

PROJECT EVALUATION SERIES

**Final evaluation of
"Enhancing Agriculture Production
through Irrigation System Improvement
and Strengthening Institutional
Capacity"**

OSRO/AFG/502/JCA

Annexes

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Annex 1. Terms of Reference

1.1 Background and context of the project

1. *The Project for Enhancing Agricultural Production through Irrigation System Improvement and Strengthening Institutional Capacity (OSRO/AFG/502/JCA)* is an ongoing intervention of the Food and Agriculture Organization of the United Nations (FAO) in Afghanistan. In partnership with three key ministries, the project aims to increase agricultural production and productivity in Kunduz, Baghlan, and Takhar Provinces. The intervention was planned to be implemented over a period of 36 months, from January 2016 until December 2018.
2. The project is designed to deliver three outputs: rehabilitated irrigation systems at the intervention sites (Output 1); improved capacities for promoting and adopting an irrigation method (Output 2); and developed capacities in producing high-quality potato seeds (Output 3). The first output involves technical analyses and physical rehabilitation of 30 irrigation systems, the conduct of water accounting at the on-site watersheds, and the establishment of IAs among the end-users of the irrigation systems. The second output features the construction of a training centre to promote and build capacities on an irrigation method (Peace Medical Services), the preparation of training manuals for these purposes, and the conduct of related training activities and workshops. The third output includes the establishment of a tissue culture laboratory that will develop high-quality potato varieties, and the conduct of training activities and other related efforts to develop capacities on tissue culture. The expected outcome of the intervention (as formulated) is "improved irrigation services and functional tissue culture laboratory for virus-free potato seed production".
3. The most current project achievements (reported as of 31 December 2017) include the following:
 4. With respect to Output 1, one rehabilitation project was already completed and at the handover stage. The physical rehabilitation of 13 other irrigation systems have started and are ongoing [Appendix A]. A preliminary water accounting exercise and four training courses on water accounting were also conducted.
 5. With respect to Output 2, the construction of a physical training centre was completed. The purpose of this facility is to conduct training courses on the Peace Medical Services (PMS) irrigation method. Training curricula, a book, and audio-visual material on the PMS method have been developed. The training courses are scheduled to be conducted this year (2019).
 6. With respect to Output 3, a potato tissue culture laboratory and four greenhouses were upgraded. The production of potato plantlets and mini-tubers has also started: around 2,000 plantlets were produced and eleven kilograms of mini-tubers were harvested. Three training courses on potato tissue culture and production were conducted. These were attended by 133 participants. A related overseas training course attended by three technicians was also supported by the project [Appendix B].

7. Going into the last ten months of the original project end date, the overall delivery rate is around 56 per cent based on FPMIS data.¹ The progress report indicates that significant project spending is expected in 2019 primarily due to increased activities related to the rehabilitation of additional irrigation systems. The Japan International Cooperation Agency (JICA) is funding the project, at a total cost of around \$13.09 million.
8. The project is being implemented by the FAO Country Office in Afghanistan in partnership with the Ministry of Agriculture, Irrigation and Livestock, the Ministry of Rural Rehabilitation and Development and the Ministry of Energy and Water. As the implementing agency, the Country Office is primarily responsible for the conduct of project activities and the achievement of target results. The Country Office sub-contracts the project activities (for example, the rehabilitation of irrigation systems) to appropriate entities through Letters of Agreement. Led by a Chief Technical Adviser, a project team provides technical services and is responsible for the implementation of the work plan. The project also receives technical support from relevant units and personnel from FAO headquarters and Regional Office.
9. The project stakeholders are: (i) the rice and potato farmers at the project sites (including women and other vulnerable groups) whose lives and communities will be affected by the intervention in terms of expected benefits and possible risks, and who will be responsible for eventually sustaining the physical infrastructures being established under the project; (ii) the Ministry of Agriculture, Irrigation and Livestock, the Ministry of Rural Rehabilitation and Development, and the Ministry of Energy and Water, which are the main duty-bearers for irrigation and agricultural development at the host country; (iii) the Peace Medical Services, which has ownership of the irrigation method being promoted by the project; (iv) JICA, which invested Japanese resources towards the achievement of project results; (v) FAO, as represented by its representative office in Afghanistan, which is mandated to deliver the technical and other support needed to achieve the project objectives while acting as custodian of the project funds; and (vi) the other institutional members of the Project Steering Committee which, as decision-makers, are accountable for the project actions and results.

