Ex post evaluation – Egypt

Sector: Agricultural water resources (CRS code: 311400)
Programme/project:
A) Improvement of irrigation system (IIP1) BMZ no. 1995 65 524* (Inv.) BMZ no. 1996 70 043 (CM); B) Improvement of irrigation system 2 (IIP2) BMZ no. 2002 65 850** (Inv.); BMZ no. 2004 70 138 (CM)
Implementing agency: Ministry of Water Resources and Irrigation; Central Bank of Egypt

Ex post evaluation report: 2020

All figures in EUR million	Project A* (Planned)	Project A (Actual)	Project B** (Planned)	Project B (Actual)
Investment costs (total)	128.04	159.30	26.65	34.30
Counterpart contribution	35.20	60.26	7.50	15.15
Co-financing World Bank	61.40	67.60	0.00	0.00
Funding	31.44	31.44	19.15	19.15
of which BMZ budget funds	31.44	31.44	19.15	19.15

*) Project in random sample 2018; **) Project was included in the evaluation.

Summary: The project comprised investment measures to modernise the irrigation system at secondary and tertiary canal level in the Nile Delta. The approaches used by both projects generally correspond, however, the “Improvement to irrigation system 2” project includes further innovations to reduce water losses and reduce operating costs.

The project area measures roughly 249,700 feddan (around 105,000 ha). Two complementary measures supported the organisation of the farmers into water user associations to improve the management of the water supply and to maintain the infrastructure.

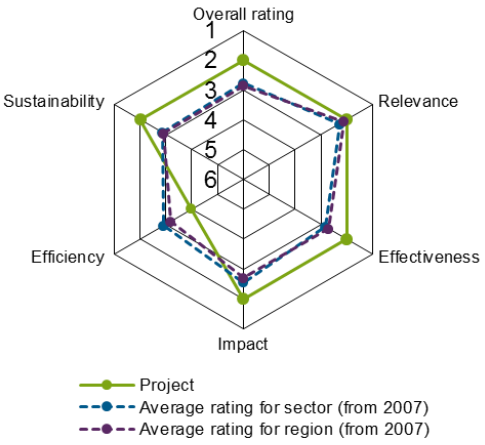
Target system: The targets of both projects at outcome and impact level were identical. The target at the outcome level was to increase agricultural production in conjunction with fairer water distribution between upstream and downstream farmers within the irrigation system. The aim is to increase yields and efficiency in terms of the amounts of water used in irrigation agriculture. The aim of the project at impact level was to increase agricultural income.

Target group: The project’s target group comprised around 160,000 small farmers with an average smallholding of 2.6 feddan (1.1 ha) in the irrigation areas of Mahmoudia, Manaifa and El Wasat in the western and central Nile Delta.

Overall rating: 2

Rationale: The projects have improved the efficiency of the irrigation systems and increased the agricultural production as well as the income of the target group. Other projects have adopted the improvements validated by these projects and developed them further so these advantages will also benefit further irrigation perimeters in Egypt. The implementation of these projects was delayed due to external events. The repayment rates for the advanced financing of the infrastructure were lower than expected but did not have any direct effect on the sustainability of the projects.

Noteworthy: Especially relevant were the following: a) The role and model character of the projects for the dynamic further development of innovative irrigation concepts, b) A fairer distribution of irrigation water between upstream and downstream farmers on the irrigation canals, c) The reduction of the farmers’ workload and opening up of additional sources of income, d) The reduction of CO2 emissions by replacing diesel pumps with electric generators and e) The setting up and supporting of water user groups.



Rating according to DAC criteria

Overall rating: 2

Ratings:

Relevance	2
Effectiveness	2
Efficiency	4
Impact	2
Sustainability	2

Relevance

The sustainable management of water resources is one of the central challenges faced by the Egyptian economy. Although the utilisation rate of water is high (the water balance for the entire river system of the Nile in Egypt amounts to 80 billion m³ per year, while only 50 billion m³ flow into the system), unchecked demographic development, increasing industrialisation and rapid economic development in the countries of the Nile basin have all led to a reduction in the availability of water in the upper reaches. Environmental destruction and pollution also pose a threat to the resource. The per-capita share of renewable water resources has fallen to roughly 600 m³[1] per person per year, which by international comparison meets the criterion of water scarcity (FAO 2007)[2]. The figure will probably even drop to 500 m³/person/year[3] by 2025. Whereas the annual water balance in 1992 showed an excess of 1.7 billion m³/year, the deficit in 2000 had already reached 1.0 billion m³/year and will probably increase to 7.0 billion m³/year by 2025.

