the rating for effectiveness is moderately satisfactory (4), in line with PMD.

Efficiency

51. Implementation suffered from delays throughout the programme. The first disbursement was made after 20 months of loan approval following national elections and a change of government. Other challenges which affected the programme implementation processes comprised: delays in the construction of infrastructure owing to challenges in the tendering of works and services; delays arising from late submissions of AWPBs for IFAD no-objection; bureaucratic project processes required of implementers making it difficult to respect the time bound nature of agriculture activities; and, delayed release of funds to FAs and PPPs requiring them to pre-finance activities. Separate rather than joint supervision missions by IFAD and AfDB also created more work for the PMU.
52. The financial management of NRGP was good in terms of the timeliness and quality of audit reports and quarterly reports. A computerized accounting software system was also used for accounting and financial reporting, although it was not operational at some point.⁴³
53. However, the programme considerably overspent on programme management and coordination (by 221 per cent). Although some overspending can be explained⁴⁴ IFAD maintains that cost overruns owed partly to poor management of resources even after considerable financial management training and in part to significant shortfalls in project funding from the Government of Ghana. Almost 40 per cent of

⁴⁰ IFAD 2014a.

⁴¹ IFAD 2017a and IFAD 2017b.

⁴² IFAD 2017b.

⁴³ IFAD 2017a. At which point and for how long is not clear.

⁴⁴ increases in salaries, recruitment of additional staff, increments in vehicle and equipment costs, expansion of the target area after mid-term and the renovation of the PMU office. IFAD 2017 PCR.

IFAD funds went on programme management compared to the 20 per cent envisaged at design.

54. Additional issues in financial management performance included unauthorised payment of salaries and insurance that was refunded, weak oversight of the Programme Steering Committee, MoFA and the Ministry of Finance and late submissions of Withdrawal Applications.⁴⁵ Procurement without No Objection occurred on one or two occasions, but when a consultant had to start work before approval because of the strict time nature of agricultural production in the area.
55. The cost of IFAD financing per beneficiary was slightly lower at completion (US\$102) than at design (US\$114). The PCR calculates an internal rate of return of 30 per cent and a benefit/cost ratio of 1.06. Although both positive indications of efficiency, they appear to tell two different stories. On closer inspection of the calculations, two-thirds of project costs are frontloaded into the first year of implementation, which does not follow the rate of disbursement and implementation progress. This may overestimate the internal rate of return considering that, following the implementation delays, net benefits would not have occurred until much later in the project's lifetime. Calculations also include the actual costs and revenues from the production of groundnut, which was eliminated from NRGF at mid-term.
56. The efficiency of NRGF was negatively affected by many delays to implementation and significant issues in financial management. Overspending on programme management was considerable. Calculations of the benefit cost ratio suggest that NRGF was able to economically convert resources and inputs into modest results within the 8-year time period, though the results should be interpreted with caution. The rating for this criterion is moderately unsatisfactory (3), in line with PMD.

Rural poverty impact

57. **Household income and net assets.** The 2016 POA reports that the 56 per cent of beneficiaries participating in the assessment perceived that incomes were higher in 2015 than before NRGF. This is plausible given the results of the 2016 IAI report that show beneficiaries enjoyed increases in agricultural production and the resultant revenue and in the percentage of produce sold at the market. Higher incomes could also partly explain the increase in volumes traded and improved access to inputs reported by stakeholders in the 2016 POA report. Outside the main target group, the PCR also reports that input dealers, aggregators, marketeers, processors and other actors along the value chain increased in number and enjoyed expanding businesses, resulting in modest increases in profits and job opportunities.
58. A potential dampener of smallholder farmers' market sales and income was the persistent problem of post-harvest losses of certain crops (maize, rice, cowpea, soybean) in the target area. Still, beneficiaries were able to purchase important assets such as livestock as a result of the project, suggesting that important increases in income were achieved.⁴⁶
59. **Human and social capital and empowerment.** It is reasonable to infer that the training, capacity building and forming and strengthening farmers into organized groups and stakeholders into DVCCs contributed to enhancing both human and social capital amongst the target group. Indeed, the 2016 POA reported that capacity building of farmers improved their skills in credit utilisation, determination of credit needs, record keeping, risk management and effective leadership. FBO membership was also reported to have improved farmers' social networks and safety nets.

⁴⁵ IFAD 2017a.

⁴⁶ IFAD 2016c.

