

Document: EC 2013/79/W.P.4
Agenda: 5
Date: 27 September 2013
Distribution: Public
Original: English

E



Enabling poor rural people
to overcome poverty

Republic of Azerbaijan

North-East Development Project

Project performance assessment

Focal points:

Technical questions:

Fabrizio Felloni
Officer-in-Charge
Independent Office of Evaluation of IFAD
Tel.: +39 06 5459 2361
e-mail: f.felloni@ifad.org

Jicheng Zhang
Evaluation Research Analyst
Independent Office of Evaluation of IFAD
Tel.: +39 06 5459 2643
e-mail: j.zhang@ifad.org

Dispatch of documentation:

Deirdre McGrenra
Head, Governing Bodies Office
Tel.: +39 06 5459 2374
e-mail: gb_office@ifad.org

Evaluation Committee — Seventy-ninth Session
Rome, 4 October 2013

For: Review

Contents

Currency equivalents	ii
Abbreviations and acronyms	ii
Map of the project area	iii
Executive summary	1

Appendix

Republic of Azerbaijan North-East Development Project
Project Performance Assessment – Main Report

Currency equivalents

Currency unit = Azerbaijani manat
US\$1 = 0.785 manat
US\$1 = 0.754 euro
(1 January 2013)

Abbreviations and acronyms

IOE	Independent Office of Evaluation of IFAD
IsDB	Islamic Development Bank
M&E	monitoring and evaluation
MOA	Ministry of Agriculture
MTR	midterm review
NDP	North-East Development Project
PCR	project completion report
PMU	programme management unit
PPA	project performance assessment
SAAC	State Agency for Agricultural Credits (MOA)
SAIC	State Amelioration and Irrigation Committee
SME	small and medium-sized enterprise
UNOPS	United Nations Office for Project Services
WUA	water users' association

The Republic of Azerbaijan

North-East Development Project

Project performance assessment



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 16-01-2013

Executive summary

1. Azerbaijan is located on the shores of the Caspian Sea, in the eastern part of the South Caucasus region, and has a population of 9.1 million. The country gained independence in 1991 following the collapse of the Soviet Union. Prior to independence, its economy was based mainly on agriculture and agroprocessing. Post-independence turmoil led to increased poverty during the 1990s, but thanks to large off-shore investments in the oil sector since 1995 and growing world oil prices, Azerbaijan experienced a growth in oil revenue in the 2000s and, since then, average GDP growth has exceeded 20 per cent annually.
2. To date, the Fund has approved five loan-funded projects/programmes in Azerbaijan, corresponding to total IFAD loans of US\$67.5 million and project costs of US\$192.3 million. The North-East Development Project (NDP), the third project in the cohort, was implemented during the period 2006-2011. The expected total cost of the project was US\$25 million, including an IFAD loan of US\$12.56 million. At completion, the actual total cost amounted to US\$40 million, with the Government covering the additional costs.
3. The project was designed and implemented in a transitional context: from a farming system based on large-scale collective farms to one based on small, private farms with owners from varied occupational backgrounds, but few with farm management experience. This was a challenging scenario, further compounded by very run-down irrigation systems, weak extension services, poor agricultural management and low productivity. Given this implementation environment, the NDP's successful introduction of participatory irrigation management on some 31,000 hectares (ha) of irrigated land, to the benefit of some 15,000 households, was an impressive achievement.
4. **Project performance.** Adopting a participatory irrigation management approach, the NDP successfully established water users' associations (WUAs) and rehabilitated the 31,000 ha of farmland, largely in line with the 32,000 ha estimated at appraisal. Significantly increased water supplies and improved water-use efficiency provided a sound basis for introducing higher-value crops, increasing crop yields and expanding livestock activities. WUAs made an encouraging start in managing the rehabilitated irrigation systems and equitably distributing water to irrigators. Thanks to improved extension services and water supplies, there were encouraging increases in crop, forage and livestock productivity, with yield increases of 30 per cent for crops and 60 per cent for orchard fruits.
5. Leveraging the increased supply of irrigation water, the modest NDP investments in agricultural extension services, cattle genetic improvement and bee-keeping led to significant production benefits for small farmers and showed strong potential to meet the needs for improved food security and incomes for small farmers, who constitute the majority of Azerbaijan's rural population.
6. The NDP set up a credit line managed through participating financial institutions, including three commercial banks and one microfinance institution (MFI). The aim was to provide sustainable gender-sensitive financial services to smallholder farmers and other microentrepreneurs – both individuals and groups. Credit uptake took off rapidly: banks provided 139 medium-sized individual loans, with an average loan size of US\$30,000; the MFI provided 42 individual loans, with an average loan size of US\$9,100. These credit services resulted in increased investments in small-scale livestock, fruit and crops, and repayment rates were close to 100 per cent.
7. Results of marketing and small and medium-sized enterprise (SME) activities were disappointing, however, and there is little evidence of improved marketing, storage or processing facilities on the ground. Most produce is still sold individually through village trade, local markets or traders; marketing through organized producer or

cooperative groups is negligible – just 6 per cent in the case of crops and 1 per cent for livestock. Apart from disappointing performance under the marketing and SME component, most project objectives were achieved.

8. **Sustainability.** WUAs are not yet fully established or financially secure. They currently manage to cover their operating costs, but carry no reserves and do not have the resources to undertake major repairs to earth-moving equipment or to replace it, or to undertake an increasing maintenance load. Unless water charges are increased, the rehabilitated structures are likely to deteriorate again, with a consequent decline in the efficiency of water delivery. In such a scenario, WUA members will see little value added in continuing their membership, thus jeopardizing WUA survival.
9. The benefits generated from farm activities, including crops, orchards, livestock and bee-keeping, are expected to be sustained and expand as farmers become convinced by increased crop and livestock yields. However, sustainability of agricultural and livestock technical services in the project areas is uncertain, as there is no service provider in place to continue services after the project has closed.
10. The success of participating banks indicates the sustainability of established credit and other financial services to rural clients. However their continued eligibility to use the IFAD revolving fund will need to be resolved, especially if the lending volume to rural clients is to be maintained.
11. **Innovation and scaling up.** The NDP was not significantly innovative, as it mainly adapted already-tested approaches. However, deliveries of participatory irrigation management and rural financial services through partnerships with the private sector, NGOs and commercial banks – on a significant scale in the country context – are innovative features that were scaled up in subsequent projects.
12. **Gender equality and women's empowerment.** Although gender equality was already embedded in Azeri society, IFAD's insistence on mainstreaming women's equality in project activities contributed to strengthening their position in agrarian society. During implementation, women participated as WUA members and were employed in management teams and as members of elected boards. Some 15 per cent of beneficiary households were headed by women, and women participated actively in farm demonstrations and training in agricultural and food-processing technologies. They represented 30 per cent of the beneficiaries of technology transfer through field demonstrations and 40 per cent of recipients of microcredit through group lending.

Main recommendations

13. **Enhance sustainability to ensure upcoming benefits.** To improve the sustainability of WUAs supported by the NDP, better operational coordination between the State Amelioration and Irrigation Committee (SAIC) and IFAD projects would be mutually beneficial – and may help resolve the longstanding issue concerning SAIC's stance on transferring management responsibilities to WUAs. With projects such as the NDP, which are predominantly involved in irrigation reconstruction and will ultimately fall under SAIC management, there would be an advantage in placing an irrigation implementation team under SAIC management, as in the case of World Bank projects. To resolve key sustainability issues and mitigate risks that could jeopardize the project's economic viability, IFAD and the Government should consider an exit strategy, such as a modest post-project investment involving mainly technical and management assistance.
14. **Increase investment in marketing and processing.** The lessons of the NDP also highlight the need for marketing and processing services in integrated irrigation projects, as improved irrigation could lead to a large increase in farm production in project areas. However, as many farm products are of basic quality

and homogeneous, they compete in the same local market channels. The marketing of agricultural products should be significantly enhanced in future irrigation projects and new marketing channels explored.

15. The most outstanding challenge is to develop capable and influential producer organizations for marketing, storage, packaging, branding and product positioning, which are closely linked with private-sector investment. This complex issue calls for the involvement of commercially oriented specialists with relevant marketing experience in design and execution, possibly backed up by tax and subsidized investment incentives in order to pump-prime commercial investment in the subsector.
16. **Increase investment in agriculture and livestock.** In integrated irrigation projects, the proportion of investment in agricultural crop and livestock productivity should be emphasized to reflect their importance to IFAD target groups. Without sufficient economic benefits for small farmers, investment in irrigation would not be sufficiently justified. There are a few key areas in which IFAD interventions could update services to improve agricultural and livestock productivity, such as: adaptive agricultural research, sustainable extension services, bee-keeping and orchard development.

The Republic of Azerbaijan North-East Development Project Project Performance Assessment

Main Report

Contents

I. Objectives, methodology and process	2
II. The project	2
A. The project context	2
B. Project implementation performance	5
III. Review of findings	10
A. Project performance	10
B. Rural poverty impact	16
C. Other performance criteria	19
D. Performance of partners	22
IV. Assessment of the PCR quality	24
V. Conclusions and recommendations	25
A. Conclusions	25
B. Recommendations	26

Annexes

I. Rating comparison	28
II. Basic project data	29
III. Terms of reference	30
IV. Methodological note on project performance assessments	35
V. Definition of the evaluation criteria used by IOE	39
VI. List of key persons met	40
VII. Bibliography	42

I. Objectives, methodology and process

1. **Objectives.** To date, IFAD has approved five lending projects/programmes in the Republic of Azerbaijan, corresponding to total IFAD loans of US\$67.5 million and project costs of US\$192.3 million.¹ As the first evaluation undertaken in Azerbaijan by the Independent Office of Evaluation (IOE) of IFAD, the objectives of this project performance assessment (PPA) are to: (i) assess the results and impact of the North-East Development Project (NDP); and (ii) generate relevant findings and recommendations for the design and implementation of ongoing and future operations in the country.
2. **Methodology.** A PPA applies the evaluation methodology, including evaluation criteria, outlined in IFAD's Evaluation Manual. In view of time and resource constraints, a PPA is not as a general rule expected to undertake quantitative surveys and, as such, necessarily relies on data available from the project monitoring and evaluation (M&E) system and the project completion and supervision reports. In addition to a desk review, a PPA undertakes further data collection activities, including a country visit and interviews at IFAD headquarters, in order to provide a more comprehensive assessment of project performance.
3. **Process.** Before the PPA, a desk review - project completion report validation (PCRv) – prepared by IOE provides initial evaluative findings and highlights the key issues to be assessed. Based on the PCRv findings and other reviews, the lead evaluator identifies key issues and information gaps to be focused on during the country visit and, accordingly, prepares a list of key evaluation questions to be addressed by the PPA.
4. The PPA mission to Azerbaijan took place in October 2012. In Baku, the capital, meetings were held with the Ministry of Agriculture (MOA), other government partners, World Bank country office, commercial banks, NGOs and staff of the IFAD programme management unit (IPMU).² Field visits were made to the four project *rayons* (districts) involved, namely: Absheron, Devechi, Khizi and Siyazan.³ At the end of the mission, the preliminary PPA findings were presented at a wrap-up meeting organized by the Government.
5. Based on desk review findings and data collected in the country, the PPA report was subsequently drafted by, and peer reviewed within, IOE. Meanwhile, comments were received from an external evaluation specialist⁴ who focused on enhancing the rigour of the evaluation methodology applied.
6. The draft report was also shared with IFAD's Near East, North Africa and Europe Division and the Government of Azerbaijan, and their valuable comments were taken into account when finalizing the report.

II. The project

A. The project context

7. **Economy.** With a population of 9.1 million, Azerbaijan is located on the shores of the Caspian Sea in the eastern part of the South Caucasus region. The country gained independence in 1991 following the collapse of the Soviet Union. Prior to independence, its economy was mainly based on agriculture and agroprocessing. Following the somewhat abrupt arrival of independence, the political, social and economic turmoil affecting the country led to increased poverty during the 1990s. However, thanks to large off-shore investments in the oil sector since 1995 and

¹ Nominal currency value.

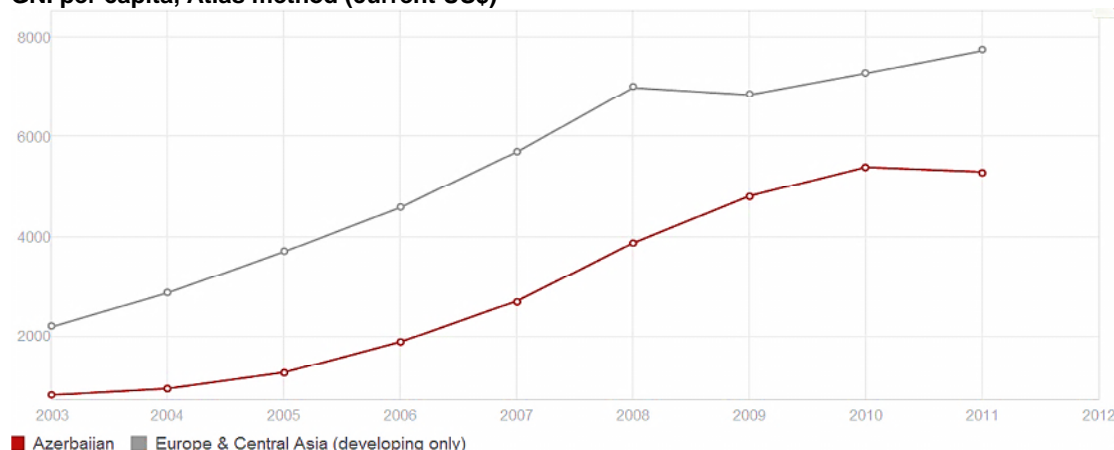
² The mission was led by Jicheng Zhang, lead evaluator for the PPA, with the support of Michael Macklin, senior consultant for agriculture, and Fabrizio Felloni, Senior Evaluation Officer, IOE.

³ A list of persons met during the country visit is given in Annex VI.

⁴ Ms. Kris Hallberg

growing world oil prices, Azerbaijan experienced a growth of oil revenue in the 2000s. Average GDP growth has since exceeded 20 per cent per year and GNI per capita⁵ rose dramatically from US\$1,270 in 2005 to US\$5,590 in 2012.