1.2 Evaluation purposes and users of the report

10. In line with FAO evaluation policy and considering the nearing project NTE, a final evaluation of *The Project for Enhancing Agricultural Production through Irrigation System Improvement and Strengthening Institutional Capacity* (OSRO/AFG/502/JCA) will be carried out. In the latest meeting of the Project Steering Committee, which was held on 10 December 2017, the evaluation of the project was also mandated. The purposes of the evaluation are to: (i) establish the project's accountability to its stakeholders; (ii) identify possible improvements to the design of similar future interventions; and (iii) contribute to the further understanding and knowledge-building on irrigation systems improvement, potato tissue culture, and related institutional capacity development in Afghanistan. The final evaluation will respond to the information needs and interests of policy-makers, duty-bearers and resource partners on irrigation system improvement, potato tissue culture technology and the building of institutional capacities along these

¹As of 15 March 2018, around \$7.3 million have been expended out of \$13 million budgeted for the project.

lines. Its achievements and lessons should also help shape future programming in this field of work, and can be used for a thematic evaluation of irrigation-related projects in the country and the evaluation of FAO's country programme in Afghanistan.

11. In view of these evaluations purposes, the evaluation report will be used by: (i) the Project Steering Committee, which must be informed on the results and lessons from the project; (ii) the Ministry of Agriculture, Irrigation and Livestock, the Ministry of Rural Rehabilitation and Development and the Ministry of Energy and Water, particularly their planning, monitoring and evaluation, and irrigation departments, which needs to take stock of the project achievements and lessons learned; (iii) the FAO Country Office in Afghanistan and relevant units at headquarters, which will obtain information for reporting and future programming; and (iv) JICA, which will be informed on the development results from its investment.

1.3 Scope of the evaluation

12. *Timeframe to be evaluated* – Due to the lack of a mid-term review, the evaluation will consider the inputs, activities, outputs and outcomes associated with the project from its actual entry on duty (1 January 2016) until the end of the data collection phase.² The latter will include primary data to be collected during the field missions, in addition to the secondary data to be derived from the latest Project Progress Report (January to June 2018) that should be produced by the project team.
13. *Levels of analysis* – Data collection and analysis will be directed at the results level. The evaluation will focus on the results that have been achieved (or will likely be achieved) by the intervention. While project processes, systems and structures will also be considered in the analysis, they will be taken within the purview of results achieved (e.g. how the project management system contributed to the achievement of the results).
14. The evaluation will examine the project results and effects at the level of: (i) individuals – how both men and women are affected by the intervention; (ii) communities – the consequences on the specific areas where the project activities are being implemented; and (ciii) institutions – changes in the establishments and associations covered by the project activities.
15. *Types of results to be analysed* – The evaluation will look into the achievement of the outputs and outcome that are planned for, as indicated in the project's logical framework matrix, as well as the unplanned or unintended outcomes that may be discovered during the course of data collection. Unplanned effects may include changes in the perceptions, feelings, relationships, or capacities among people and their communities or institutions. These may also include physical changes in their communities. Unplanned effects could be positive or negative.
16. *Scope of analysis* – In addition to the results and operating standards that are explicit indicated in the project document, the analysis will also refer to relevant corporate policies and norms. These are: (i) the FAO Policy on Gender Equality (2013) and Environment and Social Standard 8 under the FAO Environment and Social Management Guidelines (2015) in order to assess project results regarding aspects of women's

²A mid-term review was planned in the project document but was not carried out.