60. **Food security and agricultural productivity.** The PCR shows evidence of increased agricultural productivity in the production of maize, rice, soya and sorghum (industrial crops), and onion, tomato, pepper and okra (in the vegetable category) over the lifetime of the project. Yields increased for all crops from baseline values⁴⁷ (by between 170 per cent and 498 per cent) and for all crops but tomatoes compared to METASIP⁴⁸ achievable yields (by between 106 per cent and 249 per cent). Compared to NRG targets, yields were exceeded for sorghum, rice, pepper and okra (by between 103 per cent and 120 per cent), while falling short of targets for maize, soya, onion and tomato (by between 92 per cent and 98 per cent). The PCR states that yields of beneficiary farmers could have been improved much more. In particular, data on agricultural productivity at some irrigation sites for onion, rice and maize show disappointing average yields, below METASIP achievable yields that are based on *rainfed* average yields.
61. The 2016 IAI report shows a minor reduction in the number of hungry months experienced by beneficiaries in 2015, but the result is not statistically significant. Although weekly food expenditure marginally decreased,⁴⁹ the proportion of beneficiary households that could meet food requirements from own production increased from 56 per cent in 2007 to 63 per cent in 2015.⁵⁰ The project did not measure the impact on nutrition despite the inclusion of an indicator on malnutrition in the logical framework after mid-term. The 2016 IAI report shows a negligible impact of the project on the diversity of beneficiaries' diets.
62. **Institutions and policies.** Completion mission interactions with District Directors of Agriculture in selected districts in the Programme mandate area revealed that NRG strengthened and built their capacities through quarterly resource allocations, trainings and provision of equipment. The PCR notes that NRG also had an impact on FAs and agribusinesses in PPPs and PFIs. The NRG completion mission learned that the participation of FAs and agribusinesses in NRG had enabled them to become stronger or address some of their weaknesses. The PFIs also benefitted from the training of their staff on value chain financing and financial product development. Private construction firms in the Programme area had their capacities built through training to be able to execute the infrastructure component of the Programme.
63. In conclusion, NRG had some positive impacts on rural poverty, notably on household assets, (especially livestock), sales of agricultural products, agricultural productivity in industrial crops and vegetables and human and social capital. Beyond the core target group, value chain actors benefitted from increased business profits and job opportunities. Inroads were also made to strengthen public and private institutions to operate more effectively. The project's overall impact was limited by just one year of implementation in the women's crops, fruit and vegetable and animal categories and persistent post-harvest losses. Overall, considering the significant changes at the household level highlighted by the impact assessment, the rating for this criterion is moderately satisfactory (4), one level higher than PMD.

Sustainability of benefits

64. The PCR refers to a clear exit strategy which demonstrated conditions under which initiatives would be handed over in all 57 districts and sustained post-completion. The PCR finds limited evidence, however, of how initiatives would be sustained.
65. In addition to the 1,625 FBOs functioning independently, a further 6,502 FBOs were also formed and/or started to benefit from training and capacity building. While there is no guarantee that the FAs will continue to strengthen these FBOs,

⁴⁷ The dates of these baseline value range from 2007 to 2014.

⁴⁸ METASIP refers to the government's Medium-Term Agriculture Sector Investment Programme.

⁴⁹ IFAD, 2016c. Note that the results were not statistically significant.

⁵⁰ Ghana University for Development Studies, 2016.

the PPPs reportedly continue to function due to the mutual business benefits enjoyed by all parties. In addition, the District Departments of Agriculture continue to strengthen and provide extension services to the FBOs, particularly under the Planting for Food and Jobs programme, however the extent to which this happens is uncertain. Although the PCR notes that continued strengthening of these FBOs could be undertaken by the ongoing IFAD-supported Ghana Agricultural Sector Investment Programme (GASIP), it also acknowledges that there is no formal arrangement in place to do so. Critically, the PCR also identifies challenges to the continued strengthening and sustainability of commodity value chains in the target area: the lack of an ingrained business mindset among farmers to-date; and, the continued production orientated mindset of MoFA officials.

66. Of the 57 DVCCs established, 60 per cent were functional by completion. They have also demonstrated ownership of the links established between value chain stakeholders. For example, they endorse the forms of FBO members' loan applications to enhance the chances of loan approval and help the bank to recover loans advanced to members. The sustainability of the set up value chain nodes (to promote the value chains of FBOs, see paragraph 43), where DVCCs were weak, was not known by completion.
67. It is clear which institutions are responsible for the irrigation schemes (Ghana Irrigation Development Authority under MoFA), the warehouses and packhouses (Municipal and District Authorities or private sector entities) and the feeder roads (Department of Feeder Roads) constructed by NRGF. However, the PCR does not clarify how able they are to ensure their sustainability. Furthermore, local level management structures for agricultural water management schemes and market facilities were not established by the project.⁵¹
68. Forty-one water user associations (WUAs) were established to manage the agricultural water management schemes. The PCR reports that there was a lack of clarity in design about the types of WUAs required and that this was not resolved during implementation. For example, the legislative instrument to transform FBOs on irrigation schemes into WUAs was enacted towards project completion and there were no clear operational guidelines to guide the PMU.⁵² The GASIP is reportedly in consultation with the Ghana Irrigation Development Authority to build the capacity of WUAs on the irrigation sites in the Northern Regions.⁵³ It is not clear what mechanisms were put in place to ensure the financial sustainability and viable operation and maintenance of the 13 warehouses and packhouses built by the project. Reference is made however to some DVCCs managing warehouses for District Assemblies.⁵⁴
69. The relationships established between financial institutions, universal banks and farmers appear relatively sustainable. Financial institutions indicated to the completion mission that they will continue to work with the FBOs, DVCCs and some of the FAs in providing financial services, particularly cashless credit to clients. A key success factor of the sustainable cashless credit model was that it proved profitable for the financial institutions.
70. Overall, the sustainability of many NRGF interventions remains questionable without follow-up support from GASIP and in the absence of functional local level management structures. The rating for this criterion is moderately unsatisfactory (3), in line with PMD.

⁵¹ Roads are not managed by groups but by the Districts. Footnote from Revised RIMS indicators 2016.

⁵² Communication from PMD, 20 February 2019.

⁵³ Idem.

⁵⁴ IFAD 2017a.