Figure 1.
GNI per capita, Atlas method (current US\$)



Source: World Development Indicators, World Bank

8. Much-needed improvements to Azerbaijan's infrastructure are being undertaken after years of underinvestment and neglect during the 1990s. Communities and businesses are still affected by the poor state of roads, as well as limited power supplies, drinking water, irrigation facilities and Internet connections. These problems are more common in the rural areas than in the towns and cities. With recent oil revenues, the Government is implementing an ambitious, wide-ranging infrastructure investment programme, including the construction of roads, upgrading the rail network, and developing information and communications technology.
9. **Social development.** Based on the Human Development Report (2011) of the United Nations Development Programme, Azerbaijan's human development index (HDI) value for 2011 stands at 0.731 – in the high human development category⁶—thereby ranking the country 91st out of 187 countries and territories. This is slightly below the average of 0.751 for countries in Europe and Central Asia.⁷ The average life expectancy at birth was 73.2 years in 2011, a mix index of 70.5 for men and 75.9 years for women. In recent years, increased urbanization has led to larger urban populations; in 2011, the share of populations living in urban areas rose to 53.1 per cent, a slight increase from 51.2 per cent in 2000.⁸
10. **Gender equality.** In Azerbaijan, women have equal rights in terms of reproductive health, empowerment and economic activity. Azerbaijan has a Gender Inequality Index value of 0.314, ranking it 50th out of 146 countries in 2011.⁹ This ranking is significantly higher than that shown in the HDI, which indicates better gender equality status than general human development. Sixteen per cent of parliamentary seats are held by women¹⁰ and 65.4 per cent of all adult women have reached secondary or higher levels of education compared with 61.9 per cent of their male counterparts. Women's participation in the labour market stands at 59.5 per cent compared with 66.8 per cent for men.¹¹

⁵ World Bank's Atlas method.

⁶ UNDP Human Development Report (HDR) methodology, four categories: very high, high, medium and low.

⁷ Based on HDR 2011 for Europe and Central Asia, the countries close to Azerbaijan in terms of HDI ranking and population size are Bulgaria and Belarus, which have HDI rankings of 55 and 65, respectively.

⁸ EIU, Country Forecast, July 2012.

⁹ UNDP, Gender Inequality Index 2011.

¹⁰ The average percentage of female in parliamentary seat for Europe and Central Asia is 13.4 per cent 2011.

¹¹ UNDP, Azerbaijan HDI values and rank changes in the 2011 Human Development Report

11. **Rural poverty.** In the 2000s, poverty was markedly reduced thanks to strong oil-related economic activities¹² and increased government social spending.¹³ According to official estimates, the national poverty prevalence fell from 50 per cent in 2001 to 7.6 per cent in 2011.¹⁴ A high level of poverty persists in rural areas, although living standards largely improved during the 2000s. A World Bank poverty survey shows that rural poverty has significantly decreased, from 42.5 per cent in 2001 to 18.5 per cent in 2008.¹⁵ While rural communities generally have access to sufficient food, productivity is low, food prices have risen dramatically and living conditions have been affected by the collapse of social infrastructure, including: irrigation, gas and electricity, and health and education services.
12. **Land reform** significantly contributed to reducing rural poverty in the 2000s. In the late-1990s, Azerbaijan experienced a sweeping land reform, whereby collective and state farm lands were distributed to rural households and there was an expansion of cropping, orchards, and livestock in household farms. Up until 2000, land titles had been distributed to 807,000 households, or 97 per cent of the entitled population. According to the findings of recent research, the land distribution was seen as egalitarian among all families, although it gave no regard to farming experience or management ability.¹⁶ The aforementioned World Bank survey of 2003 found the average size of family land holdings to stand at 2.3 ha.
13. **Agriculture.** Since independence (1991), Azerbaijan has been evolving from an agriculture-based to an oil-dominated economy. In the Soviet era, agriculture accounted for 30–40 per cent of GDP and food processing was the largest industry.¹⁷ With the rapid growth of the oil industry since 1995, agriculture's weight in the national economy has been declining, standing at about 5.7 per cent of GDP by 2012.¹⁸ However, agriculture still has a strategic importance for Azerbaijan's social and economic development inasmuch as it provides income and employment for about 40 per cent of the total workforce. Given the existing knowledge and export base and the country's climatic and geographic advantages, the agriculture sector has significant business, job creation and trading opportunities that remain to be developed. Cotton, fruit, vegetables, nuts and wine are the main agrifood exports. However, the vast majority of farmers may still be classified as semi-subsistence farm operators.
14. **Policies and programmes.** The Government has launched a number of state programmes to address agriculture sector challenges. Among others, the State Programme on Reliable Provision of Food Products (2008–2015) seeks to rehabilitate irrigation networks, develop food processing enterprises, improve livestock genetics, support private-sector activity in meat and milk processing, expand financing, and create a research centre for agriculture. The irrigation subsector development strategy was outlined in the State Programme on Amelioration and Irrigation and in a Presidential decree of 2006 on developing the water and irrigation sector.
15. **Project description.** The project was approved by the Executive Board in September 2004 and implemented in 2006–2011. The expected total cost of the project was US\$25 million, including an IFAD loan of US\$12.56 million, a loan from a potential cofinancier of US\$7.39 million, a government contribution of US\$2.23

¹² The share of oil in GDP reached 51 per cent and in fiscal revenues 66 per cent in 2009. EIU 2012 Country Report.

¹³ One example is public expenditure for health, which increased seven fold from 2002 to 2008. World Bank Country Assistance Strategy, 2011–2014

¹⁴ Higher minimum wage rates over the last decade are likely to have contributed to poverty reduction. Minimum wages were last increased by 10 per cent in January 2012 to the equivalent of US\$118 a month. Social transfers, including a well-targeted social assistance programme, have also contributed to reducing poverty.

¹⁵ World Bank Country Partnership Strategy 2011–14, p. 7.

¹⁶ Rural Transition in Azerbaijan, Z. Lerman, D. Sedik, p. 114.

¹⁷ *idem*, p. 49.

¹⁸ Estimated by the EIU country forecast (July) 2012, p. 37.

million, funding from commercial banks of US\$0.99 million, and a beneficiary contribution of US\$1.98 million. At completion, the actual total costs amounted to US\$40 million, with the Government covering the cost increase and unrealised cofinancing. IFAD's loan remained as approved.

16. The overall goal of the project was to improve the living conditions of households depending on irrigated agriculture, by supporting food security and income-generating opportunities. The project rationale was based on the urgency of renovating the country's irrigation facilities. As rainfall is marginal, Azerbaijan depends almost exclusively on irrigated land for national food security and rural employment. After independence, neglect and lack of maintenance had rendered the extensive Soviet irrigation and drainage systems inefficient, which led to a significant decline in agricultural productivity in the 1990s.
17. The target group comprised about 15,000 rural households in four *rayons* in the north-west region, namely, Absheron, Devechi, Khyzi and Siyazan, where there was a particularly high incidence of rural poverty. In 2002, an estimated 58 per cent of the local population was poor, and 25 per cent of them were extremely poor, although most targeted households received plots of land under the privatization scheme.¹⁹ By 2002, the irrigation infrastructure in these areas was so degraded that only about 44 per cent of land was under irrigation.
18. To reach its goal of improving livelihoods, the project set out to achieve three specific objectives: (i) support water users' associations (WUAs) in rehabilitating and managing irrigation and drainage systems; (ii) assist small farmers in sustainably increasing food production and incomes; and (iii) induce microfinance agencies to operate sustainable, gender-sensitive financial services to small-scale farmers and other micro-entrepreneurs.
19. Accordingly, the project was structured around the following components: (i) participatory irrigation management (67 per cent of planned base costs); (ii) agriculture, marketing and small and medium-size enterprise (SME) development (9 per cent); (iii) rural financial services (20 per cent); and (iv) project management and coordination (3 per cent).
20. **Implementation arrangements.** The project was implemented under the overall guidance of a project steering committee, which was responsible for coordinating among government agencies and for the approval of key decisions during project implementation. Daily operations were managed by a programme management unit (PMU) under the supervision of the State Agency for Agricultural Credits (SAAC) of the Ministry of Agriculture (MOA).
21. Irrigation rehabilitation was managed directly by the PMU; management of agricultural extension services was contracted out to a public research institute - Guba Regional Agriculture Research Centre (GRASC); marketing and SME development were entrusted to an experienced NGO - MADAD; and rural finance services were delivered through three selected commercial banks and one microfinance institution (MFI).

B. Project implementation performance

Participatory irrigation management

22. This core project intervention was to rehabilitate deteriorated on-farm irrigation and drainage systems to improve water supplies to some 32,000 ha of irrigable land, benefitting 15,000 households. A participatory irrigation management approach was adopted through the establishment of WUAs to operate irrigation systems on behalf of their members.

¹⁹ Azerbaijan undertook land reform after the collapse of the Soviet collective farms. According to the COSOP of 2010, about 1.3 million ha of rural land was distributed to 850,000 households.

23. Six WUAs were successfully established, and received financial training and management support from the PMU. All are legally registered under the amended Law on Amelioration and Irrigation of 2006, have adjusted their institutional structures by electing governing bodies and chairpersons, and accordingly established audit and arbitration committees. The PPA mission met with three of the six WUAs and, although there was clear variability in terms of their strength and competence, all were managed in a democratic, transparent and equitable manner. Women were found to be well represented both in management teams and on governing boards.
24. WUAs vary in land size from 3,200 ha in Khyzi to 11,100 ha in Absheron. Total membership is 11,500 with an average holding size of about 3 ha, but with wide variations between 0.8 ha in Khyzi and 17.1 ha in Absheron²⁰, which is indicative of the significant variation in poverty levels.
25. Rehabilitation construction was initially delayed owing to the long period of detailed design, tendering and evaluation processes and time-consuming administrative clearance procedures, on the part of both government and IFAD. Construction eventually started in 2008 and was completed according to construction contracts in 2010, 18 months prior to project closure. The quality of construction seen during field visits was good and the beneficial effect much appreciated by beneficiaries.²¹
26. Performance indicators of irrigation rehabilitation are very positive with a reported 90 per cent increases in water supply, and expansion of the irrigated crop area from 19,000 to 29,500 ha.²² Farmers reported improved distribution in terms of quantity and timing.
27. Although the renovation of on-farm canals has reduced water losses from 50 per cent to 29 per cent of conveyed water, the current practices of furrow and flood irrigation are wasteful and there is scope for further improving water-use efficiency. However, as water costs to farmers are subsidized,²³ there is little incentive for them to invest in water-efficient technologies such as drip, sprinkler and seepage systems that are especially appropriate for orchard and vegetable crops. Severe canal siltation was evident during the PPA field visit,²⁴ especially at gate and control structures, thereby illustrating both the importance and the high cost of regular maintenance faced by WUAs.
28. WUA financial viability remains a concern. While all the WUAs visited are still managing to cover costs, they carry no reserves in their accounts and do not have the resources to undertake major repairs to earth-moving equipment or replace it.²⁵
29. Despite assurances from the State Amelioration and Irrigation Committee (SAIC)²⁶, to the contrary, the PCR and some WUAs report that the legal transfer of on-farm management responsibility to WUAs under the 20-year on-farm system use agreements has still not been fully formalized. Furthermore some WUAs do not feel free to fix their own water charges to meet actual costs, even when agreed by their

²⁰ Absheron WUA located almost in the suburbs of Baku is atypical with a very large area and many large enterprises. Although their financial reserves are also low they have the capacity to raise funds by water trading. Selling water to large agricultural and industrial enterprises for AZN 5–10 per 1,000m³ is highly profitable when purchased from the Station Amelioration and Irrigation Committee (SAIC) at AZN 0.5.

²¹ Project completion survey indicated that 96 per cent of beneficiaries were satisfied with the PIM component.

²² Fully described in PCR.

²³ SAIC reported that the real cost of their water delivery is AZN 4-5 and the PCR estimates the real cost of on-farm delivery by WUAs to be AZN 4-5 – a total estimated real cost of AZN 8-10 per 1,000m³, 4-5 times current charges.

²⁴ According to SAIC, a silt load of 160gr/litre in irrigation water.

²⁵ SAIC, a public agency responsible for irrigation, currently supplies water to WUAs at a subsidized rate of AZN 0.5 (about US\$0.6) per 1000m³, which is usually sold on to members at AZN 2.0 per 1,000m³. In the case of Rahimli WUA, for example, water charge income in 2011 was AZN 14 000, SAIC payment AZN 7 000, and salary and operational costs AZN 7 000. Bank balance was zero. With an irrigable area of 6 500 ha and a persistent siltation problem, the financial situation is precarious.

²⁶ SAIC is the national authority responsible for the supply of irrigation water.

general assemblies. Only the largest and obviously most prosperous, Absheron WUA, was confident of its ability to manage itself independently of SAIC.²⁷

Agricultural production

30. Responsibility for agricultural extension was out-sourced to Guba Regional Agriculture Research Centre (GRASC), a well-staffed but under-resourced research and development station of MOA. GRASC's involvement started in 2007 and was completed in 2011. The extension was centred around fruit and vegetable production and, to a lesser extent, fodder crops. Extension of improved technologies was achieved through wide-spread on-farm demonstrations, farmer training, and publication and distribution of technical brochures. Some 400 demonstration sites were established and 2,600 training seminars conducted. About 6,000 farmers are reported to have attended demonstrations. Both the mid-term review (MTR) and the PCR reported good performance and high-quality demonstrations, which was also confirmed during the PPA field visit.
31. As improved water supply came fully on stream only in 2010, technology adoption rates were modest at completion. The PCR estimates a present adoption rate of 15 per cent increasing to 30 per cent by 2019. These assumptions were confirmed as realistic by GRASC. Given the significant increase in cropped area and reported productivity improvements, substantial increases in both cash and food crop production will have a significant impact on household food security and incomes.
32. Nonetheless, while water is available all year round, only single cropping is practised on farmlands. The current cropping intensity of less than 100 per cent is unusually low for irrigated agriculture and there should be possibilities to increase it by including short duration pulse or fodder crops in cropping patterns. Adaptive research into this could be beneficial.
33. Analysis of fertilizer use showed extremely low utilization for an irrigated situation:²⁸ less than 5 per cent of growers used chemical fertilizer on fruit and vegetables, and about 35 per cent on cereals. Use of mechanization for tillage and harvesting was similarly low, with 38 per cent usage for cereals, 2 per cent for pulses and zero for vegetables. Poor tillage, low fertilizer use and poor nutrient management are probably the main reasons for low crop yields. Enhanced adaptive research also holds great potential.
34. Since the completion of GRASC activities, however, operations have effectively ceased although some farmers still contact GRASC directly for advice. Policies on the future role of the public sector in extension in Azerbaijan are still under review and are therefore uncertain.²⁹

Livestock production

35. Livestock production is an integral part of farming systems in Azerbaijan. Activities respond well to project objectives as they are particularly relevant to the small and poorer households and are often managed by women. About 90 per cent of individual and group loans under the project were for small-scale cattle, sheep and poultry enterprises. The project completion survey shows a significant increase in livestock numbers in the project area, with a 77 per cent increase in cattle and 28 per cent in sheep between 2005 and 2010.
36. The livestock unit of the PMU promoted artificial insemination and veterinary services through four contracted artificial inseminators and four veterinarians in the districts. Under the artificial insemination services, which was innovative in project areas, 1 950 cows were inseminated resulting in a calving percentage of 48 per

²⁷ Partly because Absheron WUA could sell water to non-agricultural enterprises.