Agriculture continues to be a key component of the Egyptian economy contributing up to 11.9 %[4] to GDP and employing 28 % of the population. Almost a quarter of Egyptian imports are agricultural products, mainly wheat, maize and meat[5].

It is thus a challenge to produce more food when the availability of water is decreasing.

The Egyptian government is addressing these challenges with a) The Sustainable Agricultural Development Strategy towards 2030[6] and b) The strategy for future use of water resources in the National Water Resource Plan[7] (NWRP).

The aim of the strategy to modernise Egyptian agriculture is to ensure food security and improve the rural population's livelihood through efficient use of the development resources. The NWRP aims to provide the agricultural sector with at least 70 % of all the water resources available.

With respect to the agriculture strategy and the NWRP, we can conclude that the projects were in line with the priorities of the partner.

The projects were part of the German/Egyptian priority areas of water/sanitation and waste management. The projects were embedded in a sector task force to harmonise donor approaches.

The target group of the projects comprised small farmers with an average smallholding of 2.6 feddan[8] (1.1 ha). The poverty rate in the region (irrigation areas of Mahmoudia, Manaifa and El Wasat in the western

[1] https://www.almasryalyoum.com/news/details/1378793 (Press Conference, MWRI)

[2] http://www.fao.org/land-water/home/en/

[3] National Water Resource Plan (NWRP), Ministry of Water Resources and Irrigation 2017

[4] https://www.indexmundi.com/egypt/gdp_composition_by_sector.html

[5] https://tradingeconomics.com/egypt/imports

[6] Sustainable Agricultural Development Strategy towards 2030

[7] National Water Resource Plan (NWRP)

[8] One feddan corresponds to 0.42 ha

and central Nile Delta) stood at 54.5 %[9] at the time of project appraisal in 1995. With respect to the overarching objective of the German-Egyptian collaboration on combating poverty, the choice of region and target group was relevant.

Both projects implemented and further enhanced the approaches developed in the 1980s by USAID for a fairer distribution of water in agriculture in the Nile Delta, while at the same time conserving the resource. Prior to IIP1, tertiary canals were open soil ditches, the water was distributed by gravity and the farmers opened the ditches to direct water onto their fields. As open canals are susceptible to water losses (evaporation, cracks in the soil dams and canals) and the flow of water is often impeded by waste and debris, less water was available at the end of the canal and took longer to arrive. Farmers upstream therefore received more water than those at the end of the canal. Whereas the first phase (IIP1) aimed to replace individual pumps with collective irrigation and stabilise tertiary canals by lining them with concrete or laying pipes, the second phase (IIP2) laid more pipes and replaced the original diesel pumps with electric generators. Subsequent projects initiated among others by German FC, the World Bank and the Netherlands, further developed[10] the approaches taking the drainage problems into account, and laid pipes in the field canals.

The complementary measures support the MWRI in setting up and training water user associations (WUAs), introducing more efficient irrigation and cultivation techniques and carrying out measures to increase the farmers' awareness with respect to questions of irrigation and the environment

The project approaches for 1) Replacing individually operated pumps with collective pumps operated at tertiary canal level, 2) Stabilising tertiary canals by lining them with concrete or laying pipes underground, 3) Exchanging diesel pumps for electric generators, and 4) Organising the rotation system at mesqa level via water user associations, proved to be the right choice.

The design of the investment project and the complementary measures was the right choice with respect to the key challenges faced by the irrigation agriculture in the Nile Delta. The fairer water distribution combined with the reduction of water losses by concreting the canals leads to higher yields and therefore more income for the farmers. The coherence of the results chain is also underlined by the further development of the approach within the framework of other projects.