B. Other performance criteria

Innovation and scaling up

71. **Innovation.** Throughout the PCR the cashless credit model is referred to as an effective innovation in the target area. Provided by PFIs, the cashless credit model provided farmers and other value chain actors with inputs instead of cash in a timely manner. With the right mechanisms in place, such as functional FBOs and DVCCs, it leveraged funds from private banks at competitive interest rates for agricultural financing. At completion, the PFIs indicated that they will continue to work with the FBOs, DVCCs and some of the FAs in providing cashless credit to clients.
72. Another effective innovation of NRGPs was the DVCCs - made up of local value chain actors - to facilitate grassroots value chain development to improve farmers' productivity and incomes. Previous attempts at developing IPBs were unsuccessful and top-down. The members (Researchers, Producers, Processors, Transporters, Marketers and Consumers) did not have the democratic mandate from the entire membership of each entity to represent them.⁵⁵
73. The PCR refers to the innovative aspects of Special Purpose Vehicles / business nodes⁵⁶, Farmer Business Books⁵⁷ and the institution of a women's crop category in value chain development. However, both the special purpose vehicles and the farmer business books proved unsuccessful during implementation. The special purpose vehicles became unattractive when other development programmes offered access to capital resources on more lenient terms and the farmer business books were not sustained, in part because of "lack of motivation for the Agriculture Extension Agent's and the District Agricultural Departments".⁵⁸ The PCR does not provide sufficient information to justify why the women's crop category was an important innovation, particularly in light of its infancy in NRGPs operations and thus, lack of successful results. The overall rating for innovation is therefore moderately satisfactory (4), in line with PMD.
74. **Scaling up.** The PCR does not provide examples of when successful activities and innovations were scaled up or are being scaled up, nor show evidence of concrete plans for scaling-up. A wealth of knowledge management documents was produced on the above-mentioned innovations and other successful activities, but a vehicle for sharing the knowledge base and for facilitating scaling-up was not developed. The PCRV finds that by completion, there was documented evidence that GASIP could take over "some" of the unfinished value chain development and infrastructure investments in NRGPs. However it is not evident that this would involve scaling-up NRGPs activities (for example by leveraging co-financing to support activities) but rather the completion of some of its unfinished activities. In light of this, the rating for this criterion is moderately unsatisfactory (3), one level lower than PMD.

Gender equality and women's empowerment

75. NRGPs had a clear and comprehensive gender strategy in design and most of the activities (detailed below) took place except for the rural radio broadcasts and the IPB on women's crops - because the creation of IPBs were dropped after mid-term.
76. By completion, NRGPs had succeeded in reaching more women in absolute and relative terms than planned at mid-term. Women represented 59 per cent of the FBOs members, exceeding the target of 40 per cent. They also made up 33 per cent of FBO leaders. Although this fell short of the target (45 per cent), the

⁵⁵ IFAD 2013b.

⁵⁶ A nucleus-out grower scheme that reaches resource poor farmers in rural areas with financial services.

⁵⁷ Method of record keeping to enable farmers to record some basic data on their own, be able to analyse it and make business decisions accordingly.

⁵⁸ IFAD 2017b.

achievement is still notable.⁵⁹ Women (5,840) benefitted from access to credit from the PFIs, but represented only 27 per cent of total borrowers.

77. Outputs were achieved thanks to the development of a Gender Action Plan, the presence of a gender specialist in the PMU, and specific targeting mechanisms. These mechanisms included: reaching out to women-only and mixed farmers' groups/FBOs; encouraging women to occupy leadership positions; identifying women value chain actors (mainly aggregators) and enabling them to participate in business development training and business plan development; and, support for value chain development of women's crops, albeit limited to one year of operations. In addition, NRGP sensitized traditional leaders, including the Regional Houses of Chiefs and other Traditional Rulers, as well as District Assemblies on the importance of women's participation and empowerment. In 2013, NRGP won an IFAD gender award for the approaches used and results achieved at that time.
78. Discussions during the completion mission with women and men beneficiaries indicated that there were changes in the way women perceived their involvement in income generating activities compared to before the project. Women reportedly also became more confident to ask for land to produce commercial crops such as soybeans, previously cultivated by men. Although NRGP gained assurances from traditional rulers about women's improved access to land, the PCR states that it is not known if this happened in practice in the absence of more comprehensive results. In general, the PCR acknowledges that by completion there was a general lack of outcome and impact data to demonstrate project achievements more comprehensively. The 2016 IAI report does however shed some light on the project's impact on women, showing that female-headed households were able to benefit from the project as much as male-headed households.
79. NRGP made a clear, structured and concerted effort to mainstream gender in operations and promote gender equality and women's empowerment within the target group. Some important outputs were achieved. There are also indications of interesting outcomes in women's economic empowerment and influence in decision-making. Positive outcomes were also enjoyed by female-headed and male-headed households alike. The rating for this criterion is therefore satisfactory (5), in line with PMD.

Environment and natural resources management

80. The PCR provides a clear explanation of how NRGP produced and implemented an Environmental and Social Management Plan with the Environmental Protection Agency (EPA), Ghana Health Service, MoFA and "other" organizations to identify the environmental and social impacts of investments and requisite mitigation measures.
81. Activities implemented included the training of farmers, contractors and financial institutions on its environmental and social safeguards and training farmers on good agricultural practices that contribute to environmental sustainability. In collaboration with the Savanna Agricultural Research Institute, NRGP also implemented an intervention on integrated soil fertility management in selected communities in the target area. Tree planting and river bank protection were undertaken. Infrastructure facilities were constructed with clearance from the EPA, indicating that on balance they had the opportunity to enhance rather than damage ecosystems (e.g. from tree cutting). The EPA also monitored the construction of feeder roads and educated farmers on the safe use of agrochemicals.
82. Overall, some improvements were made to the natural resource base, trainings helped to minimize harmful agricultural practices, environmental norms were followed with the appropriate partners and the construction of infrastructure was

⁵⁹ The nature of the leadership positions held by women and how actively they were involved in them is not elaborated in the PCR.

approved by the EPA based on the balance of (largely positive and minor negative) outcomes. The PMD rating of moderately unsatisfactory (3) is not in line with the relatively positive narrative in the PCR. The rating for this criterion is therefore moderately satisfactory (4), one level higher than PMD.

