Independent Office of Evaluation

IFAD
Investing in rural people

Project Completion Report Validation

***Ruwanmu* Small-Scale Irrigation Project (PPI *Ruwanmu*)**
From French: Project de Petite Irrigation *Ruwanmu*[1]
Republic of Niger
Date of validation by IOE: July 2019

I. Basic project data

				Approval (US$ m)		Actual (US$ m)	
Region	West and Central Africa		Total project costs		25.65		20.30
Country	Republic of Niger		IFAD loan (% of total)	1.78	6%	2.64*	13%
			IFAD grant (% of total)	0.99	4%		
Loan/grant number	IFAD loan no L-I-877 Spanish fund: L-E-14 Grant: G-I-C-1390		Republique de Niger	4.1	16%	0.64	3%
Type of project (subsector)	Rural development		Loan - Fonds Fiducière Espagnol	18.76	73%	17.02	84%
Financing type	IFAD initiated and co-financed						
Financing terms	Loan on highly concessional terms, grant		---------				
Date of approval	21/09/2012		---------				
Date of signing	25/10/2012		---------				
Date of effectiveness	19/02/2013		---------				
Financing amendments	5/05/2015[2]		Number of beneficiaries	65,000 households in 30 communes (455,300 people[3])		52,277 households 365,942 people (80% of target)[4]	
Financing closure extensions	None		Project Completion date	30/06/2018		30/06/2018	
Country programme managers	Valantine Achancho (current); Vincenzo Galastro		Financing closing date	31/09/2018		31/06/2018	
Regional director(s)	Lisandro Martin (current); Ides de Willebois; Mohamed Beavogui		Mid-term review			December 2015	
Project completion report reviewer	Harriet Matsaert		IFAD disbursement at project completion (%)[5]			IFAD loan: 98.54% Spanish: 99.97% Grant: 99.98%	
Project completion report quality control panel	Fumiko Nakai		Date of the project completion report			21/01/2019	

*Spending is given for loan and grant combined.
Source: Project completion report (PCR).

[1] "Our water" in Haoussa language.
[2] PCR page 43. Reallocation (from construction of economic infrastructure to administrative infrastructure, was requested in April 2015 and granted in May 2015.
[3] Based on an estimate of seven people in each household.
[4] PCR page 39.
[5] IFAD database (Oracle Business Intelligence).

II. Project outline

1. **Introduction.** The *Ruwanmu* Small-scale Irrigation Project (*Project de Petite Irrigation Ruwanmu,* PPI *Ruwanmu*) was set up in response to the food crisis experienced in Niger in 2010. Short-term response through the 'Emergency Food Security and Development Response project' was followed by a longer term development response provided by this project, and a sister project '*Projet d'Appui á la securité alimentaire et au developpement dans la region de Maradi*' (Support to food security and development in the region of Maradi) (PASADEM).

2. The project received Board approval in September 2012. The financing agreement was signed on 25 October 2012 and became effective on 19 February 2013. The project was completed on 30 June 2018 and the loan closed on 31 December 2018.

3. **Project area**. The project worked in Maradi, Tahoua and Zinder regions of Niger and sought to address the high levels of rural poverty, malnutrition and vulnerability to climatic events. These regions were selected because they were vulnerable to food deficits, had land suitable for small-scale irrigation, an existing culture of irrigation and potential comparative advantage for market garden produce.

4. **Project goal, objectives and components.** The overall objective of the project, as stated in the logical framework, was to improve the food security of the rural population in Maradi, Tahoua and Zinder regions. The development objective was to raise household incomes of 65,000 households in 30 communes (20 per cent of the population).

5. The project had three components: (i) expansion and sustainable management of small-scale irrigation systems; (ii) development of economic infrastructure; and (iii) project management, monitoring and evaluation and policy dialogue.

6. *Component 1: Expansion and sustainable management of small-scale irrigation systems.* This component had the following measurable indicators:
   - 3,300 ha of water catchment protected.
   - 60 per cent of producers increase their production levels.
   - 90 per cent of boreholes still functional after three years.
   - 90 per cent of user groups still functional after three years
   - 80 per cent of small/medium enterprises still active after three years (of nine to be created).
   - Number of regional chambers of agriculture actively sharing information and organizing events (three).

7. This was to be done through: *Subcomponent 1.1*:
   - The sustainable management of land and water resources is improved on an existing 1,800 hectares and extended to a further 5,035 hectares.
   - Studies of potential for irrigation.
   - Piezometers put in place (300).
   - Reports on Piezometric data.
   - Creation of water management groups (30) (and with 30 per cent female participation).
   - Land deeds granted (5,000).
   - Land commission partnership.

