Independent Office of Evaluation

IFAD Investing in rural people

Project Completion Report Validation

Iranamadu Irrigation Development Project (IIDP)
Democratic Socialist Republic of Sri Lanka
Date of validation by IOE: August 2018

I. Basic project data

				Approval (US$ m)		*Actual (US$ m)*	
Region	Asia and the Pacific		Total project costs		29.32		23.505
Country	Democratic Socialist Republic of Sri Lanka		IFAD loan and percentage of total	22.231	75.8%	21.009**	89.3%
Loan number	857-LK		Borrower	3.158	10.8%	2.328	9.9%
Type of project (subsector)	Irrigation		Private sector	1.23	4.2%	0.004	0%
Financing type	Loan		Beneficiaries	2.7	9.2%	0.163	0.7%
Lending terms*	Highly concessional						
Date of approval	13/12/2011						
Date of loan signature	30/01/2012						
Date of effectiveness	30/01/2012						
Loan amendments	N/A		Number of beneficiaries	6 999 households with 22 095 persons		Total: 25,628 households; Direct: 14,708 households	
Loan closure extensions	N/A		Project completion date		31/03/2017		31/03/2017
Country programme managers	Ya Tian Hubert Boirard		Loan closing date		30/09/2017		30/09/2017
Regional director(s)	Thomas Elhaut Hoonae Kim		Mid-term review				08/2015
Project completion report reviewer	Shijie Yang		IFAD loan disbursement at project completion (%)				99.9%
Project completion report quality control panel	Fumiko Nakai Ernst Schaltegger		Date of the project completion report				09/2017

Source: PCR (2017) and President Report (2011).

* There are four types of lending terms. This was a loan on highly concessional terms, free of interest but bearing a service charge of three fourths of one per cent (0.75%) per annum and having a maturity period of 40 years, including a grace period of 10 years.

** The data here is extracted from the project fact sheet in the PCR, but according to the IFAD system, IFAD financed a total amount of US$20.448 million. The difference may be due to exchange rates given that the loan was denominated in Special Drawing Right (SDR).

II. Project outline

1. **Introduction.** The Iranamadu Irrigation Development Project (IIDP) in Sri Lanka was designed in 2010/11 in response to a strong government request to invest in the Northern Province, where the irrigation scheme was dilapidated due to a 26-year civil war which ended in 2009. The IFAD loan for this five-year programme became effective on 30 January 2012 and the project was completed on 31 March 2017. The total project cost was US$23.5 million, including a highly concessional loan of US$21 million (89 per cent) from IFAD. It was complementary to the ADB/ADF[1] financed Jaffna and Kilinochchi Water Supply and Sanitation Project, which aimed at improving the Iranamadu reservoir bund and head works to increase the reservoir's water holding capacity.[2]

2. PCRVs are normally prepared based on desk review, but this PCRV benefited from a mission to Sri Lanka in June 2018 in the context of the country programme and strategy evaluation (CSPE). The CSPE team visited the IIDP project areas and held interviews and discussions with various key stakeholders, including beneficiaries. There are two versions of the PCR, one shared by IFAD and the other by the Government, both with IFAD document covers. They were obviously based on the work by the same team and to a large extent the assessments (narrative) are similar, but the ratings show notable discrepancies. This PCRV treats the IFAD PCR as a principal basis of validation, while it also makes reference to the Government's PCR where appropriate.

3. **Project area:** The project was located in the Kilinochchi district of the Northern Province and involved 22 grama niladhari divisions.[3] It was to cover about 8,455 hectares of the Iranamadu command area (President's Report). Agro-ecologically, the project area has dry zone characteristics, with a main rainy season during *maha* (October to March) and less rain during *yala* (April to September). Most villagers in the Kilinochchi district were displaced multiple times during the 26-year conflict. When they returned to their homes in 2009, they had to start from scratch. The estimated poverty level (i.e. percentage of people having a monthly income of less than LKR 2,500 per person) was 78.5 per cent when the project was designed.

4. **Project goal and objectives.** The goal stated in both the President's Report and the Financing Agreement was: "to reduce poverty and increase household incomes to a level above the poverty line." The specific objectives were: "(i) to promote the effective and sustainable management of the irrigation infrastructure; and (ii) to sustainably improve water and land productivity." In comparison, the project goal and objectives in the design completion report[4] and project completion report[5] became more elaborate.

5. **Project components.** The project had three components:

   a. **Component 1: Infrastructure development** (US$17.101 million at design[6] and US$20.052 million at completion), which consisted of two subcomponents: irrigation infrastructure rehabilitation; and other infrastructure development,

[1] Asian Development Bank and Agence Française de Développement.
[2] http://www.iesl.lk/page-1690881
[3] The grama niladhari division is the smallest administrative unit in Sri Lanka.
[4] In the project design completion report, the first objective was stated as follows:" Irrigation infrastructure has been improved and is effectively managed by Local Government and Farmer Organisations (FOs) including women, the latter applying water saving management methods. Appropriate environment and climate change adaptation and mitigation measures are applied". Second objective was: "Water and land productivity have been sustainably improved and farm production is meeting effective and premium demand from corporate buyers through forward contracting and other market agreements. As such household incomes have increased, exceeding the poverty line".
[5] The project completion report stated that "the goal of the project was to contribute to poverty reduction and increased household incomes in approximately 7,000 households as well as to increase participation of women in water and land management, and in marketing."
[6] The costs at design are taken from the Table 1 of project costs summary (para. 135) from design completion report.

such as rainwater harvesting structures, seedling nurseries and small storage units.

b. **Component 2: Production and marketing** (US$5.05 million at design and US$2.111 million at completion), which had three subcomponents: social mobilization and training; production, extension and marketing; and other agricultural and off-farm development.

c. **Component 3: Project management** (US$1.309 million at design and US$0.945 million at completion**.** A Project Management Office (PMO) was established in Kilinochchi, under the direction of a Project Director.

6. **Target Group.** The target group, as stated in the design completion report (paragraph 41) was the entire population of farmers having access to lands in the command area of the Iranamadu irrigation scheme as well as those living outside the area within a distance of 500 meters from the main canal. An estimated 18.5 per cent of these were households headed by women. The expected number of beneficiaries at design was 6,999 households with 22,095 persons. The actual number of beneficiary households reached by completion was reported to be 25,628 (including 14,708 reached directly).

7. With regard to the targeting strategy, the design completion report mentioned as follows: *"IIDP would ensure poverty targeting in several manners: a) by prioritizing rehabilitation investments in favour of small farmers; b) by investment support to farmers at the tail end of the distribution canals; c) by developing vegetable production with involvement of the women groups; and d) by support to the households in upland agriculture outside the command area. As infrastructure (other than irrigation canals) is a common asset, specific targeting is not viable. However, 85-90 per cent of all farmers operating on 2 ha (5 acres) or less are considered as small farmers*".

8. **Project costs and financing.** The estimated total cost of IIDP was LKR 3.22 billion or US$29.32 million at appraisal. The IFAD allocated a loan of SDR 14.35 million (equivalent to US$22.231 million) (75.7 per cent), while the balance was to be financed by the Government of Sri Lanka (10.8 per cent)[7], the private sector (4.2 per cent) and the beneficiaries (9 per cent). Actual expenditure data at project closure indicates that 99.98 per cent of IFAD loan was disbursed[8], and government counterpart financing was 26 per cent below the estimation at design stage. Although it appears that private sector and beneficiaries' contribution were significantly lower than the initial estimation, the shortage was actually due to the unrealistic estimates at appraisal. Details for the allocation at appraisal and actual expenditure disbursed are shown in the Table 1.