Relevance rating: 2

Effectiveness

The objectives at the outcome level of both projects were identical. The intention was to help increase agricultural production in conjunction with fairer water distribution between upstream and downstream farmers within the irrigation system.

Reaching the targets at outcome level can be summarised as follows. Although the indicators refer to one phase each, the results are applicable to both phases due to the identical approach used:

Indicator	Status PA, target PA	Ex post evaluation
(1) IIP1: Increase of yields of a) wheat; b) rice; c) cotton; d) maize.	Status PA 1995 (target): a) Wheat 100 % (110 %); b) Rice 100 % (130 %); c) Cotton 100 % (130 %); d) Maize 100 % (130 %)	Increase in yield from 1995 (without project) to 2002 on meliorated areas: b) Rice upstream farmers 50 % (5.8 to/ha to 8.8 to/ha) Downstream farmers 57 % (5.2 to/ha to 8.4 to/ha)

[9] Karima Korayem: "The Impact of Structural Adjustment and Stabilization Policies on the Poor in Egypt and How Do They Adapt", June 1994

[10] See FC project "Improvement of the Irrigation System 3 (IIIMP)" 2004 66 409 (Inv.); 2008 65 840 (Inv.); 2004 70 617 (BM) as part of a multiple-donor project with the World Bank, Netherlands

		c) Cotton upstream farmers 43 % (1.9 to/ha to 3.0 to/ha) Downstream farmers 53 % (1.9 to/ha to 2.9 to/ha) Data for wheat and maize was not available. The indicator is achieved.
(2) IIP 1: Increase of real gross production value per m^3 irrigation water.	Target: Increase of real gross production value per m^3 irrigation water by at least 25 % in the fifth year.	Increase of gross production value from 1994 (baseline) and 2002 on meliorated areas b) Rice average increase of 54 % (from 0.95 kg/m^3 to 1.46 kg/m^3) c) Cotton by 26 % (from 0.27 kg/m^3 to 0.34 kg/m). There is no data for other crops. The indicator is achieved.
(3) IIP 2: Fairer distribution of water	Target: At least 67 % of the water user associations (WUAs) at tertiary canal level and the water user associations at secondary canal level (branch canal water user associations BCWUAs) confirmed that the distribution of water was fairer following the investment.	As the BCWUA was not yet responsible for water distribution, the indicator at this level was not relevant. The target of 67 % confirmation from the WUAs at tertiary canal level could not be quantified. However, discussions with the target group during the field visit confirmed that irrigation water was being distributed more fairly at mesca level between the farmers at the start and at the end of the tertiary canal. Surveys by the Water Management Research Institute confirm these statements. The indicator is achieved.
(4) IIP2: Fairer distribution of water.	Target: The differences in yield between the farmers at the start and at the end of the tertiary canal amount to less than 5 %.	As an average from the three perimeters, the yield differences fell as follows from 1995 (before the project) to 2002 (project underway): b) Rice from 11 % to 8 %. c) Cotton from 8 % to 4 %. The indicator is achieved.

Water provision at the perimeters is based on a rotation system. As the water levels in the canals are generally below the level of the fields, water is lifted from the secondary to the tertiary level. Individually operated pumps brought water to the tertiary level. Pump owners therefore had an advantage over those who had to rent equipment.

The basic concept of IIP1 involved rehabilitating the main and secondary canal system, replacing individually operated pumps - which lift the water from the secondary canal level to the tertiary level - with

collective pumping stations and introducing concreted canals or pipes[11]. The implementing agency was also supported in the training and further education of water user associations. In the case of IIP 2, the investment measures and consulting services[12] constituted a continuation of the IIP1 FC project. IIP 2 developed the original concept further by replacing the diesel pumps with electric generators, which pumped the water into cylinders and then fed it into underground pipes at tertiary canal level. This improved water distribution and further reduced losses. The water is distributed at operational level via inlet valves installed at field level. In the next step, the water is fed under pressure directly from the pumps into the pipes. The following data elements show the rehabilitated irrigation systems at primary, secondary and tertiary canal level and the locations of the funded electric pumps.