²⁸ Country economic background in the COSOP chemical nutrient use of just 1.74 kg/ha for Azerbaijan

²⁹ MOA intimated that it plans to establish department of agriculture centres in every district starting in 2013. Whether these will materialize and be of adequate quality is uncertain.

cent, which is very low by international standards.³⁰ The veterinary care was successful in providing over 25,000 treatments, according to the PCR. Veterinary and inseminator staff are continuing to operate independently with ready access to drugs and sperm and with their services in demand.

37. Fodder improvement managed by GRASC demonstrated the effects of improved seed, phosphate fertilization, and plant spacing at 11 sites. Technology adoption gave a 33 per cent increase in dry matter yields. The fodder cropped area also increased significantly with alfalfa and barley crops occupying up to 30 per cent of the irrigable area in the Rahimli WUA area where there is a strong demand for fodder.
38. The reported increases in milk productivity, from 1,600 to 2,000 litres per lactation for cross-bred cows and beef fattening productivity gains from 150 kg to 230 kg live weight, are significant. Simple animal husbandry improvements could however easily double these yields: thus there is scope for further growth.
39. A small bee-keeping demonstration established in Khizi for replication met with success. Demonstrations were given on disease control and the processing and packaging of honey, and training was provided on the management of modern beehives. The PCR reports that 400 hived bee colonies³¹ were distributed to 37 bee-keepers and that honey productivity per hive/year increased from a very low base of 5 kg to the current level of 8 kg. However, while improved, these yields are still low.³²

Marketing and SME development

40. The initial project appraisal envisaged a relatively strong marketing and enterprise component to promote: business support services through four business development centres at the district level; a variety of enterprises for production, processing and marketing involving women; food processing; equipment leasing; and contractual input supply. In the same vein, it was envisaged that 10 local producer marketing groups, 15 milk collection groups and six equipment leasing groups would be established. However, the marketing and SME development component was downsized during the course of project implementation.
41. A marketing team was established within the PMU, with one marketing assistant based in each project district. A marketing study commissioned by the project highlighted deficiencies in a few bottleneck areas for rural business growth: limited storage capacity; lack of market and price information; insufficient marketing and packaging facilities; and unavailability of processing outlets. To its credit, the marketing team established a market price information scheme covering eight bazaars with updated bi-weekly information. However, the MTR organized by IFAD in 2009 regarded this as unsustainable and of limited value in the absence of a public or private entity to take over at project completion.
42. Ten useful booklets on rural market links, fruit and vegetable processing, formation of marketing groups, and the transportation and grading of products were produced and distributed. Besides this, 30-40 informal marketing groups with about 10 members each were formed in the four districts; but none became registered associations and were mainly concerned with the aggregation of produce to facilitate transportation.³³

³⁰ Note by the PPA: To prevent genetic regression among improved livestock, it is necessary to introduce a system of selecting and culling local bulls to ensure that the best half-bred bull calves are kept for natural breeding on communal rangelands.

³¹ According to the MTR these were of high-potential pedigree stock.

³² By world standards, average yield of at least 25 kg per hive should be expected.

³³ The MTR reported that, at that time, only 3-5 of the groups had the potential to evolve into viable SMEs, but subsequent reporting did not note further progress.

43. The SME subcomponent was out-sourced to MADAD, an experienced NGO. A community information and business development centre (CIBDC) was established in Siyazan district as a hub to facilitate the development of small and medium agrobased enterprises.
44. It is reported by MADAD that more than 8,000 persons benefitted from CIBDC services, 800 farmers gained useful information to explore new marketing opportunities, and consultancy services reached 1,500 local entrepreneurs on all aspects of business management. The MTR recommended establishing a second CIBDC in Khizi district and downsizing the SME development programme. However, a second centre was not established and unfortunately the first had to be abandoned due to public road widening works.

Rural finance services

45. To address the challenge that the banks had very limited experience and motivation to service rural clients, NDP set up a credit line and contracted four national financial institutions - three commercial banks and one MFI - to deliver small and medium-size credits to rural SMEs and households.³⁴ This was intended to serve as a pilot to create operational models for banks and MFIs to extend services to rural clients. The three commercial banks mainly delivered medium-sized credits to individual entrepreneurs or SMEs, and the MFI engaged in delivering small working capital loans to households for undertaking income generating activities.
46. The vast majority of these loans, either small or medium credits, were used for livestock production. In the case of commercial banks, 88 per cent of the loan amount were invested in livestock production, with an average loan size of AZN 25,437 (about US\$30,000); of the loans delivered by the MFI, 95 per cent were used for livestock, with an average loan size of AZN 7,713 (about US\$9,100). Other investment areas were fruit, poultry, vegetables, wheat, and meat processing.
47. According to project data, by September 2011 the commercial banks had disbursed 139 medium-sized individual loans amounting to AZN 3.54 million (about US\$4.5 million),³⁵ of which AZN 0.36 million came from the banks' own resources. The MFI disbursed 42 small individual loans amounting to AZN 0.32 million, and 317 group loans amounting to AZN 0.701 million. Group lending has allowed smallholders, who were otherwise not able to meet bank conditions, to obtain loans with group guarantees. Group loans were particularly important for increasing the access of poor households and women to credit.
48. Repayment rates were close to 100 per cent. The repaid loans were deposited in a revolving fund account managed by the State Agency for Agricultural Credits (Ministry of Agriculture), and the funds could be re-used by participating banks for onlending for similar purposes. However, rural lending is still very modest in Azerbaijan. There has been a rapid growth in livestock and farm production in the country in recent years. To expand production and upgrade quality for new markets, rural entrepreneurs are in great need of capital. However, credit supplies for small agriculture and processing enterprises are still very limited.

³⁴ The three commercial banks are: Tekhnika Bank, Turan Bank, and Mugan Bank ; the MFI is Agrakredit.

³⁵ The exchange rate in January 2013, US\$1 = 0.785 AZN

III. Review of findings

A. Project performance

Relevance of objectives

49. The goal of NDP, to improve the food security and household incomes of small farmers, was highly relevant to rural people's demands and government strategies throughout the 2006-2011 implementation period. Rural people were facing severe transitional poverty due to the abrupt political and economic changes. Households, accustomed to working on collective farms, were not prepared for managing crops and livestock on newly-privatized small farms; extension services to serve small farmers were not in place; public services and infrastructures were not maintained in rural areas, and as a result, agriculture production and productivity plummeted. Considering the deterioration of agricultural infrastructure and the rural economy, and the Government's request for international development services, IFAD's assistance in increasing food production and incomes was apparently a relevant cause.
50. Project design was responsive to the main objectives of the State Programme for Poverty Reduction and Economic Development: rehabilitating irrigation and drainage systems; introducing participatory irrigation management; ensuring easier access to credit; promoting market channels and market links; providing support to processing, packaging and product grading; and developing new forms of market-oriented organizations in rural areas such as producer associations. Investment in irrigation was also coherent with government efforts to implement the national Water Code and the Law on Amelioration and Irrigation.
51. Low agricultural and livestock productivity warranted the enhanced extension support and veterinary services provided under the project. However, NDP's very modest investment in agricultural and livestock production (less than 9 per cent of total costs) was not commensurate with the critical importance of agriculture and livestock enterprises to smallholders' food security and incomes.
52. Based on the experience of two previous projects, and in line with IFAD's country strategy, NDP intended to enhance marketing and enterprise development through provision of credit, promotion of high-value crops and livestock, development of rural enterprises and support to producer associations. Rural credit and the introduction of high-value crops and livestock facilitated increased farm production, but the support to producer groups and marketing did not produce significant results.
53. The project completion survey confirmed that the design had largely responded to the needs and priorities of beneficiary households: 97 per cent of respondents rated the participatory irrigation interventions as satisfactory, and 77 per cent considered agricultural and business services to be satisfactory.

Relevance of project design

54. The design adopted an integrated strategy with a synergistic component mix across the production chain: from irrigation rehabilitation and improved water management to enhanced extension and veterinary services, and improved marketing and processing. The project also employed rural credit services to finance farm enterprises.
55. While this is a rational approach, the project design was too optimistic about the duration of project implementation. The project was designed to be completed within five years, but by the time irrigation works were completed and water supplies had improved (realistically after a minimum of 2-3 years), only two years were left to entrench effective extension, production and marketing, and hardly any of the anticipated production benefits had accrued before closure. Although the project met many of its objectives, continued growth over the next ten years, particularly for high-value perishable horticultural crops, will be essential to achieve

the anticipated incremental production benefits that economically justify the large investments in irrigation.

56. At completion, 68 per cent of project costs had gone to irrigation, 7 per cent to agriculture, marketing and enterprise development, and 12 per cent to financial services. Irrigation was clearly the dominant activity but given the importance of agricultural production and marketing to smallholder farmers, it is questionable whether the design accorded adequate resources and attention to the non-irrigation activities. The provision of improved markets, storage and processing to cope with an increased volume of perishable crops remains important for target groups. Although appraisal design had included a significant marketing and SME development component, its scope was downsized during the course of implementation and its impact was limited in the field.
57. Besides, the logical framework of the design (attached to the President's Report) is weak in terms of defining relevant performance indicators for project objectives. At goal-level, the only two indicators - "increase in per capita and household incomes" and "reduced incidence of stunting of children, underweight children and acute malnutrition" - are not sufficient in indicating sustainable food security and income increases among rural households. Most other key performance indicators focused on activities and outputs, which left an obvious gap in interpreting project achievements in terms of improving food security and household income.
58. Synergy with other agricultural and irrigation programmes in the country appears to be largely lacking. While government ministries expressed satisfaction with, and valued, IFAD's contribution, there were few signs of operational links between different programmes. Without the close involvement of and a sense of post-project ownership on the part of MOA and SAIC, project exit strategies will be difficult to implement.³⁶
59. In terms of project management arrangement, the Government and IFAD converted the Project Management Unit of the second IFAD project (Rural Development Programme for Mountainous and Highland Areas) into an IFAD Program Management Unit (PMU) and charged it with implementing NDP and all subsequent IFAD-funded projects, which proved an advisable decision in terms of achieving capacity building, effective implementation, and management efficiency in a relatively small country.
Rating: moderately satisfactory

Effectiveness

Effectiveness in achieving the overall goal: improved livelihoods for households through increased food security and enhanced income-generating opportunities.

60. Data and field observation indicate that NDP contributed to improving the livelihoods of smallholder farmers. With the manifested benefits of reliable supplies of irrigation water, upgraded farming and livestock-raising techniques, and better access to credits, the target households - about 15,000 smallholder households with agricultural lands of less than 3 ha - have increased crop and livestock production and productivity. Many of them have been able to invest in higher value livestock including genetically improved dairy cows, fruit orchards, vegetable farms, poultry pens, and in a few cases, food processing.
61. Based on data provided by the project M&E, the project households, about half of which were affected by severe poverty in the early 2000s became self-sufficient in cereals, milk and a wide range of vegetables and fruit, thereby diversifying their diets and preventing malnutrition. They were also able to earn more by selling farm

³⁶ The differences in WUA support models between IFAD projects and the larger World Bank operations and partnering with different government agencies reflect some issues of coordination and coherence.

and livestock produce. Food self-sufficiency, improved nutrition, and increased household incomes in project areas were also verified by the PPA field visit. Nonetheless, this improvement should be interpreted within the national economic development context of the 2000s, which was characterized by rapid oil-driven growth and the start-up of non-oil industries.

Specific objective 1: support WUAs in rehabilitating and managing irrigation and drainage systems

62. The objective of supporting WUAs and rehabilitating irrigation was met. The rehabilitation work resumed irrigation on 30,893 ha of farmland, largely in line with the 32,000 ha estimated at appraisal. The volume of irrigation water per hectare increased significantly, from 1,514m³ in 2007 to 2,960m³ in 2010, which met crop requirements more effectively. Rehabilitation work also contributed to water-use efficiency at the community and farm levels by reducing water losses in channels and extending land coverage. The reliable and sufficient irrigation water supply provided a good basis for introducing high-yield crops, expanding livestock activities, and taking up new farming and husbandry techniques.
63. In terms of irrigation management, with project support, SAIC delegated some of the key responsibilities to WUAs, which enabled WUAs to manage the irrigation systems and self-sustain the operations and maintenance– although there are still challenges regarding WUAs’ capacity in financial management. The six WUAs are all legally registered and have adjusted their institutional structures with elected governing bodies and chairpersons, and have established audit and arbitration committees. The three WUAs visited by the PPA mission are all functioning and well experienced in delivering water on time and collecting fees, and the chairpersons were aware of the potential challenges to financing future major maintenance and in upgrading services to members in future.