Table 1
Allocation and Costs by Financiers (USD '000)[9]

	IFAD loan			*Government*			*Private Sector*			*Beneficiary*			*Total*		
Components	Approval	Actual	%	Approval	Actual	%	Approval	Actual	%	Approval	Actual	%	Approval	Actual	%
Infrastructure Development	18,487	19,147.41	104	2,882	2,050.63	71	-	-		234.00	66.79	29	21,603	21,263.83	98
Production & Marketing	2,453	869.95	35	21	90.06	381	1,231.00	4.43	0	2,472	96.55	4	6,177	1,049.99	17
Program Management	1,291	992.84	77	255	197.64	78	-	-		-	-		1,546	1,190.48	77
Total Project Costs	22,231	21,009.2	95	3,158	2,328.33	74	1,231.00	4.43	0	2,706.00	163.34	6	29,326	23,505.30	80

Source: Table 9 from PCR (2017)

9. The table 2 below shows the total project costs on basis of loan categories. It is noted that the costs were shifted from advisory services and studies, and training

[7] Government counterpart funds were used for part of the salaries and operating costs, and financed all taxes and duties.
[8] Data retrieved from GRIPS (2018).
[9] This is taken from table 9 from PCR, which presents different figures compared with the table in IIDP at a glance.

in operation and maintenance (O&M) to the physical construction. Only 3.34 per cent of original allocation in O&M training was spent.

Table 2
Allocation and expenditure by loan categories (SDR)

Category Description	*Amount allocated*	*Utilized Amount*	*%*	*Balance*
ADVISORY SERVICES AND STUDIES	870 000.00	450 142.93	51.74%	419 857.07
CIVIL WORKS	10 110 000.00	13 099 223.11	129.57 %	-2 989 223.11
SALARIES AND ALLOWANCES	415 000.00	405 193.30	97.64%	9 806.70
TRAINING GROUPS IN OPERATIONS AND MAINTENANCE	660 000.00	22 026.45	3.34%	637 973.55
TRAINING, INPUTS AND MARKETING	220 000.00	277 884.44	126.31 %	-57 884.44
UNALLOCATED	1 765 000.00	0.00	0.00%	1 765 000.00
VEHICLES, EQUIPMENT AND MATERIALS	310 000.00	93 342.16	30.11%	216 657.84
	14 350 000.00	**14 347 812.39**	**99.98%**	**2 187.61**

Source: IFAD 2018, GRIPS.

10. **Implementation arrangement.** The project was anchored at the Ministry of Local Government and Provincial Councils as the lead executing agency. The Provincial Ministry of Agriculture of the Northern Province functioned as the implementing agency and the Project Management Office (PMO), established in Killinochchi, took the executive authority of the project. Implementing partners were the Provincial Irrigation Department (PID), the Provincial Department of Agriculture, the Department of Agrarian Services, private companies, contractors, consultant firms and NGOs. Specifically, to promote farmer and women group formation for water management, production and marketing, a NGO was contracted to conduct the social mobilisation and inclusion activities.

11. **Adjustment during implementation.** The overall design and implementation modalities of IIDP were not changed and there was no amendment to the original loan agreement. At the mid-term review (MTR), a matching grant scheme was introduced under Component 2 for promoting small processing activities, dairy farming and other micro-enterprises, especially for women and low-income families. There was some adjustment for the civil work, but not to a large-scale.[10]

12. **Intervention logic.** IIDP design was based on a simple and proved logic that through the rehabilitation of irrigation infrastructure, the reliability, predictability, and accessibility of water delivery would improve. This would reduce extent of underutilized land and farmers could increase cropping intensity by growing crops both in *maha* (rainy) and *yala* (dry) season. Cost sharing of operation and maintenance (O&M) activities through joint irrigation management arrangements, and adoption of the bulk water allocation system (BWAS) were expected to further strengthen the water usage efficiency and sustainability of the project's achievements. Improvement of farm roads would provide access to public places, market centres and for other activities. Furthermore, a series of research,

[10] Other changes related to the civil work include: 1) target for rehabilitation of field canals were reduced to 42 km form the original 123 km at mid-term review due to funding constraints, as more resources were diverted to the rehabilitation of main canals. 2) Targets for farm roads were reduced. 3) The target of rehabilitating 150 km of roads was revised to 20 km of gravel roads and 25 km of main farm roads. 4) Instead of constructing the planned 427 small processing units, 3 large paddy stores (capacity 21 metric tons each) and 19 drying floors were constructed for the use of group of FOs. 5) Construction of rain water harvesting units for 2,000 households were dropped due to observed under-utilized or abandonment. 6) Renovation of 950 existing small wells was also dropped as almost all of the wells in homestead had been repaired by the owners or by the NGO assisted programs (PCR, para.37-39).

production, and marketing activities would help farmers to diversify their cropping systems from paddy towards less water demanding and high value cash crops, diversify their income sources by promoting off-farm livelihood opportunities, and increase access to market through established linkages with private sector, especially for women and other more vulnerable groups. Through this integrated approach, this project was expected to contribute to income increase, food security, and overall poverty reduction in drought-prone areas.

13. **Delivery of outputs.** The major output under Component 1 was the rehabilitation of the irrigation system except for 85 per cent of the field canals. The full targets of the rehabilitation of main canals and drainage canals were achieved, while for the branch and distributional canals 84 per cent of the target was achieved. Because the field canals were not completed, the project was not able to improve access to irrigation services to all the farmers, particularly in the tail end of the system. Additionally, 25 km of main farm roads were concreted, 20 km of gravel roads were improved, three paddy stores were constructed, and 19 drying floors were constructed. Under component 2, four out of eleven output targets were achieved (PCR, para. 57). For more details, see annex III.

III. Review of findings

A. Core criteria

Relevance

14. **Relevance of objectives.** While the project was not foreseen in the IFAD's 2003 country strategic opportunities paper (COSOP) for Sri Lanka, rural and infrastructure development, especially in the south and north, were declared as main priorities of the government's economic policy. The project's relevance during preparation in the post-conflict context was high. Specifically:

    a. Since May 2009, the Government has treated the development of the post-conflict Northern Province as a high priority. The decision to finance IIDP was mainly influenced by the ADB's funding support to increase the storage capacity of Iranamadu reservoir by 17 million cubic meters in order to improve irrigation and also to transfer water from Iranamadu reservoir to Jaffna for drinking water.[11]

    b. The World Bank had identified Iranamadu as one of the seven most dilapidated irrigation schemes of the country that were selected for funding in mid-1980s, but the conflict prevented the rehabilitation work. There is no doubt that the irrigation system was dilapidated very badly when IIDP picked it up for rehabilitation.

    c. At the time of the appraisal, most of the original settlers of Iranamadu were returning back to their places of origin. Iranamadu scheme and its water are central for livelihoods of most of these people.

15. The decision to rehabilitate the irrigation system was therefore timely. IFAD investment for IIDP complemented the ADB's intervention by picking up downstream irrigation system rehabilitation combined with an agriculture production and marketing development intervention. However, many other elements of project, as outlined below, negatively affected the project's relevance.

16. **Relevance of design.** The project design was relevant conceptually as per the intervention logic stated in paragraph 12. Most of the key issues affecting the water and land efficiency were well identified and incorporated into project design. Specifically, integrating the agriculture production and marketing aspects to

[11] The ADB project was hampered by local farmers' objection to using Iranamadu Tank's water for drinking water purposes for the Jaffna area. However, the Cabinet of Ministers had decided to transform the activities of the Project to desalt sea water to fulfill the water requirement of the Jaffna Peninsula. Therefore, the activities of the Project had been recommenced in February 2015. (ADB: Jaffna and Kilinochchi Water Supply Project Additional Financing, 2017).

generate additional incomes for marginalized rural poor and to uplift their living standards was appropriate. However, numerous aspects in the project design and implementation arrangement proved to be inappropriate.