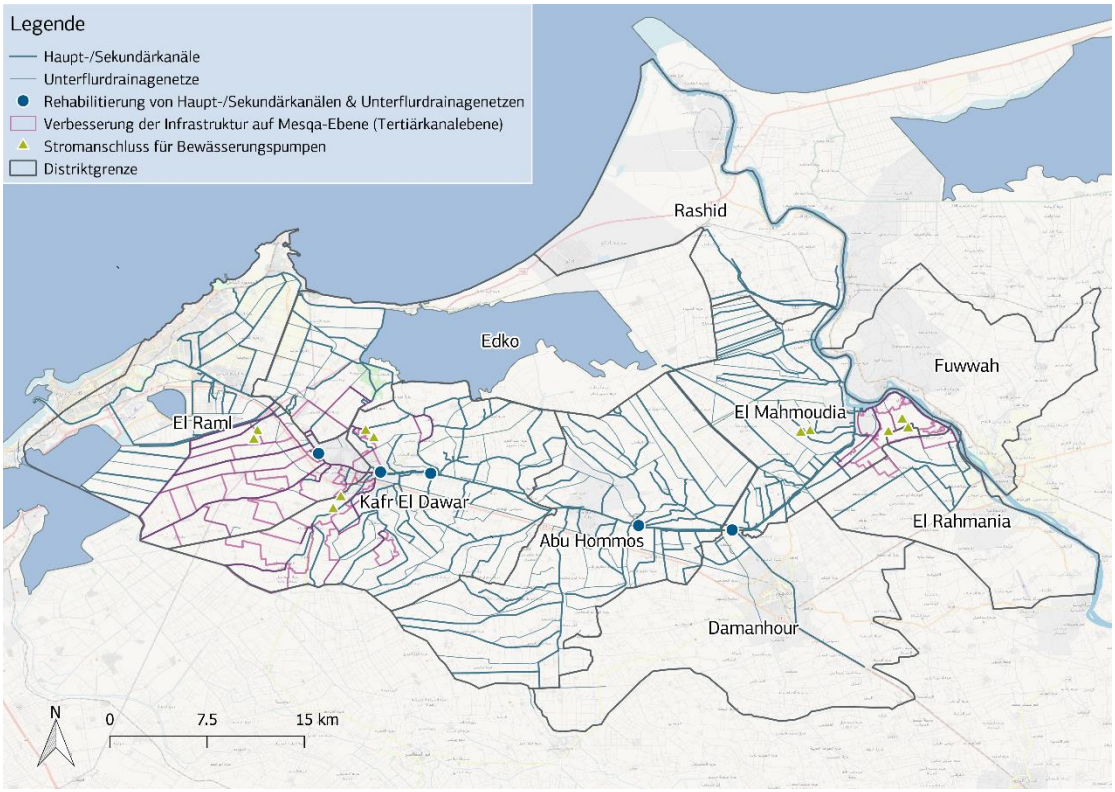


Figure 1 Illustration of project measures in the Mahmoudia irrigation area; source: own illustration based on georeferenced data supplied by the implementing agency.

[11] Improvement of main/secondary canal system; installation of roughly 2,900 pumping stations, 134 km of lined canals, roughly. 2,100 km of pipes in canals, training of roughly 2,940 WUAs and 58 BCWUAs.

[12]. Improvement of the main/secondary canal system, rehabilitation of old and construction of new bridges as well as the installation of new automatic regulating mechanisms, improvement of the tertiary canal system (454 canals) by lining it with stones and laying pipes; electrification of 1,005 pumping stations including provision of 83 replacement diesel pumps; construction of low-voltage (162 km) and medium-voltage lines (268 km); training of roughly 600 WUAs and 15 BCWUAs.