8. *Subcomponent 1.2:*
   - Strengthening the production, conservation, post-harvest and marketing capacity of producers.
   - Creation of market gardening schools.
   - Development of home gardens with micro-irrigation (17,500).
   - Training in income generating activities (1,200 people).

- Input supply stores managed sustainably and transparently by producers' groups (20).
- Creation of literacy centres (138, to train 3,400 people).

9. *Component 2: Development of economic infrastructure.* This component had the following measurable indicators:
   - Strengthening post-harvest capacity and commercialization (with targets for onions, tomatoes, cabbage and peppers).
   - 60 per cent of targeted producers using collection and sales points.
   - 15 per cent reduction in storage and transport losses.
   - Sustainable maintenance teams (and storm drains) in place after three years.

10. This was to be done through *Subcomponent 2.1:*
   - Construction/Rehabilitation of rural roads to open up production zones (150 km).
   - 30 road maintenance brigades created.
   - Construction of storm drains (30).
   - Facilitation of transaction points: - collection and sales points.

11. *Subcomponent 2.2:*
   - Construction of community infrastructure for collection and sales of products.
   - Creation of markets (two), collection platforms (seven), and collection centres. (32 in all).
   - Creation of discussion groups (Hadin-Gwiwa).

12. *Component 3: Project management, monitoring and evaluation, policy dialogue*.

13. **Target group.** The project targeted agro-pastoralist households with access to an average of 0.25 ha who were engaged in market garden production.[6] It aimed to reach 65,000 households in 30 communes (455,300 people).

14. In particular, the project targeted: (i) small-scale agro-pastoralists; (ii) vulnerable households without access to land in valleys; and (iii) grass roots producers' organisations. Particular attention was to be given to the participation of women and young people with a target of 30 per cent participation of each in production or related activities (artisans, food processors and other commercial activities).

15. Two methods of targeting were used: self-targeting (*auto-ciblage*) with focus groups of men, women and young people to determine specific local needs and priorities, and direct targeting (*ciblage direct*) where activities such as training, and home garden development were to be offered specifically to women and young people.

16. **Financing.** The project finance consisted of a loan and grant by IFAD, and a loan by the Spanish fund (*Fonds Fiduciare Espanol*, FFE). The government contribution was to be in the form of tax and customs relief and estimated at 16 per cent of the total project cost.[7]

Table 1
Project costs by financier

Source of Funding	*Type of financing*	*Planned (US$ m)*	*Planned (% of total)*	*Actual (US$ m)*	*Actual (% of total)*
IFAD	Loan	1.78	6%	2.64	13%
IFAD	Grant	0.99	4%		
Government		4.1	16%	0.64	3%
FFE	Loan	18.76	73%	17.02	84%
Total		**25.6**	**100%**	**20.3**	**100%**

Source: PCR, page ix.

[6] PCR page 21.
[7] Source project design report page x.

Table 2
Project costs by component

Components	*Planned (US$ m)*	*Planned (% of total)*	*Actual (US$ m)*	*Actual (% of total)*
Increase areas of sustainably irrigated land and strengthen capacity to manage water resources	16.8	65%	9.4	46%
Development of economic infrastructure	5.6	23%	4.9	24%
Project management, monitoring and evaluation, policy dialogue.	3.18	12%	5.95	30%
Total	**25.65**	**100%**	**20.3**	**100%**

Source: PCR, page ix.

17. **Project implementation arrangements.** IFAD's strategy in Niger was revised almost immediately after the project was launched. The country strategy of 2013-2018 outlines IFAD's intention to merge the existing projects, PASADEM and PPI *Ruwanmu* into a single coherent programme promoting family farming. The programme for development of family farming (*Programme de Developpement de l'Agriculture Familiale,* ProDAF) was approved in April 2015 and launched in September 2015. From October 2015, PPI *Ruwanmu* became a window (*guichet*) of ProDAF and was managed through a shared budget and programme of works.

18. In response to this new strategy, significant alterations to PPI *Ruwanmu*'s activities were put in place by the supervision missions from 2013:

- Regionalization of management structure giving responsibility to Regional Coordination Committees and creating offices in Maradi and Tahoua. Consequent increase in percentage of funds used for component 3 (from 12 to 29 per cent). (April 2014 supervision mission).
- Restructuring the project alongside *PASADEM* to focus its activities around Economic Development Poles (PDEs) to support dynamic economic activity and links between production and commercialization of products. (May 2014 supervision mission).

19. A significant underestimation of key costs in the project design forced the project to make other modifications to its activities (layout of new irrigated areas, for example, cost almost double the budgeted cost[8]). For example, the first supervision mission revised the target for road building from 150 km in the three regions to 123 km in Zinder region only. Other indicators were revised in the May 2015 mission. See discussion of outputs (table 3) for details of the modifications.