- empowerment and gender equality; (ii) Environment and Social Standard 1 under the FAO Environment and Social Management Guidelines (2015) in order to assess project results in terms of environmental sustainability; and (iii) the FAO Corporate Strategy on Capacity Development (2010) in order to evaluate project results on the capacity development of the irrigators associations.
17. *Geographical scope* – Being a final evaluation, the task will cover all the provinces and sub-areas where the project outputs have been or will be delivered. This includes the areas where there are known or assumed effects due to the intervention, and also those areas where the project has medium or least accomplishments.
- ## **1.4 Evaluation objectives, approach and main questions**
18. The objectives of the final evaluation are to: (i) determine the results from the intervention and to ascertain overall project performance vis-à-vis these results; (ii) in view of the findings, recommend some operational and policy options that could be taken within the remaining period of project implementation; and (iii) identify key achievements and issues that could serve as lessons or guidance for future programming.
 19. In relation to the second objective, the Project Steering Committee has discussed an option of requesting for an extension of the project beyond the forthcoming NTE on 31 December 2018. The committee considered the unutilized portion of the project budget and the need for more time to deliver the target outputs. The evaluation will thus include this option in its analysis.
 20. The evaluation will be based on a theory-based approach that will explore the following issues: (i) *Need for the intervention* – How the project addressed a real need in Afghanistan and how it added value to the overall effort on irrigation development; (ii) *Achievement of Outcomes* – How intended outcomes were achieved (in accordance with FAO norms and standards), and also whether unexpected outcomes came out from the intervention; (iii) *Efficiency* – How technical, technological, financial, knowledge and other inputs were used to achieve the outputs and outcomes; and (iv) *Sustainability* – How the outputs will continue to be useful or will remain even after the end of the project and how the outcomes will be enduring.
 21. Based on these issues, the evaluation report should answer the following main questions:

Theory 1: The intervention responded to a need for irrigation development, crop diversification and enhanced productivity in Afghanistan (Need for the intervention). This was due to a thorough and participatory planning process with the national stakeholders, as well as a clear identification of the project's role vis-à-vis other related interventions in the country.

Main question: What actual (vis-à-vis assumed) needs were addressed by the project in Afghanistan? How did the intervention add value to the overall effort on irrigation development (including rehabilitation), crop diversification and enhanced productivity in the country?

Theory 2: The target immediate outcome has been achieved, and the intermediate outcome will be achieved through the intervention and other factors. These outcomes are in line with FAO norms and standards. Other unplanned outcomes may have also been achieved. (Achievement of Outcomes).

Main Question: To what extent have the intended outcomes been achieved and what was the contribution of the project to them? How likely is it for the outcomes to be achieved even without the intervention? How did the outcomes conform to FAO norms and standards (including youth engagement, gender equality and environmental/social standards)? Were there unexpected outcomes as well?
<i>Theory 3: The project made best use of available inputs to deliver its outputs and achieve the outcomes (Efficiency)</i>
Main Question: To what extent did the project make best use of available technical, technological, financial and knowledge inputs to deliver its outputs and achieve the outcomes?
<i>Theory 4: National capacities have developed to a point where the project outputs will continue to be used or will remain. The contributing factors for the achievement of the outcomes will also be in place so that the outcomes will be enduring (Sustainability)</i>
Main Question: To what extent have national capacities developed so that the project outputs will be sustained? How likely is it for the project outcomes to be sustained after the project NTE?

22. The evaluation will base its conclusions around these main questions. The recommendations to be forwarded by the evaluation will be based on the conclusions.

1.5 Methodology

23. The final evaluation will adhere to the United Nations Evaluation Group Norms and Standards (June 2016).³ It will adopt a consultative and transparent approach with stakeholders throughout the whole process. Triangulation of evidence and information gathered will underpin its validation and analyses, and should support conclusions and recommendations. At a minimum, the evaluation will make use of the following basic methods and tools: a desk review of project and related documents; interviews with key informants, stakeholders and participants, supported by checklists and/or interview protocols; direct observation of changes during field visits; and standard questionnaires for individual interviews and focus group discussions. Open-ended questions will guide the interviews and group discussions in collecting qualitative information.
24. The collection and analysis of data should be based on a question-based structure. On the basis of the main evaluation questions, exploratory sub-questions will be developed. Based on these sub-questions, interview/research questions should be formulated. The interview questions will eventually be used to prepare the interview protocols or questionnaires, while the research questions will serve as reference in reviewing project-related documents. In composing the draft evaluation report, the specific findings should be based on the collected data that answer the interview/research questions. A synthesis of these specific findings (i.e. overall findings) that address the sub-questions should then be formulated. Supported by the overall findings, the conclusions should answer the main questions.
25. The findings to be stated in the evaluation report should be supported by evidence. In this regard, “evidence” shall include: (i) official government statistics; (ii) survey data; (iii) data from official FAO reports (e.g. technical, field visit, activity, and progress reports); (iv) records

³ United Nations Evaluation Group, 2005,www.uneval.org/document/detail/1914

of meetings, focus group discussions, workshops and interviews; (v) observation reports by the research team and/or independent monitoring reports; (vi) remote sensing maps, photographs, water inventory reports, and similar technical tools; (vii) financial and audit reports; (viii) letters of agreement and similar contracts; (ix) pre and post-test results or training questionnaires; (x) attendance sheets; and (xi) copies of the actual project outputs (e.g. training manuals and curricula).