17. **The costs for rehabilitation works were significantly underestimated.** The PID's estimate for rehabilitation was US$40 million, but only US$22.23 million was allocated by IFAD at appraisal. The design did not take into account this lack of availability of funding and instead targeted the rehabilitation of the entire command area of 8445 acres (PCR, para. 36). The underestimation of the cost of rehabilitation resulted in about 85 per cent of the field canals remaining unfinished. As such, access to irrigation services was significantly constrained, particularly in the tail end of the system. This compromised the full achievement of expected outcomes from Component 1. The design failed to use pro-rata costs of other irrigation rehabilitation projects implemented at that time; and lack of collaboration with the government to prepare a detailed design and total cost estimation.

18. **The time required for rehabilitation works was also underestimated**. Irrigation rehabilitation works in Sri Lanka can be executed during a limited window of time of about 3-4 months between the *yala* and *maha* seasons, during which the canals do not have to provide irrigation water. As indicated in the Government PCR, a seven-year period would have been more appropriate leaving sufficient time to prepare engineering surveys, designs and carry out construction activities without interrupting irrigation water issuing and practice water management.[12]

19. **There was insufficient situation analysis behind the proposed BWAS**. The volume-based water measurement and management is a progressive step to improve the water management efficiency. However, a simple replication of BWAS in Iranamadu proved to be not feasible due to an inadequate analysis and understanding of the ground realities. The conditions under which the BWAS was successful in Mahaweli system H[13] did not exist in Iranamadu as there were: lack of a well-defined hierarchy and layout of canals; varied (not uniform) farm land holding sizes (ranging between 2–40 acres) that farmers would be served with various numbers of farm turn outs, making the system more complicated for applying the BWAS; lack of capacity in implementing this scheme in a sophisticated land and social context as there was the need for hand-holding and training farmers on the concept and actual implementation of the BWAS over 1-2 seasons. Therefore, the project design proposed to replicate this innovation in Iranamadu scheme without adequate analysis on the ground realities.

20. **There were inadequate assessments of the private sectors' interests, feasibility, and time needed for trust building in partnering for production and marketing activities**. The project intended to partner with private companies for giving *"advise on its demand for quality crops and provide extension advise; and sign forward contracts with interested farmer groups*" (PCR, para. 94). In reality, the private sector did not show sufficient interest in the engagement with producer groups in the command area and their expected contribution did not materialize. The design also underestimated the time needed for building trust, brokering and negotiation, and the feasibility of the engagement. As in the case where interests were shown, farmers opted to sell the produce elsewhere thus the company ceased operations in the project area.[14] It is not clear to what extent the design intention was based on the stakeholder consultation and feasibility assessment. In fact, all the farmers who were reached by the private sector were the ones who cultivated crops in the highlands served by individually owned open

[12] The first year should be allocated for strengthening Farmer Organizations and other institutional development work. Preparation of technical specifications and contract packages can also be attended during this period. From the second year onwards, the construction can be implemented. The last 1½ years should be allocated to practice water management programs (Government PCR, para. 17).
[13] Mahaweli Restructuring and Rehabilitation Project (MRRP), a World Bank financed project from 1998 to 2003.
[14] IIDP partnered with Prima Ltd for a project to cultivate maize under forward sales agreement but farmers opted to sell the produce elsewhere thus the company ceased operations in the project area (Mid-term review report, 2015).

dug wells, instead of the farmers served by conventional public irrigation schemes. The reason was that farmers served by public irrigation schemes grow and prefer to grow rice mostly in both seasons, cropping and water management decisions in public irrigation schemes are taken jointly by the farmers at a cultivation meeting of the farmers. Individual farmers have limited freedom of choice to grow crops of their choice, especially high value crops under public irrigation schemes.

21. **There were some inadequacies in the institutional assessment and implementation arrangements for design and execution of rehabilitation works.** As proposed in the project design, the PID hired an international consultant to carry out detailed designs. But the designs produced by the consultant were not economical and therefore not adopted. Subsequently, the PID pooled up its engineers to complete the designs on an accelerated pace; engaged a full time local consultant to review a sample of designs; and hired external short-term consultants to do complex designs. This was a pragmatic approach, adopted in consultation and agreement with IFAD during the implementation. Furthermore, this practice strengthened the capacity of the provincial government and ensured ownership and accountability of the irrigation scheme for future maintenance.

22. **Relevance of targeting. The targeting strategy in principal was relevant, but the measures indicated for poverty targeting in the design were not necessarily clear.** Overall, the irrigation rehabilitation itself was appropriate to reach the stated target group for the project, i.e. entire population in the command area (as outlined in paragraph 6). The project design also discussed a number of measures on how to ensure poverty targeting (see paragraph 7) in an irrigation rehabilitation project which inevitably benefit all farmers in the command area. For example, the design proposed to prioritize rehabilitation investments in favour of small farmers. However, it did not provide a clear strategy and specific measures on how this would be achieved. The design of Component 2[15] did not include strong instruments to reach and benefit poverty groups, small farmers, and women either.

23. **Furthermore, the targeting was complicated by the land holding and tenure situation in the project area, which was not sufficiently reflected in the design.** The land holding is largely skewed towards the large landholders. A small number of farmers in Iranamadu scheme own large farm holdings (15-30 acres) and consequently a large number of small farmers (land holding size less than 5 acres) own a small proportion of the land.[16] A significant number of landowners leased out their lands to multiple cultivators, as confirmed by the PID, on various profit sharing arrangements. Improved irrigation would in theory benefit both the landowners and the tenant farmers, but there is no evidence that the design reflected on this issue and proposed measures to ensure that the eventual benefits would not be disproportionately captured by the larger landowners. In other words, although a mention was made in the design to benefit poor people, little attempt was made to identify who these people were and how the project could reach them (e.g. tenant farmers).

24. **In summary,** despite the high relevance of the project objectives to the regional context and government strategy in infrastructure development following the end of the civil war, major flaws in project design limited the project relevance vis-à-vis the ground realities. Though measures were taken during implementation to address these shortcomings, the poor design compromised project effectiveness and performance in various aspects. The relevance is rated by PCRV as *moderately unsatisfactory* (3), lower than the self-rating by the Programme Management Department (PMD) of *moderately satisfactory* (4).

Effectiveness

[15] The Design Completion Report and associated Working Papers, and Project Implementation Manual.
[16] In Briyeaparanthan focus group discussion, one farmer organization leader reported that among the 139 households in his FO, 70 per cent of farmers have less than 2 acres of land, while the rest 30 per cent have more than 20 acres.

25. The following paragraphs assess the achievement of the two project objectives as identified in the President's report. The objectives did not cover activities in post-production and marketing, which were to contribute to the project goal. Consequently, the third part of this section will discuss these activities.

26. **<u>Objective (1)</u>: "*to promote the effective and sustainable management of the irrigation infrastructure*".** The objective (1) partly overlaps with the discussion in the sustainability section.

27. **The project has taken several measures to promote the effective and sustainable management of the irrigation system**: a) it has strengthened the 21 distributary canal farmers organizations (DCFOs) already in place before the project; b) It has organized the farmers pumping water from the left bank main canal for cultivating high value crops in upland areas (about 600 acres under lift irrigation) into a separate farmer organization (FO); c) it has unified and federated these 22 FOs to an apex Farmer Federation consisting of 66 members, 3 representatives from each DCFO; d) it has prepared and adopted a comprehensive O&M manual for the scheme; e) a Project Management Committee was established as a recognized legal entity by the Irrigation Ordinance, which was also in line with the policy of the central government for major and medium irrigation schemes[17] managed by the central government; and f) the District Secretary (Government Agent) appointed a senior official from the District Secretary's office as the Project Manager. With these, the sustainability of the DCFOs, Farmer Federation, and the Project Management Committee mechanism is likely.