Specific objective 2: assist small farmers in sustainably increasing food production and incomes from irrigated crop production and associated livestock enterprises through better technology, appropriate farm investments, and enhanced marketing and processing opportunities

64. This objective has been achieved through irrigation and extension services, and with a very limited contribution from marketing and SME development activities. GRASC introduced demonstrations on high-value fruit, vegetables and fodder crops, genetically-improved dairy cows, and bee-keeping to selected farms whose land could show demonstration effects of increased production and productivity. The field visit found that most of the demonstration sites were successful in adopting new varieties and techniques, and therefore in increasing yields in irrigable lands. Also, the private services contracted by the PMU to provide artificial insemination and animal disease control were successful in increasing cattle and poultry production. These activities were particularly suitable to the needs, capacity and business interests of smallholder farmers and women.
65. Based on a comparison of adopting and non-adopting farms, the project showed evident effects in increasing farm productivity (see table 1). For crop production, yields reportedly increased by an average of 38 per cent and 33 per cent respectively for wheat and alfalfa, 42 per cent for vegetables, and 60 per cent for apples. For livestock, productivity increased by 38 per cent with regard to milk production per dairy cow, 53 per cent for beef fattening and 80 per cent for sheep fattening. As a result of production increases, household farm incomes increased from AZN 5,899 in 2005 to AZN 7,018 in 2010, or by 19 per cent.³⁷

³⁷ Based on the project completion survey, the number of valid respondents were 1,095 among 1,500; in 2005, the total income of all respondents was AZN 6,459,442, i.e. an of average AZN 5,899, and in 2010 it was AZN 7,684,710 or an average of AZN 7,018 per household.

66. However, as project design allocated limited resources to marketing and SME development, and the MTR recommended the downsizing of marketing activities, the results of marketing and SME activities are disappointing, and there is little evidence of improved marketing, storage or processing facilities on the ground. The project completion survey on crop and livestock marketing confirmed that little change had occurred and that most produce is still sold individually through village trade, local markets or traders. Marketing through organized producer or cooperative groups is negligible, just 6 per cent in the case of crops and 1 per cent for livestock.
67. A caveat here is that the explanation for income increase should take account of other economic factors such as oil revenue inflows and increased public expenditures in rural areas, which have also had a direct influence on rural household income changes.

Specific objective 3: induce microfinance agencies to operate sustainable, gender-sensitive financial services to smallholder farmers and other micro-entrepreneurs

68. NDP set up a credit line managed by the SAAC of MOA and contracted participating financial institutions, including three commercial banks and one MFI, to provide credit to target individuals and groups. Credit services made slow initial progress but adjusted to the needs of rural entrepreneurs as recommended by the MTR; as a consequence, credit provision increased dramatically. The four partner institutions effectively extended loans to rural entrepreneurs and small production groups, as agreed with the PMU. The banks provided 139 medium-sized individual loans, with an average loan size of US\$30,000; the MFI provided 42 individual loans, with an average loan size of US\$9,100.
69. The credit services resulted in increased investments in small scale livestock, fruit and crops. The repayment rates had been close to 100 per cent. The loans repaid to banks were then diverted to the revolving fund account managed by SAAC, and the funds could be re-used by participating banks for onlending for similar purposes. An assessment of gender-sensitive approaches is given in the section on gender equality and women's empowerment.
70. It is also worth noting that the MFI delivered 1 265 micro credits to producer groups, with an average loan size of US\$650, mainly for cottage livestock-raising. The micro credits to smallholder groups, although small both in size and in total volume, were particularly helpful in addressing the credit needs of smallholders who would otherwise not have fulfilled bank requirements for credit.

Table 1
Investment areas of loans as of May 2011

Types of loans	Turan Bank		Tekhnika Bank		Mugan Bank		Agrarkredit Micro finance		Total	
	No.	AZN	No.	AZN	No.	AZN	No.	AZN	No.	AZN
Individual loans										
Livestock	30	592,000	86	2,452,085	2	57,000	32	249,865	150	3,350,950
Fruit	2	29,000	9	197,234	0	0	0	0	11	226,234
Vegetables	1	21,000	0	0	0	0	0	0	1	21,000
Poultry	7	92,000	0	0	0	0	2	16,000	9	108,000
Wheat production	1	80,000	0	0	0	0	0	0	1	80,000
Meat processing	1	15,000							1	15,000
Subtotal	42	829,400	95	2,649,319	2	57,000	34	265,865	173	3,801,184
Group loans										
Livestock							961	530,110	961	527,300
Fruit							84	51,604	84	51,604
Vegetables							90	53,412	90	53,412
Carpet weaving							4	2,800	4	2,800
Subtotal							1,139	635,126	1,139	635,126
Total	42	829,400	95	2,649,319	2	57,000	1,173	900,991	1,312	4,436,310

Source: PCR

71. The opening of branches and agencies by the partner banks also made other types of financial services available to rural inhabitants and increased outreach to areas long deprived of these services. However, since project completion, the credit line is no longer available to NDP partner banks and consequently they have turned down new credit applications. Overall, rural lending is still very modest in the country, despite the growing demand.
72. To summarize, NDP achieved or made significant progress towards achieving its main objectives of supporting WUAs in managing on-farm irrigation, increasing agricultural and livestock productivity, and introducing micro credit services to smallholder farmers. However, the project made no progress in marketing and processing, both of which are critical for realising the expected incomes from accrued yields in the next 10 years and therefore are critical to justify the project investments in infrastructure.
Rating: Moderately satisfactory

Efficiency

Project management efficiency

73. NDP was approved in September 2004 and implemented from 2006 to 2011. The assessment of project efficiency in terms of timely implementation showed a 94 per cent disbursement rate over the first four years, and implementation was completed by December 2011, slightly ahead of schedule. The final management costs represented about 5.5 per cent of the total costs, higher than the 3 per cent anticipated but still a very modest ratio for a project in this nature.
74. There was a significant cost increase from the planned US\$25.1 million to the actual US\$39.7 million, which was mainly attributable to the changed cost of

irrigation rehabilitation. There were also other increased costs, such as rise in government staff salaries, high inflation rates, and the appreciation of the local currency against US dollar. As described in the PCR, the actual cost of irrigation rehabilitation increased by over 60 per cent, from US\$16.9 million at appraisal in 2004 to US\$27.1 million at completion in 2011. The PPA mission confirmed the MTR explanation that this was largely due to considerable increases in commodity prices and in the increased scope of works emanating from detailed design of irrigation.

75. The efficient project service delivery performance was largely attributable to PMU's management capacity and coordination efficiency in engaging qualified civil work contractors and service providers to carry out certain activities. The practice of outsourcing technical service provision to existing national institutions (such as GRACS and MADAD) with a comparative advantage in the activity is a financially efficient approach as well as an efficient use of scarce national expertise.³⁸
76. The decision to convert the PMU of a previous project into a consolidated IFAD PMU (attached to SAAC) to manage all IFAD-funded projects in Azerbaijan has proved to be an effective and efficient management arrangement, not only because the project benefited from smooth implementation progress and minimized costs but also because it resulted in enhancing national management capacity, accumulating knowledge, strengthening partnerships and conducting policy dialogue (e.g. the PMU is very active in securing government attention and investments in rural development).

Efficiency of activities and results

77. The PCR calculation of economic returns gave an economic rate of return of 23.1 per cent compared to the 14.9 per cent estimated at appraisal, despite increased project costs. The assumptions used in the PCR calculations are credible overall, although reliant on projected incremental yields after project completion – over 90 per cent of the projected benefit stream emanates from increased planting of high-value orchard crops (4,100 ha) and vegetables (3,000 ha) over the next decade (2013–2022). However, project achievement will be highly dependent on the sustained availability of water supply, extension services, credit, and market outlets for perishable crops.
78. Despite the long design and tendering process for irrigation works, once the contracts had been approved, construction works were executed and supervised within the contractual time frame, mainly from 2008 to 2010. The good quality of the work was commended by both the Government and IFAD, and observed by the PPA mission. In line with the detailed design, earth canal construction increased by 24 per cent, concrete canals by 17 per cent, and piped canals by 40 per cent. Final reconstruction unit costs are in line with current practice although much higher than appraisal estimates. There were justified reasons for this³⁹ and overall reconstruction was managed efficiently and at reasonable cost. The actual average cost of US\$747 per ha is considered to be in line with other experience in Azerbaijan. SAIC and World Bank have estimated the rehabilitation costs as US\$800 per ha. Besides, there have also been significant improvements in water and land-use efficiency.⁴⁰
79. The limited progress in marketing and little sign of the emergence of strong producer associations implies that investments in these areas have not been efficiently deployed. However, such investments were minimal in NDP.

³⁸ For example, GRASC is a well-staffed and competent but under-resourced national institution

³⁹ Cost increase of irrigation was justified in consideration of the increased overall irrigation length and increased portion of concrete construction.

⁴⁰ The reduced water loss in irrigation channels showed better water efficiency, and the irrigation increased land productivity.

Rating: satisfactory

B. Rural poverty impact

Household income and net assets

80. The M&E system reported a significant increase in households income and productive assets. The impact data rely on the results of the project completion survey and the data provided in PCR and supervision reports. Since the full production effect of NDP is anticipated to be realized in coming years, the M&E systems presents mainly the initial impact of NDP. Based on the project survey at completion, the average household income increased by 19 per cent, from AZN5,899 in 2005 to AZN 7,018 in 2010.⁴¹ It is worth noting that household income should further improve in subsequent years with anticipated yield increases from new orchards and other high-value crops. However, this increase should be interpreted within the country context where there has been a rapid oil-related economic growth and also a few inflations.
81. The PPA field observation identified evidence that household incomes and assets have benefited from improved water supplies and expanded farming businesses. Households adopting improved farming technologies and/or accessing credit have clearly obtained better yields and incomes as well as greater food security. There are no specific data on income increases among the poor and less poor households.
82. Orchards and cattle proved to be the favoured enterprises of rural households for improving their living standards, and the survey indicates that the majority of rural households are still dependent on agriculture: 62 per cent of households are wholly dependent on farming and livestock, and 32 per cent on both on- and off-farm activities. It should also be noted that the reported increase in livestock assets, 77 per cent for cattle and 28 per cent for sheep, is only partially attributable to the project, but is a major change reflecting farmer investment priorities. On the other hand, household investment in farm equipment is negligible, despite the demand for cultivation and harvesting services.
83. Analysis of household welfare data also shows an improvement in household assets, especially separate kitchens, piped water supply, mobile phones, and car and motor cycle ownership – again indicative of higher incomes and improved wellbeing. Similarly, the improved household assets may well have been generated from sources other than project interventions.

Rating: satisfactory

Human and social capital and empowerment

84. Through the establishment and capacity-building of WUAs, NDP set up an operational model for managing community assets in a market economy context. With NDP support, six WUAs were established and legally registered, and are capable with regard to daily operations, delivering water on time, and collecting water fees. WUA members have been actively involved both in implementing irrigation construction and in decision-making at committee meetings. In addition, project support to credit groups has contributed to empowering smallholder farmers and women to undertake new economic activities.
85. Another significant social capital created by NDP is access to finance. According to the PCR, 12 per cent of the total beneficiaries received credits, either through commercial banks or through the MFI. The credits to SMEs through banks have built up a formal record for these rural enterprises; therefore they could be eligible for regular lending from banks pending repayment performance. Lending to rural

⁴¹ Based on the project completion survey, the number of valid respondents were 1,095 among 1,500; in 2005, the total income of all respondents was AZN 6,459,442, i.e. an average of AZN 5,899, and in 2010 it was AZN 7,684,710, i.e. an average of AZN 7,018 per household.

groups through the MFI allowed smallholders, previously unable to meet bank conditions, to receive loans under group guarantees.

86. In terms of human capital, the project provided access to potable water for a few communities; 83 per cent of the target group gained access to technology, knowledge and skills through demonstrations on agriculture, livestock and food processing, and to training in SME development.

Rating: satisfactory

Food security and agricultural productivity

87. Food security improved during project implementation. The significant expansion of irrigable cropped lands, over 10,000 ha, provided immediate production benefits from annual crops and rehabilitated orchards. The project also contributed to substantially increasing cattle and sheep numbers. Livestock activities resulted in increased milk and meat production, much of which was consumed within the households or local communities, thereby increasing protein availability and diet quality.
88. NDP contributed to increasing crop and livestock productivity and established a strong foundation for future growth.⁴² More reliable, equitable and timely water supplies stimulated the adoption of high-value orchard and vegetable crops, which provided better yields and higher returns per unit.⁴³ When combined with improved farming technology and access to credit, households achieved even higher productivity from crops, fruits and livestock.
89. An analysis of productivity reported by the project shows impressive incremental yields for all crops, which are credible because of the very low baseline yields of non-adopting farmers. Adoption of demonstrated packages including improved varieties, fertilization, pest and disease control, etc. gave productivity increases ranging between 33 and 66 per cent. But on-farm yields are still well below demonstration levels and those of other countries with similar production conditions,⁴⁴ indicating high potential for further productivity gains. As irrigation construction was completed in 2010, technology adoption was realistically estimated at 15 per cent in 2011 and is expected to increase to 30 per cent by 2019. Therefore, further productivity gains can be expected in the coming years.

Rating: satisfactory

⁴² The project completion survey reported that 73 per cent of sample farmers experienced agricultural growth of 10 per cent or more.

⁴³ Diversification to higher-value crops has made good progress with an estimated increase in vegetable plantings of 3,000 ha; some 700 ha of new orchards are still to come into full production.

⁴⁴ For example, mean wheat yields in Uzbekistan amount to 4.6 mt/ha and in European countries to 4-7 mt/ha.

Table 2
Estimated incremental productivity of crops and livestock

<i>Crop types</i>	<i>Yield in non-adoption lands</i>	<i>Yield in adoption lands</i>	<i>Comparative increase, in percentage</i>	<i>Potential yield, obtained in demonstration</i>
Wheat mt/ha	1.6	2.2	38 per cent	3.5
Tomato mt/ha	15.0	25.0	66 per cent	45.0
Alfalfa dry matter mt/ha	6.0	8.0	33 per cent	11.0
Apple rehabilitation mt/ha	7.5	12.0	60 per cent	15.0
New apple orchards mt/ha		15.0		20.0
Milk per lactation litres/cow	1,600	2,200	38 per cent	3,000
Beef fattening kg/head	150	230	53 per cent	300

Source: PCR

Natural resources and the environment (including climate change issues)

90. The project has had no apparent deleterious environmental effects. The use of chemical fertilizer and agro-chemicals is very limited, and given the flat landscape there are no significant erosion hazards due to increased farming activities. Indeed given increased crop cover, especially permanent crops, water run-off and erosion risks are reduced. The renovated drainage systems, over 63 km, are well maintained, and thus have reduced and mitigated problems of soil salinity. The increased cattle and sheep populations, partially due to project interventions, may exacerbate existing overgrazing conditions on adjacent range-lands, but it has not been possible to assess or attribute the risks only to the project. There are no climate change implications.