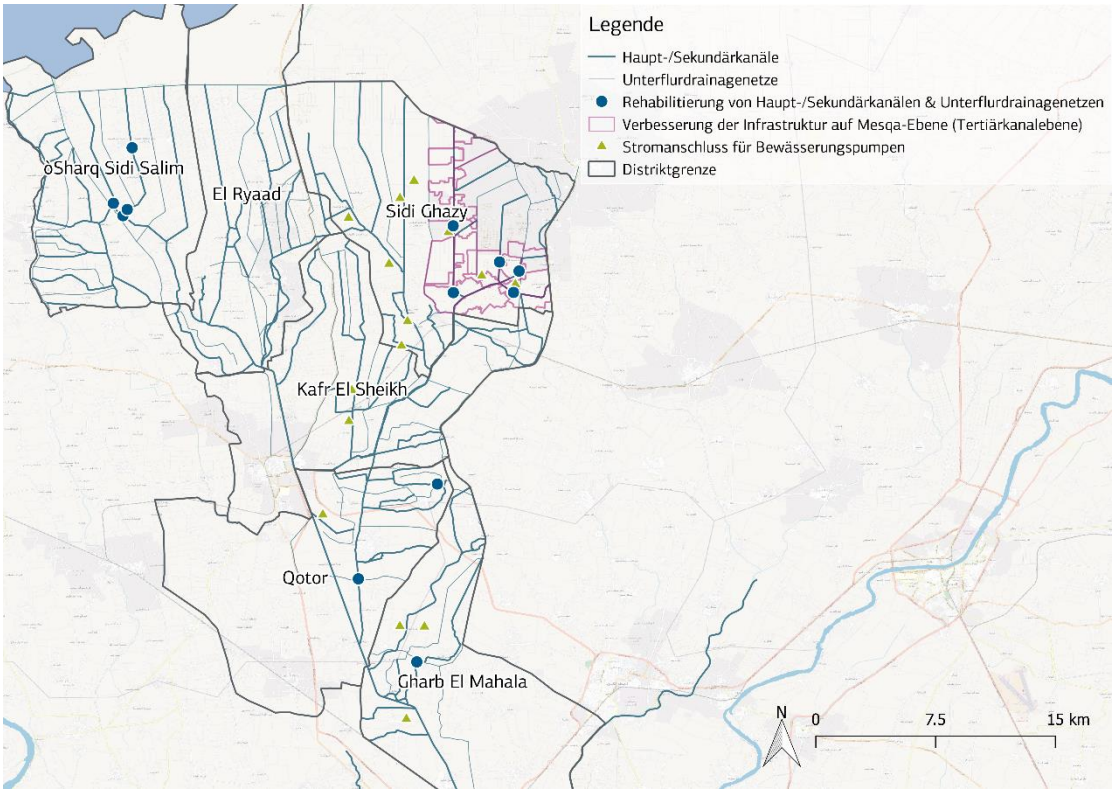


Figure 2: Illustration of project measures in the Meet Yazeed irrigation area (also including Manaifa and el Wasat); source: own illustration based on georeferenced data supplied by the implementing agency.

The increases in yield for rice and cotton were significant (no data was available for wheat and maize). These increases pertain to both upstream and downstream farmers on the canals, although the downstream farmers saw their yields increase more than upstream farmers. However, this cannot only be attributed to the investments in irrigation infrastructure. They are also due to a number of other factors, not least the type of fertiliser and seed.

Surveyed farmers stated that the improvement of the irrigation system caused the cultivation patterns to change towards crops with higher contribution margins, such as vegetables. This applied especially to farms close to towns and cities.

With respect to the real gross production per m³ irrigation water (expressed in kg/m³), the available data showed clear differences between improved irrigation systems and those without improvements. Productivity (measured in kg/m³) increased by 54 % for rice and 26 % for cotton.

Farmers also reported that the introduction of electric pumps had considerably reduced energy costs. A study conducted by the Water Management Research Institute in 2018 reported on an irrigation system which used similar technology and achieved net savings in terms of pumping costs of 40 % to 75 % for rice and 40 % to 65 % for maize.