28. **Institutional arrangement has been planned to mainstream the management.** The Provincial Department of Agriculture planned to establish a provincial irrigation management division to provide institutional development support to provincial major and medium schemes of the province. This in line with the institutional arrangements of the central government. Additionally, PID and FOs have now agreed that the O&M of the head works and the main canals will be the responsibility of the PID and that of distribution canals and field canals will be the responsibility of the FOs. This arrangement is in line with the irrigation system management policy of the central government.[18]

29. **Several other measures have been taken by the project to support systematic O&M of the rehabilitated system.** A GIS based inventory of the irrigation system has been prepared with information on main canals as well as locations, type, and data of the canals and canal structures and the farm access roads falling within each FO area. Each canal structure has been assigned with an identification number and the number is physically displayed on the structure in the field. Canal reservations have been demarcated with concrete boundary stones to be able to prevent the encroachment of cultivation by farmers and ensure safety of the rehabilitated canal banks. In addition, the PID has created five O&M zones for the scheme and has assigned a cadre of technical staff to each of the zones to plan and oversee the O&M of the headworks and the main canals. These staff are responsible for coordinating the O&M activities with the DCFOs. These are notable initiatives for sustainable O&M.

30. **However, there are four major issues affecting the effective and sustainable management of the rehabilitated system.** Firstly, as is the case with all irrigation schemes in Sri Lanka, the annual government budget allocation for O&M is not sufficient to meet the actual needs. Secondly, given that most

[17] Irrigation schemes are categorized based on the designed command area served. They include minor (village) schemes with a command area of up to 80 ha, medium schemes with a command area between 80-400 ha, and major schemes with command areas of more than 400 ha.

[18] Before the project, the FOs operated and maintained field canals and the PID carried out the O&M of system up to the end of the distributary canals. But the engagement of the FOs in O&M of the FCs had been minimal due to the poor condition of the system and also because they were not well organized. Obviously, the O&M had been a very arduous task for both parties as the canals were in very bad shape.

landowners are not engaged in cultivation and that lease-holder cultivators are neither formal members of the DCFOs nor represented in the Farmer Federation, it may be difficult to mobilize them for the maintenance of the field canals. Thirdly, even if they are mobilized, most of the seasonal lease-holder cultivators may not have an incentive to upkeep distributary and field canals; and fourthly, as a large part of the field canals have not been rehabilitated, the DCFOs would not be willing to maintain those field canals unless they are rehabilitated. Even in the case where rehabilitation was completed, the studies conducted by the project shows that farmers were unwilling to take the maintenance responsibility[19]. Therefore, maintenance and proper upkeep of the rehabilitated system in the long-run is a serious concern.

31. **Objective (2)** ***"to sustainably improve water and land productivity"*** was achieved to some extent, but the unfinished civil work at the field canals and the drought from 2016 to 2017 has undermined the potential of the rehabilitated scheme.

32. **The rehabilitated system has improved the potential for cultivating the entire irrigated command area** in *maha* season in a normal year. By and large, the key project's outcomes, as reflected by the representatives of the Farmer Federation and the FOs, are efficient water conveyance and distribution that have resulted in easy accessibility, more predictability and reliability, and better timeliness of irrigation water to the farming community as compared to the pre-project situation. Consequently, the crop intensity is expected to increase from 1.4 to 1.6 by 2019 without continued drought, including 10 per cent increase for *maha* season and 20 per cent increase for yala season cultivation.

33. **The rehabilitation of the drainage canals has been an important contribution to the revitalization of the farmlands closer to drainage canals and tail ends.** Before the project, most of the paddy lands adjoining the drainage ways were waterlogged and prolonged floodwater inundation affected the crops in large land areas during *maha* season. The drainage improvement has reduced the flood damage risk to many paddy lands (about 600 acres or 236 ha reported by PID) and reduced waterlogging in some paddy lands enabling those lands back to cultivation (PID reports 250 acres or 100 ha reported by PID). In addition, the project has constructed three permanent drainage pick-up regulators across large drainage canals enabling farmers to recapture the drainage return flows from the upper command areas and brining about 350 acres (137 ha) of lands under cultivation.

34. **The rehabilitation has largely benefitted about 70-85 per cent of the farmers having access to lands in the command area.** The shortage is due to the fact that only 15 per cent of the field canals were rehabilitated. The farm roads are likely to have benefited many target beneficiaries of the project area. On the whole, the paddy drying platforms, paddy storages, common dug wells and tube wells have also benefitted some farmers.

35. **Some activities were undertaken with the aim to improve land productivity and diversify income, but on a very limited scale** For example, based on soil data collected, suitable field crops for different locations/zones were recommended. However, crop diversification was taken up on a limited scale: pineapple by 60 farmers, papaya by 35 farmers, green chilli by 30 farmers, potato by 18 farmers, and groundnut by 40 farmers on an average land extent of 0.2 ha (0.5 acres) each. The rice-based irrigation system in Iranamadu area also imposed challenges for crop diversification due to different soil moisture levels needed for

[19] According to the FO evaluation survey conducted by the project in early 2017, although most of the FOs have more than Rs. 1 million in the bank accounts, they don't like to utilize the money for any development work. The mentality in the area seems to be that all the development work should be done under government fund. "Even for a minor repair (a leak in a canal), farmers complain to irrigation department and wait."

rice production and non-rice crops.[20] Unlike rice, non-rice crops cannot tolerate excess soil moisture and require well drained soils for productive growth and high yield.

36. **The water and land productivity enhancement was affected by the delays in hiring a NGO for social mobilization**. This was due to both a weak assessment done at appraisal and procurement delays. After civil war, the government restricted the engagement of NGOs in development activities in the Northern and Eastern provinces, and special approval was required from the central government for engagement of NGOs by all government agencies. While the PID attempted to hire an NGO, it could not obtain the necessary approvals until late 2014.

37. **Other activities/outcomes.** Some project activities that were not directly linked to the stated project objectives but were expected to contribute to the overall goal are discussed below.

38. **Regarding paddy storage buildings and drying floors, it is difficult to figure out the real beneficiaries of these facilities.** The project provided three paddy storage buildings, one building to be shared by seven adjoining FOs, thereby targeting all 21 FOs and serving an area of about 2,818 ha of lands on average. Paddy drying platforms were also provided at the locations of the storage buildings. However, it is not clear how those locations were selected by the seven FOs.[21] Given the large land holding sizes and vast extents of lands served by each FO, the paddy storage building cannot be closer to a large number of farmers and for most of them, transport of their harvest for drying and storage is not economical. Under these circumstances, it is likely that only a small percentage of farmers whose paddy lands are closer to the storages can use the facilities.

39. **The common dug wells and tube wells have benefited only a few farmers**. The project distributed those common dug wells and tube wells among all the 21 FO areas by providing 2-3 commonly shared dug wells and 3-4 commonly shared tube wells to each of the FOs. The basis for selecting the FOs to receive this benefit and the locations for putting up the dug wells and tube wells is not clear, though the former project director informed the CSPE team that the wells were usually constructed at the tail end of the canals or beyond the irrigation command area. What is clear is that these facilities benefit only a few farmers in those FO areas.

40. **Effectiveness of targeting**. Following previous discussion on relevance of targeting, during the implementation, no specific efforts were made to ensure poverty targeting either. At the end, the project left 85 per cent of the field canals un-rehabilitated at the tail end and this gap mostly affected the small farmers. The interventions planned under Component 2, mostly aimed at targeting the small and poor farmers and households, did not produce significant outputs, sustainable outcomes and benefits. Therefore, in combination with the weakness at project design, the implementation failed to reach small farmers, poverty groups and women with significant livelihood enhancement support as envisaged at the preparation.

41. **Effectiveness – summary.** Overall, the project achieved its objectives in improving water and land productivity through various infrastructure rehabilitation with an effective management system set in place to operate and maintain the irrigation infrastructure. The effectiveness could have been better harnessed if the field canals were finished and better targeting mechanism was adopted. The PCRV rates effectiveness as *moderately satisfactory* (4), the same as PMD's rating.

[20] For example, continuous water flows in canals serving rice farms would build up adverse moisture conditions for non-rice crops grown in the nearby farms due to seepage and percolation from canals and rice farms.
[21] Although the team was told by the leaders of the FOs that the seven FOs jointly decided the location for the paddy storage building, no further evidence to support it.