Rating: moderately satisfactory

Institutions and policies

91. NDP successfully institutionalized a consolidated PMU, and charged it with managing all IFAD-financed interventions in the country, which is a remarkable institutional building achievement in terms of enhancing the national capacity to deliver public rural development services. Under the guidance of SAAC and MOA, the PMU has made great progress in enhancing programme management capacity, mobilizing public funding for agricultural development, and forging partnership with the Government and other development partners.
92. Another achievement in this regard is the implementation of the revised Water User Association Law, which enabled SAIC to delegate responsibility for on-farm irrigation management to WUAs, and allowed them to generate revenues through the collection of water charges. This legal provision provided a regulatory framework for WUAs to grow and develop institutional capacities, and for sustainable operations and maintenance. NDP made a significant contribution in moving forward the implementation of this law but it is to be noted that full enforcement of it will need both consistent political will and an appropriate mechanism for implementation.
93. Besides, the three commercial banks and one microcredit institution improved their experience and capacity in serving rural small clients, and in partnership with other ongoing IFAD projects, banks could continue to use the revolving fund (replenished by loan repayments) for onlending. In addition, the Guba Regional Agro-Scientific Centre expanded its outreach through NDP-financed demonstrations to farmers in the project areas.

Rating: satisfactory

C. Other performance criteria

Sustainability

94. **Sustainability of irrigation systems.** The six WUAs are experienced in operating and maintaining the irrigation systems, and the majority of them achieved good water charge payment rates. Since the revision of the Water User Association Law, the legal framework is generally supportive and the Government is also promoting full transfer of maintenance responsibility to users. However, despite SAIC assurances, the PCR and some WUAs report that the legal transfer of on-farm irrigation responsibility to WUAs under the 20-year agreement has still not been formalized, which may impede further development of the six WUAs.
95. WUA financial viability is also of concern. While all of the WUAs visited currently manage to cover their operating costs, they carry no reserves in their accounts and do not have the resources to undertake major repairs on earth-moving equipment or replace it. The prevailing water charge of ANZ 2 per 1,000m³ at WUAs covers only SAIC charges and basic operations. Given the severe siltation problems in the canal systems, the maintenance costs will increase. And unless the charges are increased, distribution and water delivery efficiency is likely to decline. Should WUA performance deteriorate, members will see less value-added in WUA membership and make it more difficult to collect water charges.
96. **Sustainability of agriculture.** The benefits generated from farm activities including crops, orchards, livestock, and bee-keeping are expected to be sustained and expand as farmers are convinced by increased yields of crops and livestock, and as anticipated production from new orchards and livestock materializes. This was also verified by the PPA field visit to several farms.
97. The sustainability of agricultural and livestock technical services is less certain. Now that NDP has been completed, it will not cover the operational costs of service providers and it is unlikely that any private-sector providers will emerge. Since project completion, the extension operations provided by GRASC have effectively ceased although individual farmers still contact GRASC for advice. Policies on public-financed extension services are under review by the Government, and MOA intimated that it plans to establish department of agriculture centres in every district starting in 2013, but it is not certain whether these will materialize and be of adequate quality. Thus, there is a serious sustainability issue in the continuation of extension support to facilitate the expected productivity gains over the coming decade.
98. **Sustainability of marketing and SME development.** The impact of the knowledge transfer programmes of both MADAD and the marketing groups can be regarded as secure once training messages have been internalized by beneficiaries. Similarly, established household farm and livestock enterprises will be sustained by owners as long as the market channels are maintained or improved. Little has been achieved in terms of developing producer associations and improving the marketing and processing infrastructure, so there is not much to be sustained.
99. **Sustainability of financial services.** The participating commercial banks opened branches in the project areas as a result of their partnership with the project, and these branches were effective in delivering loans to rural clients and collecting repayments. This business success of banks indicates sustainability of credit and other financial services to rural clients. However, as reported by the banks, eligibility to use the IFAD revolving fund in future will need to be reviewed and decided on by SAAC; therefore it is uncertain whether the NDP partner banks will still be able to leverage IFAD's revolving fund for future rural lending. If not, they will reduce the lending volume to rural clients.
100. **Consolidation strategy.** The consolidation strategy envisaged at appraisal was founded on the successful establishment of functioning and financially sustainable

WUAs able to operate independently and maintain on-farm systems for the benefit of members. Similarly the formation of producer marketing groups plus provision of credit was supposed to establish sustainable organizations for marketing.

101. Because of the above-mentioned WUA sustainability issues and lack of progress in forming strong producer associations, the appraisal consolidation strategy cannot be operationalized. To mitigate risks that could jeopardize the economic viability of the project, and to allow more time for resolving key sustainability issues, IFAD and the Government will need to consider an alternative consolidation strategy, for example, a modest programme of post-project investment mainly through the provision of technical and management assistance.

Rating: moderately unsatisfactory

Pro-poor innovation and scaling up

102. **Innovation.** NDP's innovation features were mainly related to activities in the field introduced by the project. The overall strategic approaches were rather conventional in IFAD's operational context. The PCR identified two major innovations: participatory irrigation management; and partnerships with the private sector, NGOs and commercial banks for delivering project services. These two innovations are highly context-specific, that is although they have been implemented or tested by IFAD in other countries, they were relatively new to rural contexts in Azerbaijan.
103. The community-based water management was experimental in Azerbaijan's development context. In the post-Soviet era, irrigation was largely neglected and small farmers were unable, or even reluctant, to reorganize farming activities in a collective manner, which exacerbated the already declining farm production. In this context, the community-based water management piloted a model for farmers to organize community irrigation in a market economy context.
104. The rural credit for smallholder groups, addressing the financial needs of smallholder farmers who were not otherwise eligible for individual bank loans, was also relatively innovative in Azerbaijan. The credit to groups was a very modest investment in NDP compared with the growing demand for credit among rural entrepreneurs. However, it served as a useful model for increasing rural lending to vulnerable groups through commercial banks.
105. **Scaling up.** NDP adopted a more integrated developmental approach than under earlier projects. The implementation results convinced the Government to partner with IFAD and the Islamic Development Bank (IsDB) to replicate activities in two subsequent projects - the ongoing IFAD-funded North West Rural Development Project and the upcoming Integrated Rural Development Project cofinanced by IFAD and IsDB.
106. The Government has been committed to improving irrigation and rural credit, in partnership with IFAD and the World Bank.⁴⁵ The project's experiences in irrigation and technology transfer are suitable for replication and scaling up over the remaining 900,000 ha of irrigated land awaiting rehabilitation in Azerbaijan, and credit for rural SMEs promoted by NDP is greatly sought after in rural areas. Besides, some subcomponents of this integrated approach tested under NDP, such as on-farm demonstrations, livestock husbandry, and private veterinary services, have emerged as worthy of scaling up in future agricultural development projects.
107. In terms of irrigation, IFAD has no particular comparative advantage to continue financing construction works. The Fund's strength is in its experience of the participatory irrigation management approach and in the formation and training of

⁴⁵ References are seen in the World Bank's Country Partnership Strategy 2011 – 2014, and IFAD's COSOP 2010

WUAs – know-how in this area is valued by the Government and appreciated by beneficiaries.

108. The modest investment in livestock that focused on genetic improvement through artificial insemination and veterinary care was successful, and proved to be sustainable. Livestock activities are particularly suited to the small and poorer households; they are often managed by women and thus respond well to project objectives. NDP also successfully tested small bee-keeping activities that have good potential for replication and scaling up, especially if technical assistance can first determine the reasons for and provide remedies to current low honey yields.⁴⁶
109. In the future, marketing and value-added production will be in particular need of attention and increased investments, although NDP activities in these areas have borne little fruit thus far.
110. In brief, NDP was not significantly innovative as it mainly adapted the tested approaches - participatory irrigation management and rural credits for smallholder groups - to Azerbaijan's context, which, however, proved to be relevant. NDP's experience convinced the Government and IsDB to replicate similar approaches in other projects in the country, and NDP holds high potential for replication in terms of irrigation, rural credit, agriculture and livestock. Where IFAD fell short was that there was a lack of scaling up strategy that could have guided the project management staff in matching the project approaches with key challenges to be addressed by Government in rural investments in future.

Rating: moderately satisfactory

Gender equality and women's empowerment

111. NDP built upon a relatively gender-equal society by focusing its component on women's activities.⁴⁷ In Azerbaijan there is little obvious discrimination against women who participate actively in the economy, at least in the agricultural sector. NDP prepared a gender plan to mainstream gender equality in project activities, such as expanding women's access to and control of fundamental assets. During implementation, women participated as WUA members and are employed in management teams and as members of elected boards. Some 15 per cent of beneficiary households were female-headed and women participated actively in farm demonstrations and training in agricultural and food processing technologies. Women represented 30 per cent of beneficiaries of technology transfer through field demonstrations and 40 per cent of recipients of micro credits through group lending. In particular, the project supported 521 women's income-generating activities by giving them equal access to project resources and training in technical skills, as well as to finance, which enhanced women's equal rights in business development.
112. Apart from the project activities, within households women have particular responsibility for managing livestock production especially dairy and the value-added food processing of dairy products, and are also greatly involved in the local marketing of fruit and vegetables. The fact that about 90 per cent of project credits were for animal production indicates that financial services were especially directed to activities involving women; these activities confirmed women's equal status both at home and within the community.
113. Although gender equality was already embedded in Azeri society, IFAD's insistence on mainstreaming women's equality in project activities has contributed to strengthening their position in the agrarian society.

⁴⁶ Future bee keeping development could be promoted in conjunction with orchard development where the presence of bees can significantly increase fruit pollination and production.

⁴⁷ According to UNDP's HDR 2011, the HDI ranking of Azerbaijan is 91 among 187 countries, and its gender development index is 50, much higher than its HDI ranking. Source: http://hdr.undp.org/en/media/HDR_2011_EN_Table4.pdf

Rating: satisfactory

D. Performance of partners

IFAD performance

114. IFAD focused this investment on irrigation and agricultural production to address the urgent needs of improving food production and increasing rural incomes, which was in line with the priorities of rural households and government poverty reduction strategies. The implementation of NDP was timely and has contributed to reducing rural poverty and improving food security in Azerbaijan. The implementation results convinced the Government to substantially increase its financial contribution during implementation and thereafter to replicate NDP practices under other projects.
115. As one of the main and most experienced partners in rural development, IFAD was able to draw on lessons of past experience and to incorporate them in the design of NDP. The project was well conceived and designed in terms of adopting an integrated component mix from improved irrigation through productivity, marketing and processing, and business support to meet the goal of enhancing the livelihoods of some 15,000 households dependent on irrigated agriculture.
116. In terms of policy support, IFAD clearly played a critical role in promoting and assisting the passing of legal provisions for transfer of on-farm irrigation responsibilities to WUAs, an important achievement not just for NDP but for all WUA-based irrigation activities in Azerbaijan.
117. The appraisal document was of high quality and well prepared, although the investments were strongly skewed in favour of irrigation rehabilitation. Provision of just 9 per cent of project costs (7 per cent in actual terms) for all agricultural crop and livestock production, marketing and SME development, was very modest in comparison with the 65 per cent allocated to irrigation.⁴⁸ This allocation does not reflect the importance of non-irrigation interventions, without which it would not be possible to achieve the expected returns from incremental agricultural production in order to justify irrigation investment.
118. IFAD supervision also seems to have given limited attention to the lower-cost components. Little agricultural or marketing support appears to have been included in the IFAD supervision or review missions and, given the importance of agricultural and marketing interventions, this imbalance should be redressed in future projects.
119. Unfortunately, two well-flagged and critical sustainability issues still persist after project closure: the sustainability of extension services; and the legal empowerment and financial sustainability of WUAs. This compromises the consolidation strategy, and IFAD has not developed remedies to ensure that anticipated production benefits are realised in the coming 10 years.

Rating: moderately satisfactory

Government performance

120. The Government accords high priority to the reconstruction of irrigation and has manifested strong project ownership by financing all project cost overruns. It has met all its financial obligations, including taking over the share of funding originally proposed for a cofinancier and, in particular, has provided additional funding to defray the greatly increased cost of irrigation rehabilitation.
121. Through SAAC and the project steering committee, MOA provided timely and relevant support for and guidance to project's implementation. The project management has benefited from the strong commitment of the project steering

⁴⁸ Only 7 per cent of actual costs incurred on agriculture, marketing and SME

committee and SAAC, which resulted in the Government meeting, and even exceeding, its financial obligations. This support was critical in facilitating the completion of most activities on time, especially the irrigation component, and in disbursing on schedule.

122. The PMU completed all project activities slightly ahead of schedule, which demonstrated the management capacity and efficiency of project management. The unit collaborated successfully with different governmental, financial and private-sector partners involved in NDP implementation, and created a favourable environment for cooperation, complementarity and synergies among these institutions. The PMU's financial management was considered good by the PCR, and audit reports were submitted to IFAD in a timely manner.
123. The main irrigation re-construction component understandably received most emphasis. It was managed by a strong and competent in-house participatory irrigation management team using qualified contactors and thus was strongly monitored and controlled. A very modest livestock development activity, also managed directly by the PMU, was successful and sustained.
124. The project M&E system was effective in reporting implementation progress and capturing key indicators during implementation, and it coped well with time-consuming multi-ministry reporting requirements. The project completed all review requirements, including a baseline study, a mid-term review, and an informative project completion survey. However, due to project management arrangement reasons, the out-sourced activities, namely, agricultural development and marketing and SME development, were not always monitored.
125. The arrangement whereby one PMU covers all ongoing IFAD projects in Azerbaijan is an excellent model. The advantages of this arrangement include:
 - It is cost effective, viz. only 5.5 per cent of project costs was spent on project management and administration;
 - It facilitates carrying forward of lessons learned and experience from project to project, and constitutes a good institutional memory;
 - It allows prompt start-up of new projects using experienced in-house staff fully conversant with IFAD and government protocols and requirements.
126. In the specific case of NDP, however, which was predominantly an irrigation construction investment project, it is questionable whether the nodal agency within government should be SAAC rather than SAIC, since the latter is responsible for irrigation and is working with the World Bank in implementing a nationwide irrigation programme.