20. The mid-term review (MTR) and subsequent missions recommended that additional financing be sought to allow the completion of key elements of Component 1 and 2, including the planned irrigation developments and funding of the construction of the identified commercial points. However, this funding was not obtained.

21. **Intervention logic.[9]** The project activities and outputs (as described in paragraphs 5-12) were designed to complement and support each other with the economic infrastructure component allowing beneficiaries to find a market for their increased production. The training component supported beneficiaries with skills and technology to enable them to maximise the benefits of irrigation. The water catchment rehabilitation and management work was essential to sustainable land and water use, as was the support to the water management user groups and road rehabilitation units. The project outputs were designed to lead to the following outcomes (defined as the use of a product or service by intended beneficiaries and observed changes in behaviour, attitude or condition):

[8] Source: PCR page 28.
[9] As described in the project design document page viii, the President's report page 4 and the PCR page 22.

- Increased area under irrigation.
- Beneficiaries' capacity to manage water resources is better.
- Beneficiaries increase agricultural production levels.
- Beneficiaries are getting produce to markets.
- Beneficiaries improve their food security (reduction of hungry months).
- Beneficiaries increase their household income.

22. In turn this would lead to the following 'intermediate state' (change required between the project outcomes and impact):
    - Increased number of households are food secure (reduction in number of hungry months, reduction in child malnutrition rates).
    - Increased number of households increase their incomes.
    - Sustainable land and water resource management.
    - Sustainable road maintenance.

23. These outcomes and intermediate states would result in the global and development objectives (as stated in paragraph 4).

24. **Delivery of outputs.** As noted above, there were considerable changes in the project focus and scope over the project life. As a result of these changes, some targets were revised and some were dropped entirely. A summary is given in table 3 below:

Table 3
Summary of output delivery

Component	*Fully achieved*	*Target revised[10] and achieved*	*Output dropped*
1.1	• Studies of irrigation potential. • Piezometers installed (exceeded target) • Land deeds granted.	• Monitoring reports on data from piezometers • Creation of user groups (and groups with at least 30% women) (20, revised from 30) • 53% of planned areas of irrigable land developed. (3904 ha, revised from 6825).	• Development of small/medium scale enterprises. (It was decided that this would be better done by local financial service providers).
1.2	None of the outputs in the project design/log frame were achieved.	• Formation of market garden schools (CPEM) (goal revised to 46%) • Home gardens (goal revised from 17,500 to 8750, and 1,350 achieved – 15%) • Training in microenterprise (revised from 1200 to 9, and 3 achieved) (see reason above). • Literacy training (36 centres of the 68 planned (53%) and 1919 people of the 3400 targeted). n	• Input supply centres
2.1	Road maintenance teams in place (44, target was 30)	• Road construction (123 of planned 150, and only in one region). • Storm drains (*barrieres de pluie*) (9 of 30 planned)	
2.2	None of the outputs in the project design/log frame were achieved.	• Studies to identify potential commercial centres and collection platforms (9 or 32 planned). • Discussion groups formed (12 of planned 15).	• Development of commercial and collection centres.
3		• 2 regional offices constructed and staffed.	

Source: PCR, Rapport effet impacts, project log frame – May 2015.

[10] Target revision was carried out by the May 2015 supervision mission. Revised log frame with targets is shown in Appendix 2 of the supervision report.

III. Review of findings

A. Core criteria

Relevance

25. **Relevance vis-á-vis IFAD and Government policies and strategies.** The PCRV agrees with the PCR's view that the project objectives were closely aligned to IFAD, Spanish Cooperation, Government and local community priorities.

26. With regard to **national priorities**, the project was aligned to Niger's Economic and Social Development plan (2012–2015) and within this to the I3N (Nigerians feeding Nigerians) initiative. It contributed to five of the seven components of the National Acceleration Plan (2014–2015).

27. With regard to **sectoral priorities,** the project was closely aligned to the Nigerian strategy for small-scale irrigation, the National Environment plan for sustainable development, the Water Code and the national strategy for rural road construction.

28. At the **international level**, the project goals were aligned to the millennium development goals, particularly goals 1 (elimination of extreme poverty), 3 (promotion of gender equality and women's empowerment) and 7 (sustainable environment), and to the sustainable development goals, particularly 2 (food security and nutrition), 5 (gender equality and women's empowerment), 9 (infrastructure development) and 15 (management of terrestrial resources).

29. The project was aligned to IFAD's Strategic Framework 2011-2015 and also to the Spanish FFE priority goals for Niger with regard to food security, nutrition, gender equality and women's empowerment. As noted in paragraph 17 above, the project adapted, at a later date, to align with IFAD's country strategic opportunities programme for Niger (2013–2018).