Efficiency

42. **Timeline.** The project was approved on 13 December 2011, became effective in 30 January 2012, mid-term review was conducted in July 2015, and completed on 31 March per original schedule. However, the project period of five years was unrealistic (see paragraph 18), also indicated in the Government's PCR.[22] In fact, even though the loan became effective in January 2012, the first disbursement did not materialize until March 2013.

43. **Project cost and disbursement.** The project activities showed slow progress during the first two years, resulting in a slow disbursement that by MTR the total project expenditure was 25 per cent, whereas IFAD loan disbursement was merely 29 per cent (PCR, para.35). The slow progress was partly due to a lack of adequate project design and implementation arrangements (e.g. feasibility studies and detailed design; see Relevance section) and thus adjustments needed to be made. After MTR, the project took several remedial measures to accelerate the work.

44. **Project management efficiency:** The project's management costs were about 5.1 per cent of the total cost, which equals the estimation at design, indicating a satisfactory efficiency level. According to the PCR, the project management - including financial, procurement, and M&E systems - had functioned relatively well to meet target outputs. However, the fiduciary quality was not always satisfactory, with two annual audits not meeting IFAD's requirements in terms of opinions on the Special Account, Statement of Expenditures and management letters, and timely submissions of audit reports. At closure, there was an unjustified balance to be refunded to IFAD. A financial management software was not installed despite a recommendation to do so, while the PCR reported that with adequate oversight, the project was able to produce financial reports with minimum errors (PCR, para.17). But overall, as was noted by the country programme management team which discussed the PCR, financial management was generally weak.

45. **Economic and financial analysis**: The PCR estimated the economic internal rate of return (EIRR) at 14 per cent, substantially below the 27 per cent estimate at appraisal. The benefit was lessened mainly due to the unfinished field canal work, and therefore it was assumed in the PCR calculation that only 50 per cent of the hectares would benefit. Overall, the PCR estimation was based on moderate assumptions (e.g., yield, price), but the project costs neglected the ADB financing, which amounted to US$17.09 million for the Iranamadu headwork[23] to achieve the projected water storage and delivery capacity. If that was taken into account, the EIRR would be reduced, lower than the hurdle rate of the capital, pointing to an unsatisfactory level of economic efficiency.

46. **Unit costs**: As per the PCR, the IIDP investment cost for irrigation rehabilitation was US$1,662 per ha. When compared with similar projects in the past[24], the unit cost was 32 per cent higher. This was due to the highly damaged nature of the structure, and a significant increase in the material cost (PCR, para. 47). On the other hand, if the project design had correctly reflected these two factors, the project costing would have been properly estimated. Additionally, due to the unfinished work at field canals, the rehabilitated irrigation scheme cannot cover the whole command area of 8,455 ha as per design, and thus, the actual unit cost should be higher than the PCR estimation.

47. To conclude, the project suffered from a number of issues, which impinged on its efficiency. These were related to several key areas such as low EIRR and

[22] The Government's PCR commented that the total period of integrated irrigation projects should be seven years: the first year for strengthening Farmer Organizations and other institutional development work, as well as preparation of technical specifications and contract packages; from the second year onwards, the construction; and the last 1½ years for water management programmes.
[23] ADB-Jaffna and Kilinochchi Water Supply and Sanitation Project (Iranamadu Component).
[24] World Bank funded Mahaweli Restructuring & Rehabilitation project in system H (1998-2003): the prorate cost was US$ 1,257 per ha after converting into current rates.

inadequate timeline and cost estimation. The issues outlined above in the relevance section regarding poor project design ultimately contributed to a moderately *unsatisfactory* project efficiency (3), the same as PMD's self-assessment.

Rural poverty impact

48. **Household income and assets.** The expectation was that access to irrigation and training on agriculture practices would intensify and diversify cropping systems. In combination with more efficient use of land and water, this would increase agricultural productivity and production, and then improve the availability of food and cash income. According to the impact assessment commissioned by the project, household living under absolute poverty has decreased from 40 to 20 per cent after the project. However, 20.5 per cent of households surveyed indicated that they were barely out of poverty. Therefore, 40 per cent of project beneficiaries continue to live below or just above US$2 per day (PCR, para.69). With respect to household assets, the impact assessment indicates only a marginal increase. The highest increase was in the radio and stereo at 5 per cent. Ownership of mobile phones, bicycles, and motorcycles increased by around 3.4 per cent. Productive agricultural assets, such as spraying machines, water pumps, threshers, showed minimum increase (PCR. para 70).

49. **Agricultural productivity and food security.** The combined effort of irrigation rehabilitation and agricultural development intervention has contributed to increased production (paddy and other field crops) for food security. Paddy cultivation increased from 11,987 ha to 14,371 ha combining *yala* and *maha* seasons (20 per cent increase) (PCR, para.71). According to the impact assessment, cultivated land extent increased in both *maha* and *yala* seasons by 8.57 per cent and 5.34 per cent respectively. The paddy yields increased by 15.6 per cent in the *maha* season and by 12.6 per cent during the *yala* season (table 3). This is in line with findings from the CSPE field visit. The project also observed production increase for non-paddy crops for a total of 626 acres, though no yields increases were reported. The yield increases are due to better access to water and good agriculture practice demonstrations provided by the project, including the use of good seed varieties. However, the data need to be interpreted with caution due to lack of a valid baseline and counterfactual group in the impact assessment. A recall-based reconstructed baseline may have biased the result.

Table 3:
Paddy yield before and after project and the total crop production

Crop	*Before Project*		*After Project*		*Increase*		
Season	*Maha*	*Yala*	*Maha*	*Yala*	*Maha*	*Yala*	Total
Paddy yield t/ha	4.2	5.2	5.1	5.7	0.9	0.5	1.3
Per capita area cultivated (acre)	6.77	5.43	7.35	5.72	0.58	0.29	0.87

Source- IIDP impact assessment – May 2017.

50. Food security was expected to improve due to higher crop production and productivity. According to the PCR, the promotion of dairy and poultry programmes has also contributed to increased incomes and the improvement of nutrition in the project area. Specifically, consumption of milk and eggs has increased among small children, providing positive outcomes in child nutrition (PCR para.71). However, both the food diversification activities and livestock programmes were limited and the additional income generated was marginal. As such, a notable food security improvement cannot be observed (supervision mission report, 2016, para. 90). There is also lack of food security and nutrition data showing how the higher crop production and access to milk products would improve malnutrition.

51. **Human and social capital and empowerment.** Various groups and farmers organization formed under the project, coupled with capacity development activities through mobilization, training and other means, could potentially enhance social and human capital and empower the local farmers. According to the PCR, enterprise development as well as saving and credit programmes through small group formations contributed in developing the socio-economic status of rural families. Due to capacity building activities, farmers were in a better position to coordinate and obtain services from government departments and other service providing agencies (PCR, para.71).

52. **Institutions and policies.** The project has consolidated previously existing FOs and brought them into life for maintaining the rehabilitated system. However, it should also be noted that the leadership of the farmer organization were mostly taken by owners of large farms. A majority of farmers representing distributary canal farmer organizations (FOs) and the farmer apex body (i.e. farmer federation) were owners of the large farms.

53. The project also formed several other community groups: para-professional groups, gender task force, micro-finance groups, crop production groups and dairy groups, with the assistance of the NGO. During their service period of one and half year, the NGO had conducted many capacity building programmes (e.g. exposure visits, training of leaders on books maintenance, organizational programs). However, but due to time constraints, they were not able to establish an apex body as planned or to link these groups with government and non-government agencies, to ensure sustainability.

54. The Project Management Committee was established as a joint management committee, providing an institutional interface between officers' representatives from line agencies and FO representatives which meet monthly and make decision on cultivation activities: water distribution, maintenance, cultivation practices and other agricultural pursuits. Institutional landscape at the grassroots level has the potential to improve further with high ownership from various stakeholders.