Adaptation to climate change

83. The PCR states that climate change is one of the biggest problems faced by the rural poor in the NRGF target area. Yet, the project did not put a significant focus on empowering the target group to mitigate and adapt to climate change, nor strengthen their resilience to shocks. Results suggest that an unknown proportion of the target group are marginally more able to cope with the effects of climate change through irrigated, rather than solely rainfed, agriculture and improved knowledge of sustainable land management practices following training from the District Departments of Agriculture.
84. In addition, NRGF piloted conservation agriculture during the 2015 and 2016 farming seasons in areas of declining soil fertility and produced a manual on the approach. In terms of methodology, the PCR states that it is doubtful that the large size equipment suitable for use on the large farms of lead farmers could be used on the much smaller plots of out grower farmers. Apparently, IFAD had objected to this approach for reasons of elite capture. Results were promising with evident increase in agricultural productivity, but the PCR rightly states the need for caution in interpreting results after only two seasons. Incoming projects still need to obtain input-output data to validate the feasibility and sustainability of conservation agriculture in the country. Overall, the rating for this criterion is moderately unsatisfactory (3), in line with PMD.

C. Overall project achievement

85. NRGF has made some important inroads towards a relatively new market-orientated approach to agricultural development in northern Ghana. Significantly more progress was achieved in developing industrial crop value chains because of the early identification of a suitable FA and the relatively successful creation of DVCCs. The underestimation of national implementation capacity, within MoFA, and in terms of suitable FAs and agribusinesses in the women's crops, fruit and vegetables and animal categories, represented a limiting factor to performance but the project responded by building the capacity of these institutions. Infrastructure investments and the leveraging of private funds for smallholder credit supported efforts to make smallholder production more market-orientated. However, the limited disbursement of matching grants was disappointing. Evidence suggests that there were some positive impacts on rural poverty and that beneficiaries appreciated the increase in incomes and food security. However, the persistence of significant post-harvest losses in the target area is likely to have dampened improvements to income; the efficiency of the project to convert costs into the limited results was marginal; and the sustainability of NRGF interventions was largely questionable.
86. Other achievements of NRGF include the effective innovations of the cashless credit model and the DVCCs, the successful mainstreaming of gender concerns into operations and the respect demonstrated for environmental and natural resource management concerns. Little was done to empower beneficiaries to mitigate and adapt to pressing climate change concerns and targeting mechanisms to reach the poorer and more vulnerable farmers were also insufficient. In hindsight, NRGF was an ambitious project in the context of northern Ghana so the outcomes that were achieved should not be undervalued. The rating for overall project achievement is moderately satisfactory (4).

D. Performance of partners

87. **IFAD.** As described above, the financing of NRGPs was supported by the timely release of funds by IFAD (except for initial delays). IFAD exercised its developmental and fiduciary responsibilities adequately. Frequent supervision and implementation support missions were performed, as well as a joint MTR involving the AfDB and the Government of Ghana.
88. However, two issues arose from the missions. Firstly, separate rather than joint supervision missions by IFAD and AfDB created substantially more work for the PMU. Secondly, conflicting suggestions from different mission teams to the PMU, for example on the value of piloting conservation agriculture and the need to recruit a deputy National Programme Coordinator, created a lack of consistency, which "can have serious implications for programme implementation",⁶⁰ although it is not clear if it did. The design of NRGPs had a couple of shortcomings, including: the underestimation of national implementation capacity to deliver the relatively new market orientated approach; and, insufficient targeting mechanisms to reach poorer smallholder farmers (see Relevance for more details). The performance of IFAD is therefore rated moderately satisfactory (4), in line with PMD.
89. **Government.** The Government of Ghana performance through the Ministry of Finance and MoFA has been mixed. The Ministry of Finance did not release funds for NRGPs between 2013 and 2016 and total disbursements amounted to US\$2.9 million instead of the committed US\$10.4 million. The 2012 country programme evaluation found that although MoFA accepted the challenge to enhance collaboration with the private sector and move beyond postproduction to value chain development, it did so in a desultory manner.⁶¹ The PCR also notes that the lack of a value chain specialist in the PMU for nearly two years contributed to the slow development of some value chains. Programme implementation was delayed owing to late submission of AWPBs for IFAD no-objection and late payment of FAs, PPPs and contractors. Financial management was good in terms of the timeliness and quality of audit reports and quarterly reports but weaker in terms of expenditure overruns. Additional issues in financial management performance included unauthorised payment of salaries and insurance and late submissions of Withdrawal Applications. But other issues concerning procurement were clearly justified. Meanwhile, the M&E system was suboptimal for much of programme implementation.
90. Implementation at the regional and district levels by MoFA staff went well and beneficiaries reported marginal increases in contact with extension workers.⁶² The institution of NRGPs Regional and District Schedule Officers was new. Being a part of both MoFA and the Regional and District Coordinating Councils, they played an important supportive role during implementation. Despite initial problems the following partners reportedly performed their respective roles creditably: the Regional and District Departments of Agriculture, the EPA, the Department of Cooperatives, Ghana Health Service, the Ghana Irrigation Development Authority and the Department of Feeder Roads. Overall, the performance of the Government of Ghana is rated moderately unsatisfactory (3), in line with PMD.