26. The evaluation will consider both secondary and primary information/data. Secondary information/data will be derived from existing project reports, government statistics, and other relevant documents. Primary information/data will be collected through the following methods:
- i. A survey will be conducted among a random sample of users of the rehabilitated irrigation system that has already been turned over by the project. The survey will primarily determine end-user satisfaction on the system in terms of its utility and quality.
 - ii. Focus group discussions with a random sample of the irrigators' associations will be held mainly to ascertain their readiness to eventually manage the irrigation systems. Separate focus group discussions with the women in the affected communities should be organized to determine the benefits of the irrigation systems and their role.
 - iii. Face-to-face or telephone interviews will be conducted with a random sample of the training participants will be conducted to capture the results from the training courses and to obtain feedback.
 - iv. Key informant interviews will be conducted with the focal points or technical officers from the relevant government ministries and FAO to determine the value-added by the project or its distinct quality.
 - v. Focus group discussions will be held with the project team to solicit their perceptions on the project's ToC, sustainability and lessons learned.
 - vi. Key informant interviews will be conducted with the Chief Technical Adviser and Project Steering Committee members (including the JICA) to obtain their views on project efficiency and sustainability, and the possible future steps.
 - vii. A briefing/key informant interview will be conducted with the FAO Representative in Afghanistan to explore the relevance of the project to the Country Programme Framework.
27. In analysing the capacities of the IAs, the evaluation will use the OED Capacity Development Framework (derived from the FAO Corporate Strategy on Capacity Development). This model will explore farmers' capacities at the individual, group (or organizational) and contextual level (or enabling environment). Analyses of the environmental and gender aspects will be carried out with reference to the parameters set in the FAO Policy on Gender Equality (2013) and the FAO Environment and Social Management Guidelines (2015).
28. To the best possible extent, the information to be collected from the evaluation process shall be disaggregated by sex in order to highlight significant data, if any, the different situations and experiences between men and women. Separate group discussions will be organized with the female beneficiaries to allow them to freely and distinctly articulate any information from their point of view.

1.6 Roles and responsibilities

29. OED, in particular the Evaluation Manager (EM) assigned for the final evaluation, is responsible for developing the draft Evaluation ToR with inputs from the Project Task Force (PTF). The ToR should include the latest data on the project, specifically its key accomplishments and delivery.
30. The Budget Holder (BH) and the Lead Technical Officer (LTO) are responsible for assisting the EM in drafting the ToR, in the identification of eligible research institutions that OED can partner with for the evaluation, and in the organization of the evaluation mission. The EM is responsible for the finalization of the ToR and the selection of the research institution. The EM shall brief the research institution/data collection team on the evaluation methodology and process, and review the inception and evaluation reports for quality assurance purposes.
31. The PTF, which includes the BH, LTO, and the Chief Technical Adviser, are responsible for initiating the evaluation process. They will provide inputs to the draft Evaluation ToR, particularly the section on the project background and results achieved, methodology and time frame for the evaluation. They are required to participate in meetings with OED and the research institution, as necessary, make available information and documentation, and comment on the Evaluation ToR and the evaluation report. The involvement of different members of the PTF will depend on their respective roles and participation in the project.
32. The BH is responsible for leading and coordinating the preparation of the FAO Management Response to the evaluation report, fully supported in this task by the LTO and other members of the PTF. OED guidelines on the Management Response and the Follow-up Report provide necessary details on this process. OED is also responsible for following up with the BH for the timely preparation of the Management Response to the evaluation report.
33. The research institution is responsible for further developing the evaluation methodology, which shall be described in an inception report, for the actual collection of data and information, and for drafting the evaluation report. The team leader assigned by the research institution will participate in briefing and debriefing meetings, discussions, and key field visits, and will be responsible for the inception report and the drafting of the evaluation report. The research institution will draft an evaluation report based on the template provided by OED.
34. The team leader assigned by the research institution shall guide and coordinate the team in their specific assignments, discuss their findings, conclusions and recommendations, and prepare the inception and evaluation reports, while consolidating the inputs from the team member with his/her own work.