Rating: satisfactory

Overall assessment of project achievements

127. Considering the economic background, the achievements of NDP in improving the livelihoods of rural households have been substantial. Compared with the project objectives, the project made significant progress and results in terms of community irrigation management and water supplies, agriculture and livestock production, and rural credit services. The reliable water supply formed a good foundation for further agricultural and livestock development, and the extension services significantly increased farm productivity. Gender equality was mainstreamed in all project activities.
128. NDP's investments in agriculture, livestock and marketing are, however, too modest and are not commensurate with the critical importance of these activities to the livelihoods of smallholder farmers. Besides, the sustainability issues of water user associations and extension services should be addressed in the near future to ensure that the anticipated yield increases in coming years would realize and lead to better livelihoods and higher rural household incomes. In consideration of the

assessments across all the evaluation criteria, overall project achievements are rated as moderately satisfactory.

Key points

- The relevance and effectiveness of NDP are rated as moderately satisfactory, mainly because NDP investments in agriculture, livestock, marketing and SME development were very modest compared with investments in and potential synergies with irrigation improvement.
- NDP is rated satisfactory in terms of efficiency, rural poverty reduction impact, and women's empowerment.
- The sustainability prospects are considered moderately unsatisfactory because of the lack of a consolidation strategy. The current arrangements for irrigation, extension and credit services are unlikely to be fully functional in the future.
- Innovation and scaling up is rated as moderately satisfactory in that the project was more adaptive than innovative. However, NDP-tested approaches hold good potential for replication and scaling up.

IV. Assessment of the PCR quality

Scope

129. The PCR provided a comprehensive account of the design, implementation and results of the project. Coverage of activities relating to the major components, participatory irrigation management and livestock, was thorough, well-argued and convincing. Coverage of the other smaller components was less comprehensive. The annexes to the report were found to be very useful in providing complementary information, such as the annex on the project's financial and economic analysis.

130. The structure of the report is in line with IFAD's guidelines for PCR preparation (2006), and the content and analysis are broadly aligned to the requirements of IFAD's evaluation methodologies.

Rating: satisfactory

Quality (methods, data, participatory process)

131. The data are generally well organized and presented, and the sources noted and traceable. The methods used in analysis are relevant and could be realigned with IFAD's evaluation methodologies, such as the analyses on relevance, efficiency, impact, gender, etc. The review of agriculture and livestock activities was adequate but the genesis and rigour of reported incremental productivity gains were not entirely convincing. Technology adoption rates were not quantified although reasonable adoption assumptions were made in the financial and economic analyses in the annexes.

132. The coverage and analysis of marketing and SME development was weak, consisting mainly of a list of training seminars and participant numbers but with little information on actual achievements in the field that benefited farmers in marketing and agro-processing. There was no analysis of whether the planned marketing and SME development objectives were met, nor any overall qualitative judgement on project performance in this subcomponent.

133. While the reported project benefits are credible, the assessment regarding project results did not consider attribution issues, which may have overestimated the project's achievements in certain aspects. For example, the household income increase may have come from sources other than project interventions.

Rating: moderately satisfactory

Lessons

134. The PCR identified and high-lighted outstanding issues and main lessons to be learned, and provided a series of relevant recommendations, many of which correspond to the main findings of the PPA mission. The lessons and recommendations are in line with the analysis, and focused on enhancing or sustaining the project benefits, therefore are pertinent and timely. However, the recommendations are more addressed to the possible implementation of a project with similar design rather than providing insights for ongoing and future operations in the country.

Rating: satisfactory

Candour

135. In general, the PCR's content, analysis, lessons and recommendations are considered consistent and candid. However, by focusing on the major investment area – irrigation – the PCR lacked full analysis and comment on the more limited but critical investments made in extension, livestock and marketing

Rating: moderately satisfactory

V. Conclusions and recommendations

A. Conclusions

136. NDP was designed and implemented in a transitional context. The transition from a farming system based on large-scale collective farms to one based on small, private farms with owners from varied occupational backgrounds but few with farm management experience is a challenging scenario. This is further compounded by the very run-down irrigation systems, weak extension services, and low levels of agricultural management and productivity. Given this testing implementation environment, the successful introduction of participatory irrigation management on 30,000 ha of irrigated land benefiting some 15 000 households is an impressive achievement.
137. The sustainability of WUAs supported by NDP is not yet substantial, however. At project completion, the WUAs maintained a zero profit balance because the revenue covered only water payments to SAIC and basic maintenance, and SAIC did not authorize WUAs to increase water charges. Since the legal transfer of on-farm management responsibility to WUAs has not been formalized, a strategy to sustain the operations of WUAs supported by NDP will need to be developed and agreed by SAIC, MOA and IFAD.
138. Leveraging the increased supply of irrigation water, NDP's modest investments in agricultural extension services, cattle genetic improvement, and bee-keeping showed significant production benefits for small farmers and demonstrated strong potential for fulfilling the needs of improving food security and incomes of small farmers, the majority of the rural population of Azerbaijan. The project also successfully piloted credit delivery to small rural SMEs through commercial banks, which stimulated household investments in livestock (such as cattle and poultry), and in orchard and vegetable crops.
139. Despite having been designed as a broad-based integrated project, the project was mainly an irrigation intervention in terms of resource allocation, implementation support and supervision emphasis. However, significant farming technology adoption and farm productivity are still to be realised in the near future. Similarly, the very modest investment scale and limited scope of support accorded to livestock did not reflect the importance of livestock in the small farm systems or the suitability of sheep and cattle enterprises to the low economic and resource status of poorer households and especially rural women. An integrated project with a pro-poor and women's development agenda should include more significant

livestock production covering a broad spectrum of animal husbandry, breeding and veterinary activities.

140. The project made no significant progress in marketing. At appraisal, an annual incremental production of 30,000 mt of fruit and 15,000 mt of vegetables was expected at full development, but with an unrealistic assumption that existing marketing channels would cope with this production increase. It is well documented that existing marketing and processing channels are informal and poorly organized and are thus unlikely to be able to cope with incremental production of this scale. Without adequate marketing and processing facilities in place, investments in perishable crop production tend to be highly risky and commercially questionable.
141. It is probably generic to projects such as NDP, under which irrigation reconstruction is completed just two to three years prior to project closure, that there will be important sustainability issues given the short time remaining to cement the establishment of institutions and services. Design and subsequent implementation should recognize this reality and build in longer term support options and a well planned and executed consolidation strategy.

B. Recommendations

Enhance sustainability to ensure upcoming benefits

142. To improve the sustainability of WUAs supported by NDP, better operational coordination between SAIC and IFAD projects would be mutually beneficial and may assist in resolving the long-outstanding issue concerning SAIC's stance on transferring management responsibilities to WUAs. In the case of projects such as NDP that are predominantly involved in irrigation reconstruction and will ultimately fall under SAIC management, there would be advantage in placing an irrigation implementation team under SAIC management, as in the case of World Bank projects.
143. To resolve key sustainability issues and to mitigate risks that could jeopardise the economic viability of the project, IFAD and the Government should consider an exit strategy, such as a modest post-project investment with mainly technical and management assistance. In future, the design of irrigation rehabilitation projects of five-year duration should include modalities for post-project support within a formal consolidation-strategy agreed between IFAD and the Government.
144. Moreover, to maintain credibility and viability, WUAs must be perceived as offering clear value-adding services to members. Among others, the WUA could provide upgraded services in water efficiency, such as the use of drip, sprinkler and seepage systems, given that the current in-field practices of furrow and flood irrigation are wasteful. However as long as irrigation water is heavily subsidized and water silt loads remain high, there is little incentive for farmers to invest in water efficient technologies. Perhaps WUAs could also broaden the services into areas such as crop collection, storage, and agricultural contracting.⁴⁹

Increase investment in marketing and processing

145. Lessons learned from NDP also highlight the need for marketing and processing services in integrated irrigation projects, as improved irrigation could lead to a large increase in farm production in the project areas. However, as many farm products are of basic quality and homogenous, they compete for the same local market channels. Marketing of agricultural products should be significantly enhanced in future irrigation projects and new marketing channels explored.
146. The most outstanding challenge is to develop capable and influential producer organizations for marketing, storage, packaging, branding and product positioning,

⁴⁹ Two WUAs are considering to start an equipment contracting business for which there is great demand amongst farmers

which are closely linked with private sector investment. This complex issue calls for the involvement of commercially-oriented specialists with relevant marketing experience in design and execution, possibly backed up by tax and subsidised investment incentives to pump-prime commercial investment in the sub-sector.

Increase investment in agriculture and livestock

147. The proportion of investment in agricultural crop and livestock productivity in integrated irrigation projects should be emphasized to reflect the importance of such activities to IFAD target groups. Without sufficient economic benefits for small farmers, investment in irrigation would not be sufficiently justified. There are few key areas in which IFAD interventions could practically update the services to improve agricultural and livestock productivities:
148. Adaptive agricultural research. The current cropping intensity in irrigated areas is less than 100 per cent, which is unusually low. Despite the cold winter period, it should be possible to increase cropping intensity by including short- duration pulse or fodder crops in cropping patterns. Besides, poor crop tillage, very low fertilizer use, and poor nutrient management are probably the main causes of low crop yields. These issues warrant greater attention to adaptive research in future agricultural development project operations.
149. Sustain extension services. Whatever form of extension support emerges in future, consideration should now be given to using mobile phone communication technology in extension. Network coverage is universal in Azerbaijan and over 50 per cent of project households own mobile phones. There are exciting options to link farmers directly to knowledge centres such as GRASC for information and problem-solving.
150. Beekeeping and orchard development. NDP successfully tested small bee-keeping activities which hold good potential for replication and scaling up, especially if technical assistance can first determine the reasons for, and provide remedies to, the current low honey yields. Future bee-keeping development should be promoted in conjunction with orchard development where the presence of bees can significantly increase fruit pollination and production, and therefore enhance the synergistic benefits of agricultural interventions.

Rating comparison

<i>Criterion</i>	<i>IFAD-PMD rating^A</i>	<i>PPA rating^A</i>	<i>Rating disconnect</i>
Project performance			
Relevance	5	4	-1
Effectiveness	5	4	-1
Efficiency	5	5	0
Project performance^B	5	4.3	-0.7
Rural poverty impact			
Household income and net assets	5	5	0
Human, social capital and empowerment	5	5	0
Food security and agricultural productivity	5	5	0
Natural resources and environment	4	4	0
Institutions and policies	5	5	0
Rural poverty impact^C	5	5	0
Other performance criteria			
Sustainability	4	3	-1
Innovation and scaling up	5	4	-1
Gender equality and women's empowerment	4	5	1
Overall project achievement^D	5	4	-1
Performance of partners			
IFAD	4	4	0
Government	5	5	0
Average net disconnect			-0.29
Ratings of the PCR document quality			
<i>Scope</i>	<i>PMD rating</i>	<i>PPA rating</i>	<i>Net disconnect</i>
Scope	6	5	-1
Quality (method, data, participatory process)	5	4	-1
Lessons	6	5	-1
Candour	5	4	-1
Overall rating PCR document	-	5	-

^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 and efficiency.

^C This is not an average of ratings of individual impact domains.

^D 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, rural poverty impact, sustainability, innovation and scaling up, and gender.

^E The rating for partners' performance is not a component of the overall assessment ratings.

Basic project data

A. Basic Project Data					Approval (US\$m)	
Region	NEN	Total project costs	25.15		39.66	
Country	Azerbaijan	IFAD Loan and % of total	12.56	50%	13.27	33%
Loan Number	637	Borrower	2.23	9%	23.19	58%
Type of project (sub-sector)	Irrigation	Co-financier 1 <i>Domestic Fin. Inst.s</i>	0.99	4%	1.76	4.4%
Financing Type	IFAD initiated and exclusively financed	Co-financier 2	uncertain	29%		
Lending Terms ¹	Highly concessional	Co-financier 3				
Date of Approval	9 Sep 2004	Co-financier 4				
Date of Loan Signature	20 Jul 2005	From Beneficiaries	1.98	8%	1.433	3.6%
Date of Effectiveness	12 Jul 2006	From Other Sources:				
Loan Amendments		Number of beneficiaries (if appropriate, specify if direct or indirect)				
Loan Closure Extensions		Cooperating Institution	UNOPS		UNOPS till the end of 2008	
Country Programme Managers	A. Sma (2008-) A. Rahman (2003-2008)	Loan Closing Date	31 Mar 2012		31 Mar 2012	
Regional Director(s)	K. Bouzar N. Khouri M. Bishay	Mid-Term Review			Mar 2009	
PCR Reviewer	Jicheng Zhang	IFAD Loan Disbursement at project completion (%)			100%	
PCR Quality Control Panel	Fabrizio Felloni Ashwani Muthoo					

Sources: President's report, PCR, Mid-term review, supervision reports, PPMS, LGS.

¹ There are four types of lending terms: (i) special loans 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; (ii) loans on hardened terms bearing a service charge of three fourths of one per cent (0.75%) per annum and having a maturity period of 20 years, including a grace period of 10 years; (iii) loans on intermediate terms with a rate of interest per annum equivalent to 50% of the variable reference interest rate, and a maturity period of 20 years, including a grace period of 5 years; (iv) loans on ordinary terms with a rate of interest per annum equivalent to one hundred per cent (100%) of the variable reference interest rate, and a maturity period of 15 to eighteen 18 years, including a grace period of 3 years.