30. There was complementarity between the project goals and the activities of other national and international organisations, in particular the World Bank and the Food and Agriculture Organization.

31. **Relevance vis-á-vis project design.** The PCR finds the internal logic of the project design coherent and appropriate but notes that some costs (costs of irrigation layout and commercial centres) were significantly underestimated. The PCRV concurs with this and, in addition, notes some further weaknesses in project design which were not mentioned in this section of the PCR:

    - Insufficient or inadequate assessment of micro-irrigation kits for home gardens and borehole technology. The micro-irrigation kits were found to be unsuitable for the purpose. The selected borehole technology (and timing of drilling) was later found inadequate in areas where groundwater was deep.
    - Plans for commercialization pathways in the project design were later found to be inappropriate to the project context.[11]

32. The PCR notes that from early in the project life, PPI *Ruwanmu* appears to have been seen as a springboard for the ProDAF (ProDAF was approved in 2015 and launched later that year). The merging of the project into ProDAF resulted in major changes in its structure and programme of works. The PCR notes that in some cases these were not coherent with the initial design. This resulted in a lack of clarity amongst project partners.

33. A review of the project's internal coherence with partners, and revision of planned outputs and targets, in the light of the changed project context and advent of ProDAF, could have helped prevent this lack of clarity.

[11] PCR page 50.

34. Given the inadequacies in project design, and failure to revise the internal logic to respond to the changing context, the PCRV rating on relevance is *moderately satisfactory* (4), one point below the PCR rating.

Effectiveness

35. Project effectiveness is assessed against the outcomes described in the intervention logic (paragraphs 21–23):
    - Increased area under irrigation.
    - Beneficiaries' capacity to manage water resources is better.
    - Beneficiaries increase agricultural production levels.
    - Beneficiaries are getting produce to markets.
    - Beneficiaries improve their food security (reduction of hungry months).
    - Beneficiaries increase their household income.

36. **Increased area under irrigation.** Of the planned 6,825 ha, 3,904 ha (53 per cent) was developed into irrigable land. However, the impact study found that 73 per cent of those interviewed felt they had benefited from access to irrigation kits, seeds, inputs and training. The majority of these were small-scale farmers.[12]

37. **Beneficiaries' capacity to manage land and water resources is better.** Forty-six per cent of the planned market garden schools were set up (503 of the planned 1,088 schools). A total of 12,490 producers received training (of which 22 per cent were women 20 per cent young men and 10 per cent young women). Of those who attended the market garden schools, over 98 per cent said they had mastered or adopted new approaches such as planting out techniques, micro-dosing fertilizer and effective pest control. The impact assessment noted a 'snowball effect' in market garden production, which seemed to 'take off' from 2014.

38. The impact study also noted the spontaneous adoption of technologies used for water catchment rehabilitation, e.g. soil bunds, on individual farms.[13]

39. Improved literacy rates contribute to beneficiaries' capacity to manage their land and water resources and to increase their productivity. The project succeeded in providing literacy training to 1,919 people, of which 950 men and 969 women (56 per cent of the target).

40. The impact survey noted that the water catchment rehabilitation was already showing benefits in terms of increased biodiversity, reduction in invasive species, reduction in soil erosion. In turn, this was increasing the availability of forage available for livestock, and land available for rainfed farming (particularly in Zinder region were 806 ha of uncultivable land was put back into use). Piezometer readings showed an increase in water table of between 1 and 2 metres in areas which had been rehabilitated.

41. **Beneficiaries increase agricultural production levels.** The impact study found a marked increase in production levels of market produce between 2013 and 2016 due both to increased yields and to an increase in cultivated areas: onion 25.5 per cent, tomato 14.19 per cent, courgette 350 per cent, pepper 9 per cent, and cabbage 23 per cent.[14] According to the local leaders, these increases could be attributed with confidence to the project, as PPI *Ruwanmu* was the main development initiative working in the area. Market demand was also thought to be a factor in the increased production levels. Increased production was also seen in rainfed agricultural areas for sorghum (13 per cent increase in production), millet (49 per cent) and cowpeas (35 per cent).[15]

[12] Rapport effet impacts Table 7, page 25.
[13] Rapport effet impacts page 21.
[14] Rapport effet impacts page 24.
[15] Rapport effet impacts page 22.

42. It should be noted that the 27 per cent of respondents claimed that they had experienced a reduction in production due to a number of issues including flood, pest attacks, reduction of water level and lack of means for extracting water.