1.7 Evaluation modality and profile of the research institution

35. The final evaluation shall be commissioned by OED to a reputable research institution based in Afghanistan. OED will manage the evaluation and will retain the right to make changes on the evaluation report, if necessary. The research institution will collect the data/information needed for the evaluation, prepare an inception report, and draft an evaluation report with guidance from OED. FAO may enter into a letter of agreement with

the research institution or recruit its personnel as national consultants or personal service agreement subscribers.

36. The research institution should have demonstrable expertise, experience or knowledge on:
 - i. evaluation or research related to irrigation or rural/agricultural development projects in Afghanistan;
 - ii. the design and use of various data collection methods with different types of stakeholders, including community surveys, focus group discussions with farmers and technical professionals, and interviews with community leaders and national government officials;
 - iii. policy and institutional arrangements on rural/agricultural development in Afghanistan, preferably including those related to irrigation systems;
 - iv. capacity development approaches and challenges in the context of Afghanistan;
 - v. sustainability issues related to donor-funded infrastructure projects in Afghanistan, preferably those specific to irrigation systems and laboratories;
 - vi. gender equality and social inclusion issues and approaches;
 - vii. the composition of evidence-based and concise evaluation/research reports in English.
37. In consideration of the need to mainstream women's empowerment and gender equality into the evaluation, the team to be formed by the research institution for this evaluation should include a woman and/or a gender equality expert.

1.8 Evaluation products (deliverables)

38. The research institution will prepare and submit to OED: (i) an inception report; (ii) a zero draft and final draft evaluation report; and (iii) the supporting evidence to the evaluation report.
 - i. Inception Report [Appendix C] – To be written in English, the inception report (15–25 pages excluding appendices and annexes) should describe the specific data collection methods and techniques that will be applied in the preparation of the evaluation, with reference to the overall methodology indicated on this ToR. It should also include the elaborated ToC underlying the project, the evaluation sub-questions and the interview/research questions, and the Evaluation Matrix [Appendix D].
 - ii. Draft Evaluation Report [Appendix E] – A clear, concise (30–40 pages excluding appendices and annexes), professionally written and high-quality draft evaluation report is expected. It should be written in English and composed in accordance with FAO's Style of Writing. For reference, samples of FAO evaluation reports can also be accessed at www.fao.org/evaluation/library.
 - iii. A zero draft report will first be prepared by the research institution and submitted to OED. This will be quality reviewed internally at OED, and comments on it will serve the research institution as a basis for preparing a final draft report. The final draft will be submitted by OED to the stakeholders, for factual corrections and comments.
 - iv. The evaluation report will be prepared in MS Word Format and submitted electronically by the research institution to OED. As the main author of the report, OED will have the final decision on how the report should be composed.

- v. Supporting evidence – Electronic copies of the survey data and report, minutes or notes on the interviews and discussions, and other sources of the primary data/information collected by the research institution and used in the report should be sent to OED.⁴ Sources of secondary data/information used in the report should be cited in the footnotes and included in the list of documents reviewed, which is appended to the evaluation report.
39. In addition to the hard deliverables mentioned above, the research institution (in collaboration with the evaluation manager) shall also facilitate a ToC workshop with key project informants to elaborate the project's ToC. The research institution will also participate in two presentations – a presentation of the data collection methods and schedule of activities at an initial stakeholders meeting, and a presentation of the preliminary findings in a debriefing meeting after the data collection phase. In these meetings, PowerPoint or similar presentation technologies should be used, and hand-outs should be prepared.

1.9 Evaluation time frame

40. The stages of inception, data collection and drafting of the report are expected to take place from the second week of July until early August 2018. The data collection phase is from July until early September. A zero draft evaluation report should be available by late September 2018; it will later be subjected to stakeholder review. The final draft of the evaluation report will then be prepared, which should serve as reference in preparing a Management Response.