Terms of reference

I. Background

1. The Independent Office of Evaluation of IFAD (IOE) will undertake a project performance assessment (PPA) of the North-East Development Project (NDP) in Azerbaijan in 2012-2013. The PPA is a project-level evaluation aiming to: (i) provide an independent assessment of the overall results and impact of a project; and (ii) generate findings and recommendations for the design and implementation of ongoing and future operations within the country.
2. A PPA is conducted as a next step after a project completion report validation (PCRv) done by IOE. The PCRv serves to provide: (i) an independent verification of the analytical quality of the PCR; (ii) an independent review of project performance and results; and (iii) key findings and lessons learned for further synthesis and systematization exercises. A PPA includes country visit in order to fill in information gaps identified by the PCRv.
3. The PPA will be undertaken in line with the IFAD Evaluation Policy¹ and will apply the evaluation criteria outlined in the IFAD Evaluation Manual.² In view of the time and resources available, the PPA is generally not expected to undertake quantitative surveys, rather adds analysis based on interviews at IFAD headquarters, interactions with stakeholders in the country, and direct observations in the field. As such it relies necessarily on the data available from the project monitoring and evaluation system.
4. Country context. Azerbaijan regained independence in 1991 from the collapse of the Soviet system as one of the most economically disadvantaged countries in the former USSR. The political, social and economic turmoil that followed independence exacerbated poverty. In the 2000s, strong oil-related economic activities and rising government social spending have reduced poverty markedly. The share of oil in GDP and the share of oil revenues in fiscal revenues reached 51 per cent and 66 per cent in 2009. Higher minimum wage rates over the last decade are likely to have contributed to poverty reduction. Minimum wages were last increased by 10 per cent in January 2012 to the equivalent of US\$118 a month. Social transfers, including a well-targeted social assistance program, have also contributed to declining poverty. The poverty incidence fell from 50 per cent in 2001 to 7.6 per cent in 2011, according to official estimates.
5. The agriculture sector accounts for about 7 per cent of GDP, while it is providing income and employment for about 40 per cent of the total workforce. The dependence of an average rural household on agriculture is significant – almost 35 per cent of all family income is generated from agriculture and the vast majority of farmers can be classified as semi-subsistence farm operators. Given its existing knowledge and export base and its climatic and geographic advantages, the agricultural sector has significant business, job creation, and trade opportunities that remain to be developed. Cotton, caviar, fruit, vegetables, nuts, and wines are the main agro-food exports.
6. A high level of poverty persists in rural areas, although living standards have largely improved in 2000s. By 2006, about 42 per cent of the rural population live below the national poverty line, and about 13 per cent of poor people live in extreme poverty. Rural communities generally have access to sufficient food, but productivity is low, food prices have risen dramatically, and living conditions have been affected by the collapse of infrastructure including irrigation, unreliable supplies of gas and electricity, and declining health and education services.

¹ Available at: <http://www.ifad.org/pub/policy/oe.pdf>.

² Available at: http://www.ifad.org/evaluation/process_methodology/doc/manual.pdf.

7. The Government has launched a number of state programs to address some of the agriculture sector's challenges. The State Program on Reliable Provision with Food Products (2008–2015) seeks to rehabilitate irrigation networks, develop food processing enterprises, improve genetics of livestock, support private sector activity in meat and milk processing, expand financing, and create a research centre for agriculture. The irrigation sub-sector development strategy is outlined in the State Program on Amelioration and Irrigation and also through a Presidential Decree of 2006 on developing the water and irrigation sector.
8. Project description. NDP was approved by IFAD's Executive Board in September 2004, and implemented from 2006 to 2011. The planned total cost was US\$25 million including IFAD loan US\$13 million. The actual total cost was US\$40 million with additional contribution from the Government; actual IFAD loan remained as anticipated.
9. The overall project goal was to improve living conditions for households that depend on irrigated agriculture, by supporting food security and income-generating opportunities. The project rationale was based on the urgency of renovating irrigation facilities in the country. Azerbaijan depends to a large extent on the irrigated lands for rural employment and for national food security. Neglect and lack of maintenance have made the extensive Soviet-era irrigation and drainage system extremely inefficient, leading to a decline in agricultural productivity.
10. The project areas are located in a region that has a particularly high incidence of rural poverty. In 2002 an estimated 58 per cent of the local population was living below the national poverty line, and one quarter of them were extremely poor. By 2002 the irrigation infrastructure in the target areas was so degraded that only about 44 per cent of the area was under irrigation. The system needs major rehabilitation and improved management to ensure that it is carefully maintained and efficient in the future. Most of the households targeted have received plots of land through the privatization scheme.
11. The objectives of the project are to: (i) support Water Users' Associations (WUAs) in operating and gradually rehabilitating on-farm irrigation and drainage systems; (ii) assist small farmers in sustainably increasing food production and incomes from irrigated crop production and associated livestock enterprises; (iii) induce microfinance agencies to operate sustainable, gender-sensitive financial services for small-scale farmers and other micro-entrepreneurs; and (iv) provide effective project management and coordination mechanisms.
12. Accordingly, the project components include: (i) participatory irrigation management (67 per cent of base cost); (ii) agriculture, marketing and SME development (9 per cent); (iii) rural financial services (20 per cent); and (iv) project management and coordination (3 per cent).

II. Methodology

13. **Objectives of the PPA.** The main objectives of the PPA of NDP Azerbaijan are to: (i) assess the results and impact of NDP; and (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in Azerbaijan.
14. NDP was selected for a PPA mainly based on the findings of the PCRV which requires further data collection and verification to generate a comprehensive assessment of the project results and impact, and also the necessity to examine the implication of rapidly changing country context for future IFAD interventions in the country.
15. **Scope.** The PPA will take account of the preliminary findings of the PCRV and further desk review, issues emerging from interviews at IFAD headquarters, and a focused mission to the country for the purpose of generating a comprehensive,

evidence-based evaluation. However, the PPA will not examine the full spectrum of project activities, achievements and drawbacks, but will focus on selected key issues. Subject to the availability of time and budgetary resources, due attention will be paid to filling in major evaluative information gaps.

16. **Evaluation criteria.** In line with the evaluation criteria outlined in IOE's Evaluation Manual (2009), added evaluation criteria (2010)³ and IOE Guidelines for PCRV and PPA (January 2012), the key evaluation criteria applied in this PPA will include:
- i. **Relevance**, which is assessed both in terms of alignment of project objectives with country and IFAD policies for agriculture and rural development and the needs of the rural poor, as well as project design features geared to the achievement of project objectives.
 - ii. **Effectiveness**, which measures the extent to which the project's immediate objectives were achieved, or are expected to be achieved, taking into account their relative importance.
 - iii. **Efficiency**, which indicates how economically resources/inputs are converted into results.
 - iv. **Rural poverty impact**, which 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. Five impact domains are employed to generate a composite indication of rural poverty impact: household income and assets; human and social capital and empowerment; food security and agricultural productivity; natural resources, environment and climate change; and institutions and policies.
 - v. **Sustainability**, indicating 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.
 - vi. **Pro-poor innovation and scaling up**, assessing the extent to which IFAD development interventions have introduced innovative approaches to rural poverty reduction and the extent to which these interventions have been (or are likely to be) replicated and scaled up by government, private sector and other agencies.
 - vii. **Gender equality and women's empowerment.** This criterion is related to the relevance of design in terms of gender equality and women's empowerment, the level of resources committed, and changes promoted by the project.
 - viii. Besides, the **performance of partners**, including the performance of IFAD and the Government, will be assessed on an individual basis, with a view to the partners' expected role and responsibility in the project life cycle.
17. **Data collection.** The PPA will be built on the initial findings of the PCRV. For further information, interviews will be conducted at IFAD headquarters and in Azerbaijan. During the mission to Azerbaijan, additional primary and secondary data will be collected in order to reach an independent assessment of performance and results. Data collection methods will mostly include qualitative participatory techniques. The methods deployed will consist of individual and group interviews, focus group discussions with beneficiaries, and direct observations. The PPA will also make use, where applicable, of additional data available through the project's

³ Gender, climate change, and scaling up.

monitoring and evaluation (M&E) system. Triangulation will be applied to verify findings emerging from different information sources.

18. **Stakeholders' participation.** In compliance with the Evaluation Policy of 2011, the main project stakeholders will be involved throughout the PPA process. This will ensure that the key concerns of the stakeholders are taken into account, that the evaluators fully understand the context in which the project was designed and implemented, and that opportunities and constraints faced by the implementing institutions are properly identified. Regular interactions and communications will be established with the Near East, North Africa and Europe Division (NEN) of IFAD and with the Government of Azerbaijan. Formal and informal opportunities will be explored during the process for the purpose of discussing findings, lessons and recommendations.

III. Evaluation Process

19. In brief, the PPA will involve five phases: preparation; field mission; report-writing and quality assurance; comments and revision; and communication and dissemination.
20. **Preparation.** The lead evaluator is responsible for preparing the terms of references (TOR) of the PPA and managing the evaluation process. The PCRV and further desk review provide initial findings and identify key issues to be investigated by the PPA. The draft PCRV will be peer-reviewed within IOE, and thereafter submitted to NEN for comments before the PPA mission leaves for Azerbaijan.
21. **Field mission.** The PPA field mission is scheduled tentatively from 3 to 11 October 2012. It will interact with the Government, local authorities, private-sector partners, NGOs, programme staff and clients (beneficiaries), and collect information from the project's M&E system and other sources. At the end of the mission, a brief will be provided to partner ministry(ies), followed by a wrap-up meeting in Baku, the capital of Azerbaijan, to summarize the preliminary findings and discuss key strategic and operational issues to be considered in the PPA report.
22. **Report-writing and quality assurance.** At the conclusion of field visit, a draft PPA report will be prepared and subsequently submitted to IOE internal peer review for quality assurance. Fabrizio Felloni, Senior Evaluation Officer, and Konstantin Atanesyan, Senior Evaluation Officer, will be the peer reviewers for the PPA.
23. **Comments and revision.** The PPA report will be shared with NEN and thereafter with the Government for comments. IOE will finalize the report following receipt of the Government's comments.
24. **Communication and dissemination.** The final report will be disseminated among key stakeholders and the evaluation report published by IOE, both online and in print.

IV. Key Issues for Further Analysis

25. **Implication of the overwhelming oil-sector development for agriculture and rural development and IFAD's interventions.** During project implementation period, Azerbaijan experienced significant economic changes due to new oil production and surges of oil revenue. The GDP grew by an average of over 20 per cent per annum during 2005 - 2009, and the Government used a significant portion of the oil-related revenue to fund an ambitious public investment programme, including agriculture and poverty reduction. The implication of this dominating contextual change for project implementation and for future IFAD interventions in the country should be examined by the PPA.
26. **Potential for market and SME development.** NDP interventions in market and SME development had been limited and did not translate into significant results, as

noted by the PCR. The PPA will study the project's performance in this regard and provided insights for future operations.

27. **Justification of high cost increase.** The anticipated total cost was US\$25 million, however, the actual cost, US\$40 million, was 60 per cent higher than planned. The analysis of PCRV finds that this high cost increase was related to a design change of irrigation canals, a raise in government staff salaries, and high rates of inflation and appreciation of the local currency against dollar after the strong inflow of oil revenues. The PPA would further review this cost increase.
28. **Actual benefits of irrigation, finance and other services to target groups.** The PCRV analysis realised that the PCR quoted the data of 2010 survey as proxy indicators of the project-generated benefits, which was justified back then. However, considering that the major project activities including irrigation and adoption of new crops started late and were completed by the end of 2010, the actual benefits of renovated irrigation and adoption of farming techniques and new breeds were barely revealed during 2010 PCR mission. It would be necessary for the PPA to investigate the actual benefits generated the by the project to the target groups especially the poor households.
29. **Sustainability of WUAs.** The WUAs play a key role in sustaining the benefits of irrigation financed by the project, however, the PCR revealed that WUAs face major challenges in raising water charges, financial management, and full delegation from the authorities. The PPA would examine the quality the WUAs and the sustainability of irrigation systems supported by the project.

V. Evaluation Team

30. Under the supervision of Fabrizio Felloni, Senior Evaluation Officer, Jicheng Zhang, Evaluation Research Analyst, has been appointed as Lead Evaluator for this PPA and will be responsible for designing and managing the evaluation, drafting parts of the report, and delivering the final overall report.
31. Jicheng Zhang will be supported by a senior agriculture and irrigation consultant, Michael Macklin, who will attend the mission, conduct data collection, and collaborate in drafting the report. Linda Danielsson, Evaluation Assistant, will provide administrative support to the evaluation. Jicheng Zhang will be responsible for the full and final PPA report.

VI. Tentative Roadmap of the PPA Process

<i>Date</i>	<i>Activities</i>
August – September 2012	Preparation of the PPA
9 - 17 October	Mission to Azerbaijan
October – December	Report writing
31 January 2013	Draft report for IOE internal peer review
28 February	Draft report for IOE management review
25 March	Draft PPA report sent to NEN for comments
15 April	Deadline for NEN providing comments to IOE
26 April	Transmit revised report and audit trail to NEN
26 April	Draft PPA report sent to Government for comments
24 May	Deadline for Government providing comments to IOE
31 May	Transmit final PPA report and audit trail to NEN and the Government
June – July	Dissemination and publication (completion of the PPA)

Methodological note on project performance assessments

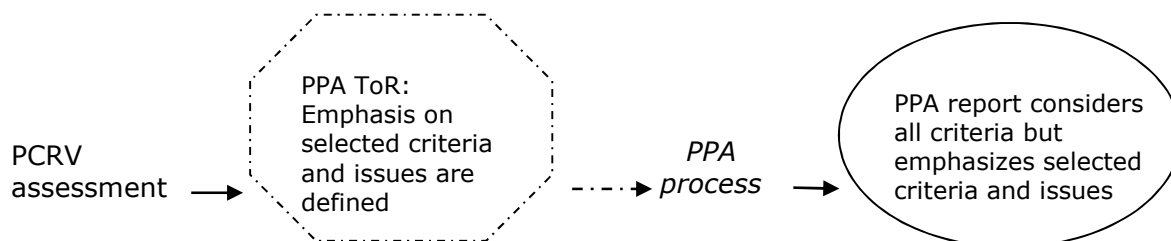
A. What is a project performance assessment?¹

1. The project performance assessment (PPA) conducted by the Independent Office of Evaluation of IFAD (IOE) entails one mission of 7-10 days² and two mission members³. PPAs are conducted on a sample of projects for which project completion reports have been validated by IOE, and take account of the following criteria (not mutually exclusive): (i) synergies with forthcoming or ongoing IOE evaluations (e.g. country programme or corporate-level evaluations); (ii) major information gaps in project completion reports (PCRs); (iii) novel approaches; and (iv) geographic balance.
2. The objectives of the PPA are to: assess the results and impact of the project under consideration; and (ii) generate findings and recommendations for the design and implementation of ongoing and future operations in the country involved. When the PPA is to be used as an input for a country programme evaluation, this should be reflected at the beginning of the report. The PPA is based on the project completion report validation (PCR/V) results, further desk review, interviews at IFAD headquarters, and a dedicated mission to the country, to include meetings in the capital city and field visits. The scope of the PPA is set out in the respective terms of reference.