43. **Producers are getting more produce to markets.** Data from regional collection centres shows a significant increase in the quantities of market garden produce being reaching markets during the project life. For example in Tamaské the level of onion sales rose from 3,376 tonnes in 2012 to 18,825 tonnes in 2016, in Amachek cabbage sales rose from 1,700 tonnes in 2012 to 4,000 in 2016.[16]

44. **Beneficiaries improve their food security (reduction of hungry months).** The monitoring and impact assessment indicated that there were positive outcomes with regard to household food security. These are discussed in the Rural Poverty Impact section below.

45. **Beneficiaries increase their household income.** Monitoring and impact assessment data showed beneficiaries had increased household revenue through employment and agricultural sales. The impact on household incomes and assets is discussed in the Rural Poverty Impact section below.

46. **Summary.** The project shows many promising and positive outcomes. However, the scale of its achievements was well below the project target with, for example, only 53 per cent of the planned irrigated area developed (see table 3 for full breakdown). The level of effectiveness would have been higher if the project had fully achieved its planned outputs. The PCRV concurs with the PCR rating of *moderately unsatisfactory* (3) for effectiveness due to the reduced scope of the project.

Efficiency

47. **The actual project expenditure** was 87 per cent of the budget. The disbursement of IFAD and Spanish cooperation funds was close to 100 per cent, while the government contribution was at 18 per cent of the budget, thus much lower than anticipated. The PCR qualifies this, saying that some elements of government contribution in tax and customs allowances were not captured by the monitoring system.[17]

48. **The project management costs** were projected to be 12 per cent in the project design, but due to the restructuring of the project, rose to 29 per cent. This increase in spending was due to the use of PPI *Ruwanmu* funds to build project offices in the two regions and to the additional costs of staffing these. This high percentage of budget spent on management costs can be justified as the costs contributed not only to PPI *Ruwanmu* but also to the forthcoming ProDAF.

49. The project design document estimated the **economic rate of return** for the project to be 20.78 per cent. The PCR conducted a study of rates of return for roads (comparing market receipts before and after the construction of new roads). This study found that the rate of return to be 21.18 per cent over seven years[18] (though noting concerns on the long-term maintenance of these roads). A study of rates of return for the irrigation component (using data from tomato and pepper production) found a lower rate of return, estimated at 12 per cent over 10 years.

50. The PCRV concurs with the PCR rating of *moderately satisfactory* (4) for efficiency.

Rural poverty impact

51. In its analysis of rural poverty impact, the PCR draws on interviews, site visits, monitoring data and the results of the impact survey conducted in February 2018. The findings, and preliminary findings, were shared and confirmed with stakeholders at the end of the PCR process.

[16] Rapport effet impacts pages 28-29.
[17] PCR paragraph 149.
[18] PCR Appendix 10 pages 133 and 45.

52. **Food security and agricultural productivity.** The impact survey found that the average number of months of food security had increased from 9.6 to 10.19 months/year. Seventy-three per cent of those interviewed said that the increased production (from irrigation) was allowing them to meet their family food needs. A measure of vulnerability showed that the number of non-vulnerable households in the project areas had increased from 7 per cent to 26 per cent over the project life, with the number of vulnerable and very vulnerable reduced from 46 per cent to 25 per cent. However, these figures were not reflected in the child malnutrition figures, which remain above 45 per cent.

53. Overall, the project impact on agricultural productivity and food security appears positive, though still on a small scale, and not yet reflected in improved child nutrition statistics.

54. **Household incomes and assets.** Eighty-two per cent of people interviewed in the impact survey said they had increased their revenue in the last two years. Revenue for farmers adopting irrigation are calculated to have risen by 25 per cent from 396,000 FCFA to 500,000 FCFA.

55. The impact survey recorded increased employment levels as a result of project activities. 914 permanent jobs for young people were created in small-scale irrigation and 154 people were trained as animators for the market garden schools. In addition, an 11 per cent increase in activities related to irrigation: drilling, pump repair, processing of fresh goods, was recorded.[19]

56. Employment on the water catchment rehabilitation and maintenance work (2,271 jobs) is available six months in the year and has played a part in reducing the exodus of young people from the rural areas in the targeted regions. Income from this employment has allowed families to purchase food to reduce the length of the hungry period and to purchase assets.[20]

57. The impact survey also found an increase in household assets in the form of land, livestock and means of transport.[21]

58. As the scope of the project activities (in terms of area under irrigation) broadens under ProDAF, and with continued sustainable maintenance of catchment areas, it can be anticipated that this impact will continue to grow.

59. **Human and social capital and empowerment**. The institutions created and supported by the project: water user groups, market garden schools and discussion groups have created valuable social capital though the creation of joint plans, subcommittees, vegetation and water table monitoring, conflict resolution and the development of contribution schemes to fund activities. These institutions have already had an impact on local awareness of the value of water catchment conservation and other sustainable management practices. The impact survey found that 87 per cent of those interviewed saw a link between protecting the water catchment and recharging the water table, conserving soil moisture, extending the areas available for agriculture and preventing soil erosion.[22] It is likely that these institutions will continue to be supported as they are closely aligned to the government's focus on Economic Development Poles in which local organizations play a key role in the sustainable management of production areas.