Milestones	Workdays		Inclusive period
	Team leader	Team member	
Desk review, initial consultations and drafting of inception report	5	3	July 16–20
Preparation and conduct of theory of change workshop	3	2	July 23–27
Finalization and submission of inception report	5	3	July 30 – August 3
Preliminary briefing to project stakeholders	2	2	August 6–10
Conduct of survey, focus group discussions, meetings and interviews	15	20	Aug 13 – Sep 7
Debriefing to project stakeholders	2	2	Sep 10–14
Drafting and submission of evaluation report (zero draft)	10	5	Sep 17–28
Preparation and submission of evaluation report (final draft)	5	3	Oct 15–19
Circulation of the evaluation report to the project stakeholders for review and comments	-	-	Oct 29 – Nov 2
Finalization of the evaluation report	-	-	Nov 19–23
Preparation of a management response	-	-	Dec 3–7
Total workdays	47	40	

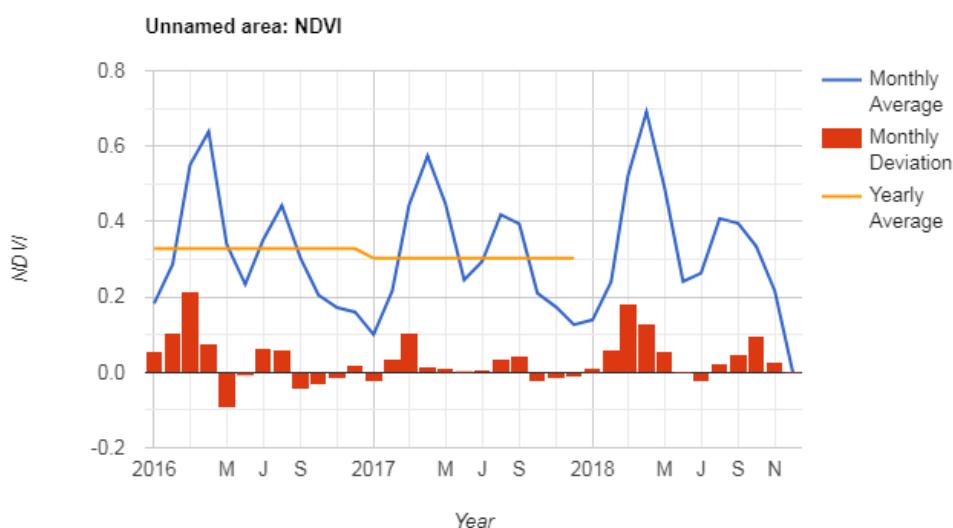
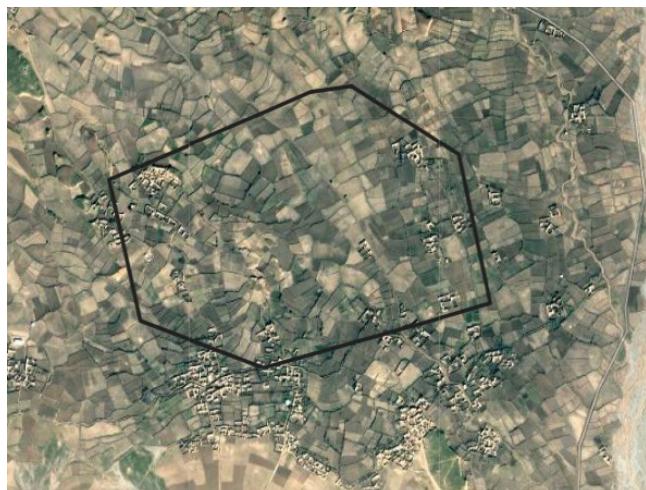
⁴ Sources of secondary data/information used in the evaluation report should be cited in the footnotes. A list of documents reviewed should also be appended to the evaluation report.

Annex 2. GIS monitoring

- FAO headquarters conducted GIS monitoring of the Normalized Difference Vegetation Index (NDVI), which is a measure of the vegetative cover on the land surface. Vegetation differs from other land surfaces because it tends to strongly absorb the red wavelengths of sunlight and reflects it in the near-infrared wavelengths. NDVI is a measure of the difference in reflectance between these wavelength ranges. NDVI takes values between -1 and 1, with values 0.5 indicating dense vegetation, and values below zero indicating no vegetation.