55. **In sum,** the project has demonstrated some impact for rural poverty: more for the agricultural productivity and food security, and human and social capital criteria; and less for the household income and assets. Thus, a rating of *moderately satisfactory* (4) is given, in agreement with that assigned by the PMD.

Sustainability of benefits

56. The project introduced an exit strategy in 2016 to phase out the project. As previously discussed in the effectiveness section, the project has established several conditions conducive for sustainability of the rehabilitated system. Consequently, this section focuses on the sustainability of other benefits and activities.

57. The sustainability of other infrastructure varies. The maintenance of farm access roads within the irrigation system is the responsibility of the PID. With the limited funds available with the PID, it will be difficult for the PID to upkeep the rehabilitated roads in good condition. Also, the PID will usually give priority for the maintenance of canals over the maintenance of farm roads. The maintenance of the dug wells and tube wells is the responsibility of the farmers benefited by those facilities. It can be reasonably expected that the beneficiaries would maintain the facilities in good condition.

58. The operational management and sustainability of the three paddy storages is a major concern. It was expected that the seven FOs would look after (day and night watchmen, electricity and water bills, and minor repairs, periodic maintenance, salary of a store keeper/manager, laborers etc.) and manage the paddy storages. However, if the paddy storage buildings were not used by all the farmers of the

seven FOs, then the mobilization of sufficient resources from the FOs for aftercare and management is unlikely.

59. The delays in engaging the NGO caused various groups formed by the project to remain nascent with limited exposure to training and capacity building by the project completion. As stated in the 2016 supervision mission report, the sustainability of the groups is untested, and it requires further capacity building in the medium-term from both public institutions and financial institutions.

60. In conclusion, also taking into account the discussions provided in the earlier section on effectiveness, a number of activities undertaken would sustain the benefits achieved under the project. But some major issues may impose risks onto the sustainability of the rehabilitated schemes. On balance, *a moderately unsatisfactory* (3) is given for the sustainability criterion, the same as PMD's rating.

B. Other performance criteria

Innovation

61. According to the PCR, there were four innovative project initiatives: (a) a cost-sharing system between farmers and government for distributional canals & field canals maintenance; (b) BWAS at farmer organization level; (c) soil suitability studies and crop varietal adoptability trials; and (d) demarcation of all canal reservations. However, hardly any of these activities could be considered as innovative in Sri Lanka, other than the soil mapping and suitability studies for diversifying crop cultivation. For example, the BWAS was initiated by the World Bank financed project in the Mahaweli H system at the end of 1990s, and it has been widely studied ever since then. Moreover, as the project was not able to rehabilitate 85 per cent of the field canals as originally envisioned, the first two innovations could not be fully implemented (PCR, para.14). The demarcation of canal reservation proved not to be effective in that farmers still encroached on the reserved land, as observed by the CSPE team's field visit.

62. Even though there were no visible innovative measures that were successfully implemented, it is important to acknowledge the challenge in being innovative in fragile and post-conflict situations. With weak institutions and fragile social demographic conditions[25], it is more appropriate to replicate measures that were proved to be working in other similar contexts. In this regard, the rating for this evaluation criterion is *moderately unsatisfactory* (3), the same as PMD's self-assessment.

Scaling up

63. While the project left a major part of the rehabilitated irrigation scheme unfinished, there were not many initiatives and activities tested/implemented in the project which would have served as a solid basis for scaling-up (e.g. BWAS, cost-sharing of maintenance). In line with the comments by the internal review of the PCR,[26] there was little basis for scaling up; training was conducted mainly during the last two years of project implementation, thus various groups formed by the project remained immature; marketing arrangements between the farmers and private sector were not sufficiently institutionalized. Therefore, the prospects for scaling up are uncertain. It is also debatable whether the completion of the remaining civil work on the scheme (i.e. field canals) should be considered as "scaling-up", the prospect for which is anyway unclear at this point.

64. The PCRV rates scaling-up as *moderately unsatisfactory* (3), the same as PMD's self-rating.

[25] World Bank (2013) IDA's Support to Fragile and Conflict -Affected States.
[26] Note to File: country programme management team meeting – IIDP completion report.

Gender equality and women's empowerment

65. A gender action plan was developed and a gender task force programme was implemented under the project. Across the various training programmes, total participation (with repeated attendance) was 14,913, of which 9,019 (60 per cent) were women. Under the gender task force programme, 54 women were trained at FO level to tackle child abuse, women harassment problems, etc. and to take leadership in rural welfare activities (PCR, para.75). However, gender mainstreaming and women development interventions could not be undertaken in a systematic manner, which is partly due to delays in the engagement of the NGO for social mobilization and partly due to the nature of the irrigation work. The supervision mission report (2014) commented that the gender action plan was more project driven than demand driven. Additionally, a major issue in the post-conflict situation was the large number of war widows and women heads of household who bore the burden of family maintenance, while were denied access to land rights, resources, and infrastructure (ADB, 2015). The project design did not give sufficient consideration of the challenges they faced.

66. According to the CSPE's field visit, although, there were significant challenges imposed by the historical and geographical contexts, the women membership in the FOs was limited to women headed households. The leadership positions in both FOs and Farmer Federation were rarely held by women, and their voices are hardly heard. Water management was fully operated by the male farmers (Supervision Report, 2015). Therefore, women's role in decision-making on water management, cropping and marketing was limited. When the PMO and PID were pressed to finish the physical construction work, gender and other social issues are easily left out.

67. The component 2 made some progress in targeting women for developing some income generating activities. For example, according to the PCR, women comprised at least 70 per cent of the membership in the micro-finance groups. However, these activities are on a very small scale compared with the benefits from the irrigation rehabilitation. Given such, the PCRV rates this criterion as *moderately unsatisfactory (3),* lower than PCR's rating (4).

Environment and natural resources management

68. The project was categorized 'B' in the environmental assessment design due to the civil work. Environment mitigation measures were incorporated in contractual clauses of civil works contracts (PCR, p.73) to minimize the damages from excavation and destruction of vegetation. Other than that, measures were not effectively taken in the project design and implementation supervision.

69. The project design did not include explicit interventions in targeting natural resources management. However, the rehabilitation of drainage canals has produced positive results in terms of reduced waterlogging, soil salinity, water pollution in domestic wells, and flood damage risks to agricultural lands. Additionally, approximately 12,000 indigenous tree varieties along canal reservations were planted to protect the bunds, which also have positive environment benefits.

70. Overall, the irrigation system is effective in addressing local environmental problems and some positive changes were observed during the CSPE field visit. However, it lacked an environmental impact assessment in the project design to systematically reduce adverse environmental impacts of the rehabilitation. Thus, the PCRV rates environment and natural resource management as *moderately satisfactory* (4), the same as PMD's self-rating.

Adaptation to climate change

71. Although the project did not have a specific focus on climate change mitigation or adaptation, the project implicitly took consideration of these issues. The

rehabilitation of the irrigation infrastructure in reality has led to more efficient and effective use and management of water resources, mitigating climate-related risks to the agricultural and livelihood activities of the target group. In addition, soil sustainability study and crop varietal adaptability trials conducted by the project could help to identify the most suitable crop varieties according to the soil characteristics. This practice could provide evidence for identifying adaptation measures of agricultural resilience against climate change that continue to beset agricultural production in the project area.

72. The project could have explored more suitable methods in managing the water usage in view of the recent drought situation to better harness the environment benefits, instead of inappropriately trying to replicate the BWAS in the Iranamadu scheme. All in all, although water management measures were not taken up as expected, the irrigation rehabilitation itself still contributed significantly to the adaptation to climate change. Thereby, this criterion is rated *moderately satisfactory* (4), on par with PMD's rating

C. Overall project achievement

73. Overall, the project reached the target beneficiaries defined by the geographic area in the project design. It has improved the potential of the Iranamadu irrigation system for the expanded area under cultivation; improved the predictability and reliability of access to and the availability of irrigation water; improved the potential for higher land and water productivity; and reduced water logging, and flood damage risks to crops and lands in the command area.