IV. Assessment of PCR quality

Scope

91. The structure of the PCR follows the outline proposed in the PCR guidelines. Each section is adequately covered except for Scaling-up. The section on Impact could have also been improved by using the results of the 2016 IAI report on NRGPs.

⁶⁰ IFAD 2017b.

⁶¹ IFAD 2012a.

⁶² Ghana University for Development Studies. 2016.

Complete final expenditures by cost category are not available in the appendices. On the whole, the scope of the report is moderately satisfactory (4).

Quality

92. The PCR is succinct and well written but there are some discrepancies in output data between the main text and the logical framework in the appendices. The latest 2016 RIMS data also do not agree with data in the PCR. For reasons of consistency, the PCR used data in the PCR. The section on natural resources and environment (D2.6) provides ample evidence of moderately satisfactory performance yet the rating of the criterion is one level lower.
93. There is evidence in the PCR that the POA and PCR process were inclusive of relevant stakeholders. In November 2016, a stakeholder consultation workshop was held on the imminent POA and PCR process and attended by 70 participants from a wide range of organizations involved in NRG. An initial draft of the PCR was further bolstered by four validation and wrap-up meetings between February and May 2017: Stakeholders' Validation Workshop in Tamale; Presentation to National Directors in Accra; National Stakeholders' Validation Workshop in Accra; and Presentation to National Programme Steering Committee in Tamale. Comments and suggestions made during these meetings were reportedly incorporated into the final version of the PCR. The quality of the report is moderately satisfactory (4).

Lessons

94. The PCR makes a valiant effort to draw on lessons learned from project design and implementation. Over 15 lessons are raised throughout the PCR and reiterated in the penultimate section of the report. The lessons in the report are satisfactory (5).

Candour

95. The PCR narrative appears objective. It identifies both positive and negative aspects of project design, implementation and results. The ratings are largely coherent with the narrative with a couple of exceptions. The section on scaling-up and knowledge management (D4) did not articulate examples of, or the potential for, scaling-up to justify a rating of moderately satisfactory. The candour of the report is rated satisfactory (5).
96. Overall, the quality of the PCR is rated as satisfactory (5).

V. Lessons learned

97. The FBO-DVCC model can be effective to facilitate value chain development from the bottom-up leading to increased smallholder agricultural productivity and marketing in the medium-term. Quick fixes are unrealistic. Instead, extensive and intensive capacity building of value chain actors and agricultural extension staff is required to strengthen business mindsets and instill a culture of market-orientated agricultural development.
98. The use of FAs and PPPs to strengthen FBOs is an interesting approach that could be improved upon in future projects. Notably, their availability should be factored into design. They should also be selected on the basis of their goals, target groups, modes of operations and specific competencies and not just because they are NGOs or private sector enterprises.
99. Investments in hardware (infrastructure) must be supported by investments in software (organizational and management capacity). Although an old lesson learned, the experience of NRG suggests it is still necessary to highlight. Without corresponding investments in software, resources invested in hardware, such as irrigation facilities, market structures and roads are too often wasted as they fall into disrepair, reducing the intended impact on rural poverty. In a developing context, it is rarely enough to formally handover responsibility for the operation

and maintenance of infrastructure to the appropriate institution. In addition, local management structures are essential to ensure their daily operation, upkeep and financial viability.

Definition and rating of the evaluation criteria used by IOE

Criteria	Definition *	Mandatory	To be rated
Rural poverty impact	Impact is defined as the changes that have occurred or are expected to occur in the lives of the rural poor (whether positive or negative, direct or indirect, intended or unintended) as a result of development interventions.	X	Yes
	<i>Four impact domains</i>		
	<ul style="list-style-type: none"> Household income and net assets: Household income provides a means of assessing the flow of economic benefits accruing to an individual or group, whereas assets relate to a stock of accumulated items of economic value. The analysis must include an assessment of trends in equality over time. 		No
	<ul style="list-style-type: none"> Human and social capital and empowerment: Human and social capital and empowerment include an assessment of the changes that have occurred in the empowerment of individuals, the quality of grass-roots organizations and institutions, the poor's individual and collective capacity, and in particular, the extent to which specific groups such as youth are included or excluded from the development process. 		No
	<ul style="list-style-type: none"> Food security and agricultural productivity: Changes in food security relate to availability, stability, affordability and access to food and stability of access, whereas changes in agricultural productivity are measured in terms of yields; nutrition relates to the nutritional value of food and child malnutrition. 		No
	<ul style="list-style-type: none"> Institutions and policies: The criterion relating to institutions and policies is designed to assess changes in the quality and performance of institutions, policies and the regulatory framework that influence the lives of the poor. 		No
Project performance	Project performance is an average of the ratings for relevance, effectiveness, efficiency and sustainability of benefits.	X	Yes
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, institutional priorities and partner and donor policies. It also entails an assessment of project design and coherence in achieving its objectives. An assessment should also be made of whether objectives and design address inequality, for example, by assessing the relevance of targeting strategies adopted.	X	Yes
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.	X	Yes
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted into results.	X	Yes
Sustainability of benefits	The likely continuation of net benefits from a development intervention beyond the phase of external funding support. It also includes an assessment of the likelihood that actual and anticipated results will be resilient to risks beyond the project's life.	X	Yes
Other performance criteria			
Gender equality and women's empowerment	The extent to which IFAD interventions have contributed to better gender equality and women's empowerment, for example, in terms of women's access to and ownership of assets, resources and services; participation in decision making; work load balance and impact on women's incomes, nutrition and livelihoods.	X	Yes
Innovation	The extent to which IFAD development interventions have introduced innovative approaches to rural poverty reduction.	X	Yes
Scaling up	The extent to which IFAD development interventions have been (or are likely to be) scaled up by government authorities, donor organizations, the private sector and others agencies.	X	Yes
Environment and natural resources management	The extent to which IFAD development interventions contribute to resilient livelihoods and ecosystems. The focus is on the use and management of the natural environment, including natural resources defined as raw materials used for socio-economic and cultural purposes, and ecosystems and biodiversity - with the goods and services they provide.	X	Yes
Adaptation to climate change	The contribution of the project to reducing the negative impacts of climate change through dedicated adaptation or risk reduction measures	X	Yes