60. As discussed in paragraphs 37-40, producers have increased their technical skills and farm strategies through participation in water catchment rehabilitation and in the market garden schools.

[19] Rapport effet impacts page 32.
[20] Rapport effet impacts page 21.
[21] Rapport effets impacts page 33.
[22] Rapport effet impacts page 22.

61. As discussed in paragraphs 81-85, the project's impact on empowerment of women and young people was less than anticipated due in part to the socioeconomic context but also to the dropping of project activities, which were particularly targeted at this group. Small steps towards increased inclusion and empowerment have been made through creating quotas for participation and actively monitoring these.

62. **Institutions and policies**. As discussed in paragraph 59, the project supported the development of a number of institutions, which were important in project implementation and will be important in the long-term sustainability and scaling up of the project outcomes.

63. The project engaged in policy influence in a number of ways:

- Participation in the I3N.
- Transfrontier discussions (PCR page 34).
- Organisation of a transregional forum on family agriculture.
- Launching of a campaign on irrigation culture.
- Participation in an agricultural show organised by the network of Agricultural Chambers, participation in reflection workshops organised by the High Commission of the I3N initiative.

64. Through the creation and strengthening of local user groups and discussion groups such as the *Hadin Gwiwa,* the project enabled producers to be represented and participate more effectively in local and regional policy decision making.

65. The PCRV concurs with the PCR rating of *moderately satisfactory* (4) for rural poverty impact.

Sustainability of benefits

66. The PCR observes that the project has put several measures in place to support project sustainability:

- Participatory and inclusive approach involving local organizations.
- Development of institutional structures for implementation and management (user groups, road maintenance teams).
- Piezometric network to monitor water use and prevent overexploitation.
- Strong relationships with local and international partners, harmonization with other projects so that the work begun by PPI *Ruwanmu* can be continued by ProDAF.

67. Recent government policy on road maintenance will also support the sustainability of the new roads.

68. Though not discussed in the sustainability section of the PCR, a number of concerns are raised elsewhere in the report and in the supervision reports, regarding the effectiveness of the boreholes,[23] dangers of overexploitation of boreholes and the risk of salinity build up, particularly in Tahoua region.[24] There are also concerns about lack of community links to road maintenance brigades and funding for road maintenance.[25]

69. Concerns about the capacity and sustainability of community management groups were raised in PCR workshop discussion.

70. As PPI *Ruwanmu* activities will be continued under ProDAF, these sustainability issues have been noted in the Lessons section of the PCR report. If these are addressed by ProDAF, it is likely that the benefits generated by the project (as well as benefits not yet come into fruit) will continue beyond the project life.

[23] PCR page 51.
[24] PCR page 15.
[25] PCR page 51.

71. Due to the concerns noted above, the PCRV rates sustainability of benefits as *moderately satisfactory (4)*, one point below the PCR rating.

B. Other Performance Criteria

Innovation

72. The project was designed to innovate on a number of levels. Technical innovations took the form of new (to the area) irrigation technologies: home garden, micro-irrigation kits and PVC piping (Californian networks), as well as a number of new technologies and management techniques, such as micro dosing fertiliser, for irrigated production (see paragraph 37).

73. Institutional innovations were to include linking irrigation development with catchment management for sustainability, the development of a collaborative approach engaging producers and other stakeholders, and the blocked savings mechanism to fund supply of irrigation sets.[26]

74. The MTR report (pages 21–22) notes in particular the value of the innovative PDE approach (described in paragraph 18), which was adopted by the project in 2014 (May 2014 supervision mission report). The development of discussion groups and shared commercialisation platforms was innovative in the context of Niger. The PDE approach allowed articulation between the institutional and civil engineering aspects of the project. This together with the creation of water user associations (another innovation in this area of Niger) proved vital in supporting their sustainability (see paragraphs 66–70).

75. With regard to the technical innovations, the irrigation kits (with the exception of the home garden kits) have proved popular (see paragraph 79). There has been a high adoption of technical innovations introduced in the market garden schools (see paragraph 37).

76. These innovations will be carried forward by ProDAF.

77. The PCRV concurs with the PCR rating of *satisfactory* (5) for innovation.

Scaling up

78. Review of the project design and supervision reports shows considerable attention has been given to scaling up by government, donor organizations, the private sector and other agencies. This was to be achieved through working closely with government, other projects, by documenting lessons (e.g. from the market garden schools), through harmonization with government and other project structures. For example, in the case of water table monitoring, the projects input of 310 piezometers was combined with the piezometers installed by other organizations to create an effective monitoring system using a total of 512 piezometers. Working together with the World Food Programme allowed the water catchment rehabilitation activity to be scaled up beyond what could have been achieved by the project alone.