2.1 Shakhak Banu

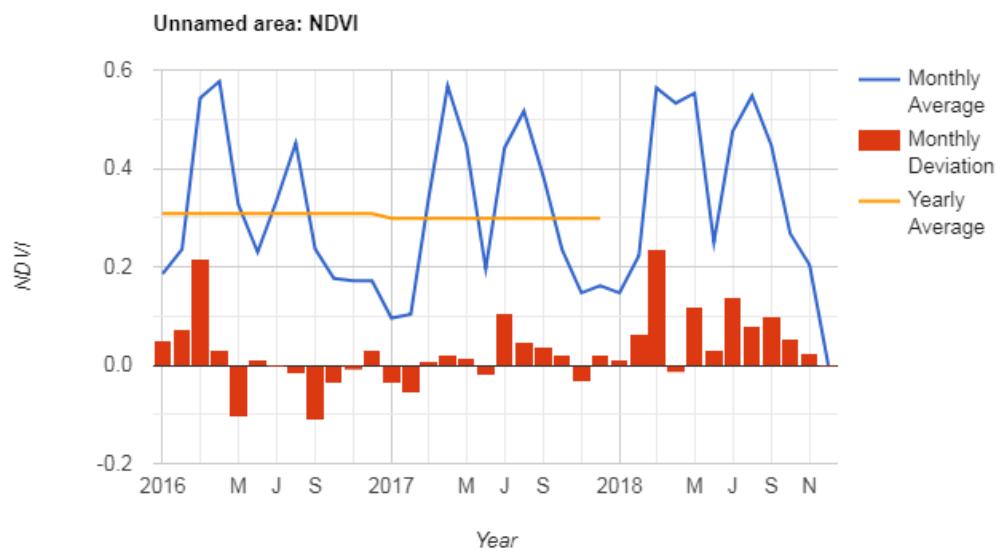
- Shakhak-e-Banu is a 3.50-km irrigation canal in Banu district, Baghlan Province, with a command area of 300 ha and 1 500 households. The project rehabilitated and constructed weirs, spillways, two wash culverts and four structures. Building works were completed in May 2018.



- The monthly deviation data for 2018 indicates an increase of NDVI values compared with 2017 NDVI values, but relatively similar to 2016 values.

2.2 Nahr-e Chaman

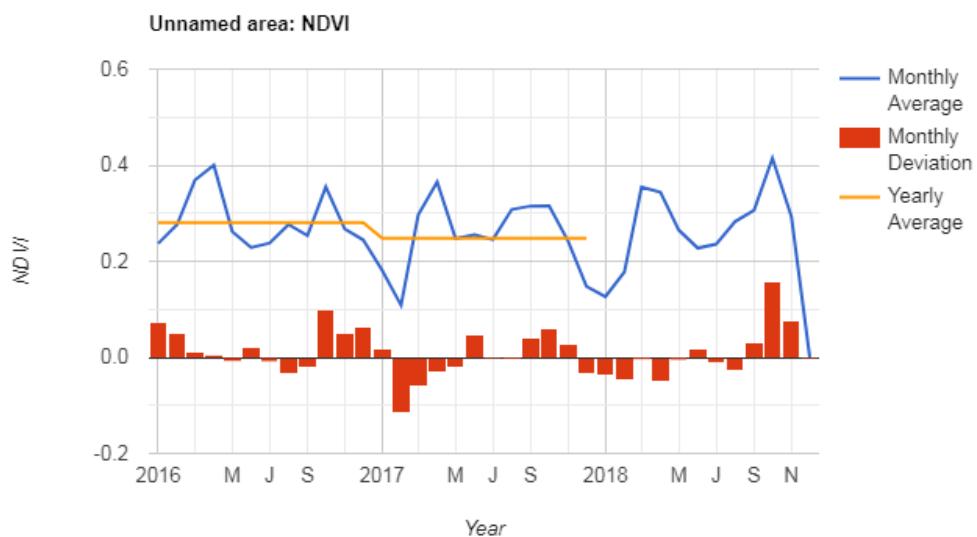
4. Nahr-e-Chaman is a 12.70-km canal in Taluqan district, Takhar Province, with a command area of 1,270 ha covering 2 500 households. The project rehabilitated and constructed dykes, canal lining, canal off-takes, and six structures within the canal. The rehabilitation contract was completed in July 2018.



5. The monthly deviation data for 2018 show a consistent increase of the NDVI values for almost all months of 2018. This is an indication that in 2018 there was an increase in crop productivity with two exceptional harvests.

2.3 Aliabad Ramazani

6. Aliabad Ramazani is a 30-km irrigation canal in Ali Abad district, Kunduz Province, with a 3 560 ha command area and 2 500 households within the area. The project rehabilitated and constructed intakes, spillways, canal linings and three structures. All construction was completed in June 2018.



7. The monthly deviation data for 2018 show a consistent increase of NDVI values only for the last months of 2018, which indicates that there was an increase in crop productivity for the last harvest.