The yield differences between upstream and downstream farmers declined from 11 % to 8 % for rice and from 8 % to 4 % for cotton (no data was available for other crops). Farmers surveyed by the mission noted a tangible reduction in yield differences between upstream and downstream farmers. This was confirmed by an MWRI report on similar irrigation systems using similar technology; between 89 % and 94 % of the farmers surveyed believed that water distribution had become fairer due to the investments made.

The stabilised canals and the underground pipe system significantly reduced strenuous physical labour (e.g. weeding, maintaining canal profiles, repairing soil dams). Women especially profited from this investment. In an MWRI questionnaire, the farmers evaluated their annual time gain in connection with reduced workload in irrigation activities for other earning opportunities with a value between 200 Egyptian Pounds (£E) and 2,000 £E (approx. 11 and 110 EUR) per growing season.

According to the farmers, conflicts were easier to solve and maintenance work was better organised within the water user associations. The user associations surveyed were dynamic and well organised. Infrastructure was found to be in a generally satisfactory to good condition. The canals and pumping stations set up in 2004, were fully functional. Maintenance work was clearly carried out regularly.

The transfer of responsibility for the water allocation at secondary canal level to user associations has yet to take place. A corresponding draft bill has been submitted to parliament. Water allocation is still the responsibility of the respective regional departments of the MWRI.

Both projects improved the use of the water supply by reducing seepage losses and distributing water more fairly between upstream and downstream farmers adjacent to the tertiary canals. Furthermore, the pump costs were significantly reduced through the collective pumping stations and the replacement of diesel pumps with electric generators. The virtual elimination of CO2 emissions from numerous old and small diesel pumps by electrifying the pumping stations considerably benefited the environment.

In view of the significant increase in yields, greater efficiency in water use, fairer allocation of the water supply, lower energy costs and a significant reduction in the workload for the target group, the results meet expectations in terms of effectiveness.

Effectiveness rating: 2

Efficiency

The implementation of IIP1 was delayed by 9.5 years. This was mainly due to a long planning phase and the need to repeatedly put the work out to tender. The contracted construction companies often did not have the necessary experience to carry out complex building work. The implementation of IIP2 was delayed by six years; the main reason here was the connection of the pumping stations to the power grid. Political upheaval in the country also put a strain on the planned schedules.

Inflation and the devaluation of the DM/EUR against the Egyptian pound (£E), which was pegged to the USD, led to a cost increase for IIP1 by roughly 20 %. This meant that only about 84 % of the planned area (207,000 instead of 248,000 feddan) could be meliorated.

Due to aggregate inflation of 152 % together with an almost unchanged EUR/£E exchange rate, the investment costs per feddan practically doubled from £E 3,643 to £E 7.902[13] for IIP2 between 2005 and 2014. As a consequence, only 23,250 feddan instead of the planned 43,700 feddan could be monetised.

The choice of surface irrigation as the technique suited the soil quality, the technical capacities of the target group and their agricultural practices. Surface irrigation generally requires only simple infrastructure for construction and maintenance. Sprinklers or drip irrigation necessitate higher investments and are technically more complex. Sprinklers generally increase the salt content of the ground. Since the Nile Delta is already exposed to strong salinisation, use of this irrigation technique should be limited here.

IIP1 aimed to invest in continuous water availability, known as continuous flow (CF), as an alternative to the traditional rotation system. Continuous flow has the advantage that water availability adapts to the needs of the crops, and irrigation intervals are not determined by water availability. Moreover, high-quality and more sensitive crops can be cultivated, which require reliable irrigation and for which the rotation system is too risky. On the other hand, CF requires a high level of water management.

Although CF offered a technically relevant solution with respect to the challenge of unfair water distribution, the partner authority, the Ministry of Water Resources and Irrigation (MWRI), believed the requirements for the introduction of CF were not fulfilled. The permanent availability of water required the re-profiling of the secondary canals and daily/hourly monitoring of the water level, which was not possible under the circumstances. CF was therefore not introduced in any of the project areas. Installation of automatic gates for the continuous flow irrigation system as part of the IIP1 project proved to be a misguided investment[14].

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[13] With an average £E/EUR exchange rate (2005-2014) of 7.5, this corresponds to EUR 2,507/ha, which is within the acceptable range for the region.