<i>Criteria</i>	<i>Definition</i> *	<i>Mandatory</i>	<i>To be rated</i>
Overall project achievement	This provides an overarching assessment of the intervention, drawing upon the analysis and ratings for rural poverty impact, relevance, effectiveness, efficiency, sustainability of benefits, gender equality and women's empowerment, innovation and scaling up, as well as environment and natural resources management, and adaptation to climate change.	X	Yes
Performance of partners			
• IFAD	This criterion assesses the contribution of partners to project design, execution, monitoring and reporting, supervision and implementation support, and evaluation. The performance of each partner will be assessed on an individual basis with a view to the partner's expected role and responsibility in the project life cycle.	X	Yes
• Government		X	Yes

* These definitions build on the Organisation for Economic Co-operation and Development/Development Assistance Committee (OECD/DAC) Glossary of Key Terms in Evaluation and Results-Based Management; the Methodological Framework for Project Evaluation agreed with the Evaluation Committee in September 2003; the first edition of the Evaluation Manual discussed with the Evaluation Committee in December 2008; and further discussions with the Evaluation Committee in November 2010 on IOE's evaluation criteria and key questions.

Rating comparison^a

<i>Criteria</i>	<i>Programme Management Department (PMD) rating</i>	<i>IOE Project Completion Report Validation (PCR) rating</i>	<i>Net rating disconnect (PCR-PMD)</i>
Rural poverty impact	3	4	1
Project performance			
Relevance	5	4	-1
Effectiveness	4	4	0
Efficiency	3	3	0
Sustainability of benefits	3	3	0
Project performance^b	3.75	3.5	-0.25
Other performance criteria			
Gender equality and women's empowerment	5	5	0
Innovation	4	4	0
Scaling up	4	3	-1
Environment and natural resources management	3	4	1
Adaptation to climate change	3	3	0
Overall project achievement^c	4	4	0
Performance of partners^d			
IFAD	4	4	0
Government	3	3	0
Average net disconnect			0

^a Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.p. = not provided; n.a. = not applicable.

^b Arithmetic average of ratings for relevance, effectiveness, efficiency and sustainability of benefits.

^c This is not an average of ratings of individual evaluation criteria but an overarching assessment of the project, drawing upon the rating for relevance, effectiveness, efficiency, sustainability of benefits, rural poverty impact, gender, innovation and scaling up, environment and natural resources management, and adaptation to climate change.

^d The rating for partners' performance is not a component of the overall project achievement rating.

Ratings of the project completion report quality

	<i>PMD rating</i>	<i>IOE PCR rating</i>	<i>Net disconnect</i>
Candour		5	
Lessons		5	
Quality (methods, data, participatory process)		4	
Scope		4	
Overall rating of the project completion report		5	

Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory; n.p. = not provided; n.a. = not applicable.

NRGP physical outputs

Output	Unit	Planned			Actual			% MTR
		Total	Men	Women	Total	Men	Women	Total
Households reached	Number	Design & MTR 45,000	-	-	53,072⁶³	-	-	118
A. Commodity chain development								
A.1 Strengthening POs/FBOs								
Marketing groups formed/strengthened	Number	Design 8000⁶⁴ MTR 2000	-	-	8127	-	-	406
People in marketing groups formed/ strengthened	Number	MTR 50,000	30,000	20,000	201,746	82,920	118,826	403
Marketing groups with women in leadership positions	Number	MTR 900 (45% of grps)	-	-	2673 (33% of grps)	-	-	73
A.2 Establishing IPBs/DVCCs								
Apex organizations formed/strengthened	Number	Design 4 MTR 6	-	-	10	-	-	100
DVCCs established		no target	-	-	57	-	-	-
DVCC members are women	Per cent	no target	-	-	35	-	-	-
B. Rural infrastructure development⁶⁵								
B.1 Irrigation								
Land under irrigation schemes constructed/ rehabilitated	Hectares	Design 4500⁶⁶ MTR 2829	-	-	2112⁶⁷	-	-	75
Development of flood recession schemes	Hectares	MTR 1000	-	-	1003	-	-	100
Construction / rehabilitation of small dams	Number	Design 50	-	-	36	Discontinued at mid-term		
Rehabilitation of IVRDP schemes	Hectares	MTR 634⁶⁸	-	-	650	-	-	103
River pumping schemes	Number	Design 150	-	-	150	-	-	100
Water user associations formed and functional	Number	MTR 325	-	-	41⁶⁹	-	-	13
B.2 Marketing								
Feeder roads constructed/ rehabilitated	Kilometres	Design 600 MTR 600	-	-	646 or 675	-	-	108
Farm access tracks constructed/ rehabilitated	Kilometres	Design 800 MTR 200	-	-	100	-	-	50
Ware- & pack-house facilities constructed / rehabilitated	Number	MTR 14	-	-	13⁷⁰	-	-	93
Groups managing	Number	no target	-	-	41⁷¹	-	-	-

⁶³ In the revised 2016 RIMS indicators households reached are 60,053.