74. The project contributed to establishing institutional arrangements for farmers organizations in line with the national irrigation management policy, that were in disarray due to the prolonged conflict and prolonged displacement of the land owners and farmers. This is a major outcome that could contribute to sustainable water management and O&M of the rehabilitated system. Additionally, the project employed an integrated approach, focussing on water management, agriculture and marketing aspects. This approach enhanced land and water productivity, and further harnessed the benefits from access to irrigation.

75. However, the project did not reach its full potential to benefit farmers residing in the command area. This is largely due to design weaknesses: a) an inadequate assessment of institutional capacity and ground realities both in favor and against smooth project implementation; b) an underestimation of cost of rehabilitation; c) an underestimation of the project implementation period for a typical large major irrigation rehabilitation project d) a weak feasibility assessment of the BWAS for water management; e) lack of strong instruments for better targeting the poor farmers;; and f) delays in recruitment of a NGO and subsequent implementation of the agricultural production and marketing activities.

76. In spite of the above mentioned weakness, the project overall achieved its objectives in improving water and land productivity through various infrastructure rehabilitation with an effective management system set in place to operate and maintain the irrigation infrastructure. Therefore, the overall project performance is rated as *moderately satisfactory* (4), on par with PMD's rating

D. Performance of partners

IFAD performance

77. IFAD generally provided timely support and guidance during project supervision. Six supervision and implementation support missions were carried out during the project period. But the first supervision mission was only in July 2013, one and half year after the loan effectiveness. More intensive support in the early period of the project might have been useful, also given the delay in the first disbursement (14 months after the loan effectiveness). According to the PCR and interviews with PID,

missions provided timely recommendations and approvals, which proved useful for the project staff to address and resolve problems, clear bottlenecks and achieve satisfactory performance. However, as outlined above, IFAD performance was largely compromised by an inappropriate project deign, which impinged on the various aspects of the project performance, limiting the potential to achieve the project's objectives.

78. First of all, an inappropriate estimation of the project costing and underestimation of the implementation period affected the full achievement of expected outcomes. During five years of implementation, IFAD and the Government could have mobilized additional resources either internally or externally through co-financing with other development partners to fill the finance gap. Opportunities were missed during five-year project implementation. Interviews with the IFAD team informed that to balance resource across regions, the government did not show much interest in filling the financing gap. This could be a responsibility borne by both parties.

79. Secondly, inadequate assessment of the ground realities at preparation, including the replication of BWAS without considering the local context, affected the water management efficiency post project closure. The delay in hiring an NGO for social mobilization was also due to IFAD's lack of knowledge of government policy,[27] which led to delays in the procurement process.

80. Thirdly, at appraisal, IFAD seems to have not done an in-depth institutional capacity assessment. It underestimated the in-house capacity of the PID to carry out detailed designs using engineers available within the PID.

81. These shortcomings are partly due to lack of funding to undertake the heavy up-front design work normally required for irrigation investments. Irrigation projects require adequate preparation before the funds can be disbursed when the loan becomes effective. For the IIDP, the project implementation manual, feasibility study and detailed designs and bidding documents for the work programme of the first 12 or 18 months, and terms of references for lead consultancies were not ready by the date of loan effectiveness. These documents should have been prepared as early as possible, preferably during the design stage, at least the preparation of draft and groundwork. The retroactive financing instrument was proposed for some preparatory activities before the loan effectiveness.[28] This apparently did not materialize. The common practice from other donors is that these primary documents should be appraised before the loan negotiations. Absence of an instrument in IFAD to provide resources to the Government to complete the above mentioned tasks for large irrigation projects affect the quality of the project design and delay the early implementation take-off when the loan become effective.

82. For all these reasons, IFAD's performance can only be rated as *moderately unsatisfactory* (3).

Government Performance

83. The Government contributed 10.8 per cent, and the disbursed amount of the counterpart funds was 74 per cent of the approved allocation (PCR, para.106). According to the PCR, this low disbursement was because the related tax/duty

[27] After the conflict ended in May 2009, the government restricted the engagement of NGOs in development activities in the Northern and Eastern provinces, and special approval was required from the central government for engagement of NGOs by all government agencies. While the PID attempted to hire an NGO, it could not obtain the necessary approvals until late 2014.

[28] Such activities which were expected to start in the last quarter of 2011 included: designing of the main canal and preparation of tender documents for major contracts, preparation of TORs and consultancy contract documents for selecting consultants for out sourced design and construction supervision work, O&M training, awareness campaign for communities about the Bulk Water Allocation system, and technical training for technical staff of PID. (IIDP design report, para 62 and 125)

component on items on loan categories (vehicle and equipment) was not fully utilized.

84. The PID took two important steps during implementation to ensure a suitable design to the local context and also to speed up the implementation progress. The first was to pool up its engineers to complete the designs on an accelerated pace, instead of hiring an international consultant to carry out detailed designs as per the original design. This practice also strengthened the capacity of the provincial government and ensured ownership and accountability of the irrigation scheme for future maintenance. The second one was to adopt a revised contract packaging in consultation with IFAD, in which the distribution canals, field canals, farm road, and farm drainage canals were contracted out to 146 national competitive bidding packages plus 131 community contract packages, instead of a total 30-60 packages as originally proposed. The rationale to propose a small number of large contracts was to avoid the burden of contract administration and monitoring of a large number of contractors. But a balance is required between the speed of the implementation and the convenience in contract administration and monitoring. Consequently, the PID was able to complete a significant workload within the tight project implementation period.

85. The PID did not hire an external consultant to supervise the rehabilitation works contracts as proposed originally. An external supervisory consultant would have eased off the workload of the PID. This situation may have somewhat compromised the quality assurance of the works, although the project files indicate that the PID carried out due quality control tests of the contractors' work. In addition, as assessed earlier, the project financial management faced some challenges, including the accounting system, as well as the quality of project monitoring and evaluation.

86. Overall, the provincial Government demonstrated a strong ownership of the project and took important steps to correct some shortcomings from poor project design and implementation arrangements. Some project management issues, however, still weakened the project's performance. Given such, the performance of the government is rated as *moderately satisfactory (4)*, the same as PMD's rating.

IV. Assessment of PCR quality

87. **Scope.** The PCR follows closely the PCR guidelines, with its sections answering all key questions under a clear structure. IFAD performance is not explicitly discussed, though some sections touch on this aspect. Overall, the scope of the PCR is satisfactory (5).

88. **Quality.** The PCR is largely supported by data and critical analysis, including a very detailed economic and financial analysis. However, there are some inconsistencies between the ratings and the narratives: the ratings tend to be too low compared with the narratives (e.g. gender equity, and institutions and policies criteria). As mentioned earlier, the Government and IFAD PCRs share similar analysis and contents, but it seems that the ratings were downgraded in the IFAD version for many criteria but without adjusting the texts. A field assessment of the project led the CSPE to believe that the PCR narratives are over optimistic and the arguments were untenable. Some of the outcome indicators also show inconsistencies between the text and the logframe. Overall, the quality of the PCR is rated as *moderately satisfactory* (4).

89. **Lessons.** The lessons learned are a good mix of experience from both operational (e.g. careful sequencing of interventions, breaking down procurement packages) and strategic levels (e.g. investment in large irrigation system and in post-conflict context). The reflections in some key areas, especially in project design, could have been more insightful for future irrigation projects. The lessons of the PCR are rated as satisfactory (5).