79. Some scaling up of market garden technologies has already begun through the spontaneous sharing of new technologies by the market garden school participants. The MTR notes the uptake in non-targeted areas. In addition, market garden school participants have in some cases organized themselves into groups for activities such as seed production. The MTR also notes that the uptake of small irrigation kits and Californian irrigation sets (consisting of a network of subterranean PVC piping[27]) at a rate of up to 100 per cent over those distributed by the project.[28]

80. The PCRV concurs with the PCR rating of *satisfactory* (5).

[26] President's report page 10.
[27] MTR page 9.
[28] MTR page 22.

Gender equality and women's empowerment

81. The project targeted vulnerable households, women and young people and developed a strategy for their participation (*Developpement Equitable et Automisation des Femmes et de Jeunes*). The project aimed to include 30 per cent women and 30 per cent young people in all project activities. In addition, some activities were targeted specifically at these groups. Home garden development targeted women with no access to irrigation plots in the valley. Microenterprise training targeted young people. Monitoring data was disaggregated to measure gender impact.

82. Participation of women and young men in project activities was recorded to be[29]:

- Irrigation: 15 per cent women; 24 per cent young people.
- Market garden school: 22 per cent women; 30 per cent young people.
- Water catchment work: 28 per cent women; 26 per cent young people.

83. Participation was lower than targeted. This was believed to be due to socioeconomic factors (women's lack of land rights and purchasing power). The project met its goal of including 30 per cent women in water user and management groups. However, the MTR team noted[30] that the quality of this participation was weak and that women had little influence in group decision making.

84. The scaling down and dropping of project elements targeted specifically at women and young people (home gardens, microenterprise development and literacy training) (see table 3) further reduced the project ability to have a positive influence on gender equality and women's empowerment.

85. The PCRV rates the criterion on gender equality and women's empowerment as *moderately satisfactory* (4), one point lower than the PCR rating.

Environment and natural resource management

86. Considerable attention was paid to environmental and natural resource management in project design and implementation. A social and environmental impact study was carried out as well as environmental screening of all microprojects. Working with others like PRODEX (*Projet de developpement des exportations et des marches agro-sylvo-pastorales*), the project contributed to the development of a piezometric network (the project provided 310 of 512 piezometers) which allows fluctuations in the water table to be monitored and clearly shows the impact of the water catchment rehabilitation work.

87. The institutions developed with support of the project (water user groups and management groups) manage the piezometric data collection and also monitor vegetation in the catchment areas.

88. The impact survey noted an increase in biodiversity, reduction of invasive species and soil erosion in the targeted water catchments, going as far as describing the impact as a 'reversal in the trend of land degradation.[31]

89. A number of environmental concerns were raised in supervision reports with regard to the overexploitation of boreholes and the danger of salinity build up through chemical use.[32] The project has put mechanisms into place (institutions and monitoring techniques) to assist in managing these risks.

90. The PCRV rates environment and natural resource management as *satisfactory (5)*, one point higher than the PCR rating.

[29] November 2017 supervision report.
[30] MTR page 17.
[31] Rapport effet impacts page 22.
[32] PCR pages 15 and 51.

Adaptation to climate change

91. Resilience to climate change was an integral part of project design.[33] The design drew on the pre-project social and economic assessment as well as IFAD's country level climate change strategy and Niger's National Plan for Adaptation to climate change (2006).

92. The technical and institutional aspects of the project, particularly irrigation, sustainable land and water management and institutional development, all contribute to reducing the vulnerability of the target group and enabling them to better adapt to climate change.

93. The PCRV concurs with the PCR rating of *satisfactory* (5) for adaptation to climate change.

C. Overall project achievement

94. The PCR notes that the major changes to the project, caused by the advent of ProDAF and consequent restructuring, led to a lack of coherence. Due to the underestimation of project costs, the scope of the project (for the components that were implemented) was also reduced.

95. The implementation logic of building resilience and improving food security through increasing productivity, supporting institutions and social capital, knowledge and commercialization, was not executed in an integrated way, as planned, because several key elements were reduced or dropped.

96. The PCRV rates the overall project achievement as *moderately satisfactory* (4), one point below the PCR, based on the lack of coherence, reduced scale and consequent reduction in impact at this stage.

D. Performance of partners

IFAD

97. The PCR judged the performance of IFAD to be satisfactory, noting the regular and useful supervision missions,[34] MTR and provision of expert consultants to support the country teams. Cooperation with Government, NGOs, research organisations and other local and international partners (notably the World Food Programme) was good.