⁶⁴ In the PCR the design target is stated as "8000+++".

⁶⁵ The PCR explains that unmet targets owed to the poor performance of some contractors. The designs of these infrastructures have reportedly been given to the Savanna Accelerated Development Authority and GASIP for possible completion.

⁶⁶ IFAD 2011, Report of supervision mission November – December 2011, appendix 5.

⁶⁷ In the revised 2016 RIMS indicators land under irrigation amounts to 2,541 hectares (90 per cent target).

⁶⁸ 20 IVRDP Schemes in Brong Ahafo Region (2), Ashanti Region (8), and Western Region (10) with a total design area of 633.6 ha. IFAD 2012, Inter-phase report.

⁶⁹ IFAD 2014 Supervision mission reports that 101 WUAs were established and functional.

⁷⁰ Note that the construction of 1 warehouse was cancelled due to challenges related to land acquisition.

Annex III

Output	Unit	Planned			Actual			% MTR
		Total	Men	Women	Total	Men	Women	Total
infrastructure formed/strengthened								
People in groups managing infrastructure formed/strengthened	Number	<i>no target</i>	-	-	697 ⁷²	-	-	-
Groups managing infrastructure with women in leadership position	Number	<i>no target</i>	-	-	41 ⁷³	-	-	-
C. Improved access to rural finance								
Financial institutions participating	Number	Design 12⁷⁴ MTR 30	-	-	26⁷⁵			87
Staff of financial institutions trained	Number	MTR 100	120	30 ⁷⁶	324⁷⁷	260	64	324
Number of people accessing credit	Number	-	-	-	21,349	15,509	5840	-
Enterprises accessing financial services facilitated by project	Number	MTR 100	-	-	37	-	-	37
Value of gross loan portfolio	US\$	MTR 3,000,000	-	-	4,861,625⁷⁸	-	-	162
Value of voluntary savings	US\$	MTR 300,000	-	-	605,539⁷⁹	-	-	202
PIF	Matching grant	US\$	1.36 million	-	0.7 million	-	-	51
	Public goods facility	US\$	231,000		0			0
	Regional exchange visits	US\$	400,000		162,000			41

Sources: IFAD 2008; IFAD 2012b; IFAD 2017b unless otherwise stated. In the absence of the MTR logframe, the PCRV took MTR targets from IFAD 2013a.

⁷¹ Revised 2016 RIMS indicators.

⁷² Revised 2016 RIMS indicators.

⁷³ Revised 2016 RIMS indicators.

⁷⁴ IFAD 2010, Report of supervision mission April 2010, appendix 6.

⁷⁵ IFAD 2017 PCR appendix 4 logframe reports a total of 30 participating financial institutions (26 rural and community banks and 4 Universal banks). The revised 2016 RIMS indicators similarly report 30 institutions.

⁷⁶ Targets by men and women in PCR at odds with overall target in post-MTR logframe and different to targets in the revised 2016 RIMS indicators of 100 men and 50 women.

⁷⁷ IFAD 2017 PCR appendix 4 logframe reports 277 staff trained.

⁷⁸ Data from PCR main text. Differs from PCR logframe (US\$4,847,860) and revised 2016 RIMS indicators (US\$4,995,516).

⁷⁹ Revised 2016 RIMS indicators.

Results from the 2016 Impact Assessment Initiative technical report on NRG⁸⁰

Estimates of the average treatment effects on the treated (ATT) of NRG

Wealth-related outcomes							
Outcomes	(1) RA	(2) PSM	(3) NN	(4) IPW	(5) IPWRA	(5a) Male only IPWRA	Control mean
Asset index	0.045*** (0.008)	0.047*** (0.008)	0.043*** (0.009)	0.046*** (0.008)	0.046*** (0.008)	0.047*** (0.008)	0.076
Durable asset index	-0.003 (0.006)	-0.008 (0.007)	-0.003 (0.007)	-0.002 (0.006)	-0.003 (0.006)	-0.004 (0.007)	0.215
Livestock index	0.552*** (0.095)	0.571*** (0.095)	0.513*** (0.105)	0.557*** (0.095)	0.557*** (0.095)	0.572*** (0.100)	0.531
Large livestock index	0.423*** (0.133)	0.451*** (0.130)	0.447*** (0.132)	0.43*** (0.132)	0.431*** (0.132)	0.389*** (0.131)	0.198
Small livestock index	0.412*** (0.097)	0.425*** (0.096)	0.407*** (0.101)	0.418*** (0.097)	0.415*** (0.097)	0.43*** (0.101)	0.435
Number of poultry owned	0.388 (4.608)	0.343 (4.134)	2.355 (2.762)	0.879 (4.233)	0.697 (4.371)	0.718 (4.727)	9.393
Area of land owned (log)	0.689*** (0.143)	0.530*** (0.155)	0.711*** (0.154)	0.685*** (0.144)	0.688*** (0.143)	0.704*** (0.152)	(0.395)
Above 40 th percentile poverty line	0.091*** (0.026)	0.088*** (0.029)	0.086*** (0.030)	0.089*** (0.026)	0.093*** (0.026)	0.088*** (0.028)	0.599
Above 60 th percentile poverty line	0.162*** (0.028)	0.156*** (0.030)	0.165*** (0.031)	0.163*** (0.028)	0.164*** (0.028)	0.162*** (0.029)	0.399
Total weekly household expenditure (log)	0.042 (0.055)	0.000 (0.060)	0.037 (0.058)	0.054 (0.056)	0.047 (0.055)	0.038 (0.058)	4.647
Total weekly household expenditure per capita (log)	0.044 (0.050)	0.018 (0.055)	0.035 (0.052)	0.046 (0.050)	0.045 (0.050)	0.037 (0.053)	2.973
Weekly food expenditure (log)	-0.062 (0.061)	-0.056 (0.070)	(0.043) (0.070)	-0.051 (0.063)	-0.056 (0.062)	-0.06 (0.065)	4.036
Weekly food expenditure per capita (log)	-0.05 (0.047)	-0.041 (0.054)	-0.041 (0.052)	-0.05 (0.047)	-0.05 (0.047)	-0.052 (0.049)	2.431
Weekly nonfood expenditure (log)	0.077 (0.079)	0.013 (0.088)	0.057 (0.082)	0.091 (0.080)	0.082 (0.079)	0.063 (0.083)	3.447
Weekly nonfood expenditure per capita (log)	0.067 (0.064)	0.030 (0.072)	0.048 (0.066)	0.071 (0.064)	0.068 (0.064)	0.050 (0.068)	1.952