90. **Candour.** The completion report attempts to balance positive achievements as well as shortcomings of the project (e.g. inadequate budgetary provision and concerns over FOs' sustainability). The ratings in the PCR shared by IFAD (which is the basis of this PCRV) are also largely in line with PCRV's assessment, while the ratings in the Government PCR tend to be more positive. Due to some data inconsistencies with the other project documents, the criterion of candour is rated as *satisfactory (5).*

V. Lessons learnt

91. Lesson 1. Completion of project implementation manual, feasibility studies, detailed designs and bidding documents for the first 12-18 months of the project ready for appraisal for irrigation rehabilitation projects will benefit not only a more realistic project design but also early implementation take-off when the IFAD loan becomes effective. Other agencies, like ADB and World Bank, have instruments to ensure that design and costing work is done before the project is appraised and approved: like the ADB's Project Preparatory Technical Assistance facilities and World Bank's Project Preparation Advance facilities. Absence of an appropriate IFAD instrument to provide a project preparation advance to complete those tasks is a major constraint of the IFAD's project preparation and loan processing policy. Without further change from loan processing policy, IFAD needs to partner with other international financial institutions on these types of design-intensive investments.

92. Lesson 2. Irrigation rehabilitation projects benefit both large farmers as well as the small farmers in proportionate to the land holding sizes. This is unavoidable. Irrigation rehabilitation projects, therefore, should include sharp, well-designed instruments and tools to target and reach small farmers with significant interventions in favor the poverty groups, small farmers and women.

93. Lesson 3. For further investment in irrigation projects, IFAD project design teams should engage competent irrigation engineers both for project preparation and implementation supervision.

94. Lesson 4. Replication of irrigation management innovations in irrigation schemes should be designed with deeper knowledge and analysis of the ground realities of the scheme.

95. Lesson 5. Design of private sector led production, extension and marketing interventions should not be over prescriptive and be based on a thorough assessment of the needs and estimation of what is possible in prior consultation with the private sector partners.

96. Lesson 6. Implementation planning for irrigation rehabilitation projects should take into account the limited time window available between the two cultivation seasons to execute the rehabilitation works in the irrigation system.

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. *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. • 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. • 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. • 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.	X	Yes No No 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

Criteria	*Definition* *	*Mandatory*	*To be rated*
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	4	3	-1
Effectiveness	4	4	0
Efficiency	3	3	0
Sustainability of benefits	3	3	0
Project performance[b]	3.5	3.25	-0.25
Other performance criteria			
Gender equality and women's empowerment	4	3	-1
Innovation	3	3	0
Scaling up	3	3	0
Environment and natural resources management	4	4	0
Adaptation to climate change	4	4	0
Overall project achievement[c]	**4**	**4**	**0**
Performance of partners[d]			
IFAD	4	3	-1
Government	4	4	0
Average net disconnect			**-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	NA	5	NA
Lessons	NA	5	NA
Quality (methods, data, participatory process)	NA	4	NA
Scope	NA	5	NA
Overall rating of the project completion report			

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.

Delivery of outputs

Component 1: Infrastructure development

1. Sub-component 1.1-irrigation infrastructure rehabilitation: The major output is that the irrigation system has been by and large rehabilitated except 85 per cent of the field canals. The full targets of the rehabilitation of main canals and drainage canals have been achieved, while the branch & distributional canals achieved 84 per cent of the target. Consequently, the project was not able to improve access to irrigation services to all the farmers, particularly in the tail end of the system**.**

Table 4:
Physical progress of Component 1.1: Irrigation Infrastructure development

No.	*Sub Components /Activity*	*unit*	*Cumulative actual*	*Appraisal target*	*%*
1.1.1	Rehabilitation of main canals	km	30	30	100%
1.1.2	Rehabilitation of branch & D canals	km	113	135	84%
1.1.3	Rehabilitation of F canals	km	22	123	18%
1.1.4	Improvement of drainage canals	km	70	70	100%
1.1.5	Improvement of Farm roads	km	45	Not given	
1.1.6	People trained on infrastructure management	No.	2,112	1,500	100%

Source: PCR (2017).

2. Sub-component 1.2: Other infrastructure development. The major outputs from infrastructure development investments are: a) construction of 3 paddy storage buildings (target 6 buildings); b) construction of 21 paddy drying platforms (target 21) of which 3 platforms are at the premises of the paddy storage buildings; c) construction of 80 large diameter, open dug wells and 60 tube wells (target total 930 open and tube wells); and d) rehabilitation of 42 kms of farm access roads (target 52 km).

Component 2: Production and marketing.

3. Several inputs have been provided by the project under this Component. The inputs provided were; a) social mobilization and training to highland farmer groups; b) facilitated exposure visits to farmers to Mahaweli system H to learn the BWAS; c) diversified crop diversification in low lands in yala seasons and highlands in maha season; d) training farmers with demonstrations on good agriculture practices for several crops; and e) demonstrations on good veterinary practices; e) training of voluntary community professionals on processing and value addition of non-paddy crops; f) distribution of cattle to farmers; g) matching grants for 210 cattle rearing farmers; and g) micro credit facilities to about 941 beneficiaries organized as 180 micro-finance groups to engage in livelihood support income generating activities.[29] The project has financed several research including variety trails for several crops and a soil suitability assessment in the area, which has produced a soil suitability map. Details see Table 5 and Table 6.

[29] The project formed 150 small groups, 5-7 members in each, and trained them on savings and credit. About 90% of the group members were women. The small groups use their savings to provide individual loans (maximum Rs. 10,000) for the group members. To obtain larger loans, members were directed to Rural Development Bank (RDB) in Killinochchi. The RDB provided Rs 28 million as individual loans on group recommendations. The loan ranges from Rs. 50,000 to Rs. 300,000 and was given at 6% annual interest rate (PCR, para.59).

Table 5:
Activities implemented under component 2

No.	*Sub Components /Activity*	*Unit*	*Cumulative actual*	*Appraisal target*	*%*	*Remarks*
2.1	**Social mobilization & Training implemented by NGO – Nation Builders Association**					
2.1.1	Group formation & strengthening (5-7 members in each group)					
(i)	Women & youth non- paddy crop group formation	No.	246	423	58%	Non-paddy groups and Microfinance groups implement saving and lending programs
(ii)	Micro Finance groups	No.	150	150	100%	
(iii)	Field canal groups	No.	275	275	100%	
(iv)	Crop Producer groups training	No.	475	353	135%	
	Sub Total	No.	1,146	1,201	95%	
	Training					
(i)	Number of farmers trained on bulk water allocation	No.	1072	1675	64%	600 farmers & officers visited System H
(ii)	Other agricultural trainings	-do-	9,690			Organised by NBA
2.2	**Production and Marketing programs implemented by Department of Agriculture**					
2.2.1	Crop diversification demons.	ha	972	2120	46%	5,426 farmers involved
2.2.2	On farm demonstrations GAP	plots	227	500	45%	669 farmer involved
2.2.3	Dairy farming	No.	193	No target		190 farmers
2.2.4	Marketing linkages	ha	112	No target		527 farmers involved

Source: IIDP PCR, para. 50.

Table 6
Activities conducted by the Department of Agriculture in the Northern Province

No.	*Activities*	*No of Beneficiaries*	*Expenditure (LKR)*
1	Expansion of papaya cultivation	35	169,233
2	Expansion of pineapple cultivation	30	217,770
3	Expansion of ground nut cultivation	40	175,596
4	Expansion of mushroom cultivation	25	2,617,405
5	Expansion of organic farming with bee keeping	170	1,574,590
6	value addition societies	5	1,080,140
7	Compost production & use	2	149,525
8	Protected agriculture	1	589,825

Source: Document from Department of Agriculture (2017).

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Abbreviations and acronyms

ADB	Asian Development Bank
BWAS	bulk water allocation system
COSOP	country strategic opportunities paper of IFAD
CSPE	country strategy and programme evaluation
DCFO	distributary canal farmers organization
EIRR	economic internal rate of return
FO	farmer organizations
IFAD	International Fund for Agriculture Development
IIDP	Iranamadu Irrigation Development Project
MTR	Mid-Term Review
NGO	Non- Governmental Organisation
O&M	operation and maintenance
PCR	Programme Completion Report
PID	Provincial Irrigation Department
PMC	Project Management Committee
PMD	Programme Management Department (of IFAD)
PMO	Project Management Office