98. The PCRV concurs with this but also notes concerns with regard to the project design and restructuring (without returning to address the internal logic). The project reallocated finance to the construction of regional centres and, as a result, was unable to achieve some of its core outputs such as the development of irrigated land. Subsequent supervision missions encouraged the project to seek alternative finance to complete these essential components. IFAD could have done more to support the project in obtaining these, much needed, funds.

99. Given these limitations, the PCRV rates IFAD performance as *moderately satisfactory (4),* one point below the PCR.

Government

100. The PCR rated the performance of Government as moderately satisfactory, noting the important roles played by the Ministry of Agriculture, the Ministry of Economics and Finance, the High Commission for the I3N iniative, and the regional councils of Maradi, Tahoua and Zinder. The steering committee met regularly and effectively during the project life.

101. As noted earlier (see Table 2) Government disbursement to the project was 18 per cent of the funds committed. The PCR opinion is that Government input was in fact greater, but was not measured through the monitoring mechanism.

[33] Design report pages v, ix and 5.
[34] The May 2015 supervision mission, for example, made 56 recommendations. (MTR page 15).

102. The PCRV concurs with the PCR rating of *moderately satisfactory* (4) for Government performance.

IV. Assessment of PCR quality

103. **Scope.** All aspects of a PCR have been addressed, with the exception of a bibliography. The PCRV rating is *satisfactory* (5).

104. **Quality.** The PCR draws on a review of project documents, site visits, interviews and a stakeholder workshop (in which preliminary findings were shared and discussed). The PCRV rating is *satisfactory* (5).

105. **Lessons.** The PCR draws a large number of lessons both general and specific to the project. Most of these are useful and of practical assistance to ProDAF. The PCRV rating is *satisfactory* (5).

106. **Candour.** A number of problematic issues (regarding the effectiveness, sustainability and management of the project) are raised in the lesson section, but are not discussed in the main text or reflected in the ratings. The PCRV rating is *moderately satisfactory* (4).

107. **Overall PCR quality** is rated as *satisfactory* (5).

V. Final remarks and lessons learned

Final remarks

108. Due to the changes in IFAD's country strategy, PPI *Ruwanmu* was diverted from the internal logic and 'theory of change' envisaged in the project design. Because of this, it would have been unlikely to meet its goal or development objectives as a 'stand-alone' project. However as a 'springboard' for ProDAF, the project has provided a useful starting point, a number of positive innovations and lessons which should contribute to positive impacts in the longer term (with the additional support of ProDAF).

Lessons learned

109. From the PCRV perspective, the key lesson is the importance of reassessing a project's internal logic (and theory of change) and redrafting its log framework when there are major changes in the project context. In this case, a stakeholder workshop to reevaluate the role of PPI *Ruwanmu*, and develop a revised theory of change and log framework in the context of IFAD's new country strategy, and the advent of ProDAF, would have resulted in a clearer, more effective project implementation and a high likelihood of reaching goals and development objectives.

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
	Four impact domains		
	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
	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
	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
	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

Annex I

Criteria	Definition *	Mandatory	To be rated
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
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, 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]

Criteria	Programme Management Department (PMD) rating	IOE Project Completion Report Validation (PCRV) rating	Net rating disconnect (PCRV-PMD)
Rural poverty impact	4	4	0
Project performance			
Relevance	5	4	-1
Effectiveness	3	3	0
Efficiency	4	4	0
Sustainability of benefits	5	4	-1
Project performance[b]	4.25	3.75	-0.5
Other performance criteria			
Gender equality and women's empowerment	5	4	-1
Innovation	5	5	0
Scaling up	5	5	0
Environment and natural resources management	4	5	+1
Adaptation to climate change	5	5	0
Overall project achievement[c]	5	4	-1
Performance of partners[d]			
IFAD	5	4	-1
Government	4	4	0
Average net disconnect			-3/12 = -0.25

[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, 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

	PMD rating	*IOE PCRV rating*	*Net disconnect*
Candour		4	
Lessons		5	
Quality (methods, data, participatory process)		5	
Scope		5	
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.

Abbreviations and Acronyms

FFE	Fonds Fiduciare Espanol
I3N	Initiative for Nigerians feeding Nigerians From French: *Initiative les Nigérians nourissent les Nigérians*
MTR	Mid-term review
PASADEM	'*Projet d'Appui á la securité alimentaire et au developpement dans la region de Maradi*' (Support to food security and development in the region of Maradi)
PCR	Project completion report
PCRV	Project completion report validation
PDE	Economic development poles
ProDAF	Programme for the development of family farming From French: *Programme de Developpement de l'Agriculture Familiale*
Ruwanmu	'our water' in Haoussa language

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