⁸⁰ The sample size of the household survey was 1,451, comprising 711 NRG beneficiary households and 740 control households. Impact was estimated by using statistical matching to construct the counterfactual group. The impact assessment also involved focus group discussions, semi-structured interviews and key informant interviews.

Farming outcomes							
Outcomes	(1) RA	(2) PSM	(3) NN	(4) IPW	(5) IPWRA	(5a) Male only IPWRA	Control mean
Total annual value of agricultural production (log)	0.703*** (0.123)	0.611*** (0.137)	0.705*** (0.120)	0.720*** (0.121)	0.719*** (0.121)	0.721*** (0.130)	2.042
Total annual agricultural revenue (log)	1.171*** (0.178)	0.938*** (0.205)	1.160*** (0.175)	1.177*** (0.177)	1.184*** (0.176)	1.208*** (0.185)	4.071
Number of different crop types grown	0.404*** (0.084)	0.434*** (0.086)	0.394*** (0.098)	0.410*** (0.084)	0.414*** (0.084)	0.428*** (0.088)	2.450
Number of different cash crop types grown	0.019 (0.018)	0.023 (0.017)	0.030 (0.016)	0.018 (0.018)	0.017 (0.018)	0.012 (0.019)	0.062
Percentage of crops sold at market	5.324*** (1.829)	3.728* (1.996)	5.465*** (1.956)	5.093*** (1.833)	5.179*** (1.829)	5.293*** (1.914)	39.843

Other well-being outcomes							
Outcomes	(1) RA	(2) PSM	(3) NN	(4) IPW	(5) IPWRA	(5a) Male only IPWRA	Control mean
Gender empowerment index	0.032** (0.013)	0.032** (0.015)	0.038*** (0.015)	0.035*** (0.013)	0.035*** (0.013)	0.036** (0.014)	0.733
Number of incidents of household sickness in past year	-0.248** (0.113)	(0.246) (0.145)	(0.176) (0.158)	(0.199) (0.129)	-0.253* (0.114)	-0.261* (0.115)	11.210
Number of hungry months in past year	-0.078 (0.082)	-0.043 (0.104)	-0.055 (0.081)	-0.080 (0.082)	-0.084 (0.082)	-0.092 (0.089)	0.723
Household eats average of 3+ meals per day	0.006 (0.023)	(0.020) (0.024)	0.006 (0.024)	0.005 (0.023)	0.007 (0.023)	0.003 (0.024)	0.762
Different food groups consumed in average week	-0.0004 (0.005)	0.003 (0.004)	0.001 (0.006)	-0.0001 (0.006)	-0.0001 (0.006)	-0.0002 (0.006)	0.994

Notes: Robust standard errors are in parentheses. Statistical significance at * < 0.1; ** < 0.5; *** < 0.01. In 2016, 1 Ghanaian cedi (GHS) = US\$0.25 approximately. The total number of observations in the analysis is 1,146.

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Abbreviations and acronyms

AfDB	African Development Bank
AWPB	Annual Work Programme and Budget
DVCC	District Value Chain Committees
EPA	Environmental Protection Agency
FA	Facilitating Agencies
FBO	Farmer-based organization
GASIP	Ghana Agricultural Sector Investment Programme
IAI	Impact Assessment Initiative
IFAD	International Fund for Agricultural Development
IPBs	Inter-professional body
pfiIVRDP	Inland Valley Rice Development Project
M&E	Monitoring and Evaluation
METASIP	Medium Term Agriculture Investment Plans
MoFA	Ministry of Food and Agriculture
MTR	Mid-term review
NGO	Non-governmental organization
NRGP	Northern Rural Growth Programme
PCR	Project completion report
PCRv	Project Completion Report Validation
PFI	Participating Financial Institution
PIF	Productivity Investment Fund
PMU	Project Management Unit
PMD	Project Management Department
POA	Participatory Outcome Assessment
PPP	Public Private Partnership
WUA	Water user association