[14] totalling roughly EUR 2.5 million.

The electricity to operate the pumps is paid for in advance by the water user associations. Water extraction is free and there are no water meters. Water usage at tertiary canal level is controlled by the water user associations. The farmers are responsible for maintaining the infrastructure from, and including, the tertiary canals.

The tax department of the Finance Ministry is responsible for obtaining reimbursement for advanced funding of the infrastructure (soil and concreting work, expansion of the power grid, pumps). The payments are channeled into a state Revolving Fund[15], which is intended for investments in further perimeters. The repayment rates in October 2019 amounted to 67 % for IIP1 and 30 % for IIP2 (in relation to total receivables in each case). This is due to delays 1) at cooperative level[16] where landowners must register their farmed area, 2) at ministerial level (MWRI), where the farmers' proportional costs are calculated, 3) at the level of the Finance Ministry's tax department, which collects the due amounts that were communicated to it. There are hardly any incentives for cooperatives to compile lists, and few incentives for the tax department, which favours other priorities with a higher collection rate. A new regulation requires that the tax administration can only accept electronic payments, which makes payment difficult for the farmers who mostly do not have the means to pay electronically. The market for land is very dynamic and lists need to be adjusted annually. However, the inadequate repayment rates had no influence on the projects themselves.

The implementation of the projects was considerably delayed, the cost budgets could not be met. However, this was mainly due to external events that could neither have been foreseen nor influenced by the projects. The Continuous Flow approach was technically relevant, but the prerequisites for its introduction were not fulfilled. The repayment rates for the investments inherent in the system fell short of expectations. The choice of surface irrigation as the technique suited the soil quality, the technical capacities of the target group and their agricultural practices. Significantly less surface could be included due to inflation.

Efficiency rating: 4

Impact

Noteworthy: a) The role of the projects with respect to dynamic further development of innovative irrigation concepts, b) The fairer distribution of irrigation water between upstream and downstream farmers along the irrigation canals, c) The reduction of the farmers' workload and opening up of additional sources of income, d) The reduction of CO2 emissions by replacing diesel pumps with electric generators, e) The support/establishment of water user associations.

The projects aimed at contributing to an improved agricultural income while also increasing the efficiency of irrigation. The achievement of the objective at impact level can be summarised as follows:

Indicator	Status PA, target PA	Ex post evaluation
(1) Increasing real agricultural income via the contribution margins of the crops.	Target: In the third and fifth year after commissioning an improved tertiary canal, basic income increases by 10 % or 30 % respectively in 60 % of the farms.	Due to the lack of data, it is not possible to quantify the target values. Higher contribution margins can be assumed (see below).
(2) Improvement in the total degree of efficiency for water provision in the project area, i.e. reducing water losses.	Target: Improvement of the total degree of efficiency for water provision in the project area from roughly 50 % to 60 %, in	From a significant increase in water productivity with a simultaneous retention of the water supply, it can logically be

[15] Mesqua Improving Fund

[16] Farmers are automatically a member of a cooperative

	other words, a reduction in unaccounted for water by 10 %.	concluded that there was a reduction in water losses.

An improvement in agricultural income by developing the contribution margins of the individual crops could not be quantified due to a lack of available data. However, from the significant increases in yields and water productivity and a reduction in energy costs, it can be logically concluded that the contribution margins of the crops increased. Since water extraction is free, no variable costs are incurred here. Moreover, a survey of the target group by the Water Management Research Institute also shows an increase in productivity of between 25 % and 30 %.

It was not possible to quantify the reduction in water losses. However, in view of a significant increase in water productivity of at least 25 %[17] together with an unchanged supply of water, it can be assumed that there was a noticeable reduction in water losses. Furthermore, by lining the canals with concrete and laying pipes to distribute water instead of open soil canals, it is evident that water losses could be significantly reduced.

Surveys of the target group revealed that they have considerably improved their income due to investments as part of the IIP1 and IIP2 projects. On the one hand, the income from agricultural activities (see Effectiveness) has increased, while on the other, the new system of collectively organised pumps and the stabilisation of canals has lightened the workload quite considerably and opened up opportunities for additional, partly non-agricultural, activities.

From 1995 to 2005, poverty rates[18] decreased in rural Lower Egypt by 5 percent, whereas they remained constant in the metropolis, and significantly increased in Upper Egypt (by almost 8 and 10 percent in urban and rural areas, respectively). It can be assumed that the investments IIP1 and IIP2 contributed, ceteris paribus, to a decline in poverty in the project area.

Moreover, the reduction of stunting rates[19] for children under five in rural Lower Egypt by about 50 % between 2000 and 2014 could be attributed to the improvement in the income of the target group.

Based on available data, it can logically be concluded that there has been a noticeable increase in agricultural income. There is an obvious reduction in water losses due to the selected technique alone. The projects have contributed to a reduction in poverty and malnutrition.

Impact rating: 2

Sustainability

Given the high political priority given to agriculture and especially to smallholders (fellachin) by the Egyptian government, it can be assumed that this branch of the economy will continue to be supported by the public purse or at least be protected. In light of the huge pressure on water resources, innovation in irrigation agriculture will continue to pose a key challenge.

The projects have proven their potential to increase agricultural productivity and incomes by improving the efficiency of irrigation systems. As other projects have adopted the improvements validated by IIP1 and IIP2, these will benefit further irrigation perimeters in Egypt. By adopting these approaches, the differences in yields, which affect farmers at the end of the canal, will decline further.

However, the repayment rates for the advance funding of infrastructure fall short of expectations. In October 2019, they amounted to 67 % for IIP1 and 30 % for IIP2 (in relation to the total receivables in each case). This means that less money is available from the revolving fund for further irrigation investments, limiting the broad impact.

[17] Water Management Research Institute

[18] World Bank Report No. 39885 – EG

[19] Egypt Demographic and Health Survey, 2005

Moreover, it can be assumed that the demand for food products will increase, prices will develop correspondingly, and farmers' incomes will continue to grow. Framework conditions and interest in maintaining and expanding infrastructure on the part of both public authorities and the target group exist.

The statistics of the Water Management Research Institute show that the yields of all crops have continued to grow beyond the end of the project. Farmers, especially those in peri-urban areas, increasingly orientate themselves towards market demand and are cultivating other crops with higher contribution margins than the traditional ones.

The infrastructure (tertiary canals, pumps and pumping houses) set up as part of IIP1 and IIP2 was generally in a satisfactory to good condition. Canals built in 2004 were still fully functional. The pumps were regularly serviced. Defective pumps were repaired by farmers at the expense of the water user associations; stolen pumps were replaced by the target group itself. Some water user associations paid for the connection to the power grid themselves. The farmers themselves are responsible for funding the infrastructure maintenance. Due to the increase in incomes, it can be assumed that these costs are safely covered.

It can be assumed that the project impacts will continue in the future and even increase through further investments following and developing the approach of IIP1 and IIP2.

Sustainability rating: 2

Notes on the methods used to evaluate project success (project rating)

Projects (and programmes) are evaluated on a six-point scale, the criteria being **relevance, effectiveness, efficiency** and **overarching developmental impact**. The ratings are also used to arrive at a **final assessment** of a project's overall developmental efficacy. The scale is as follows:

Level 1	Very good result that clearly exceeds expectations
Level 2	Good result, fully in line with expectations and without any significant shortcomings
Level 3	Satisfactory result – project falls short of expectations but the positive results dominate
Level 4	Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
Level 5	Clearly inadequate result – despite some positive partial results, the negative results clearly dominate
Level 6	The project has no impact or the situation has actually deteriorated

Rating levels 1-3 denote a positive assessment or successful project while rating levels 4-6 denote a negative assessment.

Sustainability is evaluated according to the following four-point scale:

Sustainability level 1 (very good sustainability): The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability): The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected).

Sustainability level 3 (satisfactory sustainability): The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability): The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and is very unlikely to improve. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The **overall rating** on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. Rating levels 1-3 of the overall rating denote a "successful" project while rating levels 4-6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (level 3).