B. Preparing a PPA

3. Based on the results of the PCR/V, IOE prepares brief terms of reference (ToR) for the PPA in order to sharpen the focus of the exercise.⁴ As in the case of PCR/Vs, PPAs do not attempt to respond to each and every question contained in the Evaluation Manual. Instead, they concentrate on the most salient facets of the criteria calling for PPA analysis, especially those not adequately explained in the PCR/V.
4. When preparing a PPA, the emphasis placed on each evaluation criterion will depend both on the PCR/V assessment and on findings that emerge during the PPA process. When a criterion or issue is not identified as problematic or in need of further investigation, and no additional information or evidence emerges during the PPA process, the PPA report will re-elaborate the PCR/V findings.

Scope of the PPA



¹ Extract from the PCR/V and PPA Guidelines.

² PPAs are to be conducted within a budget ceiling of US\$25,000.

³ Typically, a PPA mission would be conducted by an IOE staff member with the support of a consultant (international or national). An additional (national) consultant may be recruited if required and feasible within the evaluation budget.

⁴ Rather than an approach paper, IOE prepares terms of reference for PPAs. These terms of reference ensure coverage of information gaps, areas of focus identified through PCR/Vs and comments by the country programme manager, and will concentrate the PPA on those areas. The terms of reference will be included as an annex to the PPA.

C. Evaluation criteria

5. The PPA is well suited to provide an informed summary assessment of project relevance. This includes assessing the relevance of project objectives and of design. While, at the design stage, project logical frameworks are sometimes succinct and sketchy, they do contain a number of (tacit) assumptions on mechanisms and processes expected to generate the final results. At the post-completion phase, and with the benefit of hindsight, it will be clearer to the evaluators which of these assumptions have proved to be realistic, and which did not hold up during implementation and why.
6. For example, the PPA of a project with a major agricultural marketing component may consider whether the project framework incorporated key information on the value chain. Did it investigate issues relating to input and output markets (distance, information, monopolistic power)? Did it make realistic assumptions on post-harvest conservation and losses? In such cases, staff responsible for the PPA will not be expected to conduct extensive market analyses, but might consider the different steps (e.g. production, processing, transportation, distribution, retail) involved and conduct interviews with selected actors along the value chain.
7. An assessment of effectiveness, the extent to which a project's overall objectives have been achieved, should be preferably made at project completion, when the components are expected to have been executed and all resources fully utilized. The PPA considers the overall objectives⁵ set out in the final project design document and as modified during implementation. At the same time, it should be flexible enough to capture good performance or under-performance in areas that were not defined as an objective in the initial design but emerged during the course of implementation.
8. The PPA mission may interview farmers regarding an extension component, the objective of which was to diffuse a certain agricultural practice (say, adoption of a soil nutrient conservation technique). The purpose here would be to understand whether the farmers found it useful, to what extent they applied it and their perception of the results obtained. The PPA may look into reasons for the farmers' interest in new techniques, and into adoption rates. For example, was the extension message delivered through lectures? Did extension agents use audio-visual tools? Did extension agents engage farmers in interactive and participatory modules? These type of questions help illustrate *why* certain initiatives have been conducive (or not conducive) to obtaining the desired results.
9. The Evaluation Manual suggests methods for assessing efficiency, such as calculating the economic internal rate of return (EIRR),⁶ estimating unit costs and comparing them with standards (cost-effectiveness approach), or addressing managerial aspects of efficiency (timely delivery of activities, respect of budget provisions). The documentation used in preparing the PCRV should normally provide sufficient evidence of delays and cost overruns and make it possible to explain why they happened.
10. As far as rural poverty impact is concerned, the following domains are contemplated in the Evaluation Manual: (a) household income and assets;

⁵ Overall objectives will be considered as a reference for assessing effectiveness. However, these are not always stated clearly or consistent throughout the documentation. The assessment may be made by component if objectives are defined by components; however the evaluation will try to establish a correspondence between the overall objectives and outputs.

⁶ Calculating an EIRR may be challenging for a PPA as it is time consuming and the required high quality data are often not available. The PPA may help verify whether some of the crucial assumptions for EIRR calculation are consistent with field observations. The mission may also help shed light on the cost-effectiveness aspects of efficiency, for example whether, in an irrigation project, a simple upgrade of traditional seasonal flood water canalization systems might have been an option, rather than investing on a complex irrigation system, when access to markets is seriously constrained.

- (b) human and social capital and empowerment; (c) food security and agricultural productivity; (d) natural resources, the environment and climate change;⁷ and (e) institutions and policies. As shown in past evaluations, IFAD-funded projects generally collect very little data on household or community-level impact indicators. Even when impact data are available, both their quality and the methodological rigour of impact assessments are still questionable. For example, although data report significant increases in household assets, these may be due to exogenous factors (e.g. falling prices of certain commodities; a general economic upturn; households receiving remittances), and not to the project.
11. PPAs may help address the "attribution issue" (i.e. establishing to what extent certain results are due to a development intervention rather than to exogenous factors) by:
 - (i) following the logical chain of the project, identifying key hypotheses and reassessing the plausibility chain; and
 - (ii) conducting interviews with non-beneficiaries sharing key characteristics (e.g. socio-economic status, livelihood, farming system), which would give the mission an idea of what would have happened without the project (counterfactual).⁸
 12. When sufficient resources are available, simple data collection exercises (mini-surveys) may be conducted by a local consultant prior to the PPA mission.⁹ Another non-mutually exclusive option is to spot-check typical data ranges or patterns described in the PCR by means of case studies (e.g. do PCR claims regarding increases in average food-secure months fall within the typical ranges recorded in the field?). It is to be noted that, while data collected by a PPA mission may not be representative in a statistical sense, such data often provide useful reference points and insights. It is important to exercise care in selecting sites for interviews in order to avoid blatant cases of non-beneficiaries profiting from the project.). Sites for field visits are selected by IOE in consultation with the government concerned. Government staff may also accompany the PPA mission on these visits.
 13. The typical timing of the PPA (1-2 years after project closure) may be useful for identifying factors that enhance or threaten the sustainability of benefits. By that stage, the project management unit may have been disbanded and some of the support activities (technical, financial, organizational) terminated, unless a second phase is going forward or other funding has become available. Typical factors of sustainability (political support, availability of budgetary resources for maintenance, technical capacity, commitment, ownership by the beneficiaries, environmental resilience) can be better understood at the ex post stage..
 14. The PPA also concentrates on IFAD's role with regard to the promotion of innovations and scaling up. For example, it might be observed that some innovations are easily scaled up at low cost (e.g. simple but improved cattle-rearing practices that can be disseminated with limited funding). In other cases, scaling up may involve risks: consider the case of a high-yield crop variety for which market demand is static. Broad adoption of the variety may be beneficial in terms of ensuring food security, but may also depress market prices and thereby reduce sale revenues for many households unless there are other, complementary activities for the processing of raw products.
 15. The PPA addresses gender equality and women's empowerment, a criterion recently introduced into IFAD's evaluation methodology. This relates to the

⁷ Climate change criterion will be addressed if and when pertinent in the context of the project, as most completed projects evaluated did not integrate this issue into the project design.

⁸ See also the discussion of attribution issues in the section on PCRVs.

⁹ If the PPA is conducted in the context of a country programme evaluation, then the PPA can piggy-back on the CPE and dedicate more resources to primary data collection.

emphasis placed on gender issues: whether it has been followed up during implementation, including the monitoring of gender-related indicators; and the results achieved.

16. Information from the PCRV may be often sufficient to assess the performance of partners, namely, IFAD and the government. The PPA mission may provide further insights, such as on IFAD's responsiveness, if relevant, to implementation issues or problems of coordination among the project implementation unit and local and central governments. The PPA does not assess the performance of cooperating institutions, which now has little or no learning value for IFAD.
17. Having completed the analysis, the PPA provides its own ratings in accordance with the evaluation criteria and compares them with PMD's ratings. PPA ratings are final for evaluation reporting purposes. The PPA also rates the quality of the PCR document.
18. The PPA formulates short conclusions: a storyline of the main findings. Thereafter, a few key recommendations are presented with a view to following up projects, or other interventions with a similar focus or components in different areas of the country.¹⁰

¹⁰ Practices differ among multilateral development banks, including recommendations in PPAs. At the World Bank, there are no recommendations but "lessons learned" are presented in a typical PPA. On the other hand, PPAs prepared by Asian Development Bank include "issues and lessons" as well as "follow-up actions" although the latter tend to take the form of either generic technical guidelines for a future (hypothetical) intervention in the same sector or for an ongoing follow-up project (at Asian Development Bank, PPAs are undertaken at least three years after project closure).

Definition of the evaluation criteria used by IOE

<i>Criteria</i>	<i>Definition^a</i>
Project performance	
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 in achieving its objectives.
Effectiveness	The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted into results.
Rural poverty impact^b	
<ul style="list-style-type: none"> • Household income and 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.
<ul style="list-style-type: none"> • Human and social capital and empowerment 	Human and social capital and empowerment include an assessment of the changes that have occurred in the empowerment of individuals, the quality of grassroots organizations and institutions, and the poor's individual and collective capacity.
<ul style="list-style-type: none"> • Food security and agricultural productivity 	Changes in food security relate to availability, access to food and stability of access, whereas changes in agricultural productivity are measured in terms of yields.
<ul style="list-style-type: none"> • Natural resources, the environment and climate change 	The focus on natural resources and the environment involves assessing the extent to which a project contributes to changes in the protection, rehabilitation or depletion of natural resources and the environment as well as in mitigating the negative impact of climate change or promoting adaptation measures.
<ul style="list-style-type: none"> • Institutions and policies 	The criterion relating to institutions and policies is designed to assess changes in the quality and performance of institutions, policies and the regulatory framework that influence the lives of the poor.
Other performance criteria	
<ul style="list-style-type: none"> • Sustainability 	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.
<ul style="list-style-type: none"> • Innovation and scaling up 	The extent to which IFAD development interventions have: (i) introduced innovative approaches to rural poverty reduction; and (ii) the extent to which these interventions have been (or are likely to be) replicated and scaled up by government authorities, donor organizations, the private sector and others agencies.
<ul style="list-style-type: none"> • Gender equality and women's empowerment 	The criterion assesses the efforts made to promote gender equality and women's empowerment in the design, implementation, supervision and implementation support, and evaluation of IFAD-assisted projects.
Overall project achievement	This provides an overarching assessment of the project, drawing upon the analysis made under the various evaluation criteria cited above.
Performance of partners	
<ul style="list-style-type: none"> • IFAD • Government 	This criterion assesses the contribution of partners to project design, execution, monitoring and reporting, supervision and implementation support, and evaluation. It also assesses the performance of individual partners against their expected role and responsibilities in the project life cycle.

^a These definitions have been taken from the OECD/DAC *Glossary of Key Terms in Evaluation and Results-Based Management* and from the IFAD Evaluation Manual (2009).

^b The IFAD Evaluation Manual also deals with the "lack of intervention", that is, no specific intervention may have been foreseen or intended with respect to one or more of the five impact domains. In spite of this, if positive or negative changes are detected and can be attributed in whole or in part to the project, a rating should be assigned to the particular impact domain. On the other hand, if no changes are detected and no intervention was foreseen or intended, then no rating (or the mention "not applicable") is assigned.

List of key persons met

Baku, Azerbaijan, 10 - 17 October 2012

Mr Aslan Aslanov, Deputy Minister of Agriculture (MOA)
Mr Famil Rustamov, Acting Director, State Agency on Agricultural Credits, MOA
Mr Vidadi Mammadov, Specialist, Financing and Economic Development Department, MOA
Mr Rasul Pashayev, State Amelioration and Irrigation Committee (SAIC)
Mr Huseyn Guliyev, Ministry of Economic Development
Mr Rufiz Chirag-zade, Senior Operations Officer, the World Bank
Mr Akif Mustafayev, Director, SAIC/World Bank Water Users Association Development Project
Mr Emil Mammadov, Board Director, MADAD
Mr Vusal Khanlarov, Executive Director, MADAD
Mr Vahid Aliyev, Deputy Director, Guba Regional Agrarian Scientific Centre (GRASC)
Mr Suleyman Kalashov, Chairman of Micro-credit Association and Board Member of Agrakredit
Mr Vugar Yagubov, Head, Lending Department, Agrarkredit
Mr Jeyhun Suleymanov, Loan Officer, Turan Bank, Guba branch
Mr Anvar Seydiyev, Director, Turan Bank, Guba Branch
Ms Nedret Durutan Okan, consultant, agriculture and natural resource management
Mr Cuneyt Okan, consultant, rural development

Beneficiaries

Ms Rahila Atahanova, Acting Executive Director, Khizi WUA
Mr Faruh Hagveriyev, Head, Khizi Rayon SAIC
Mr Ramiz Mirzayev, Chair, Rahimli WUA
Mr Heydar Gasimov, Gilazi Village
Mr. Mahmud Yagubov, Gilazi Village
Mr Khudayar Altatyev, Gilazi Village
Mr Etiram Agalalayev, Beshdam Village
Mr Shamil Mammadov, Shanarhi Village
Mr Agadadashov Vugar, Novkhani Village
Two women farmers, Pashaoba Village

Staff of IPMU

Mr Vugar Mehdiyev, Director, IFAD Programme Management Unit (IPMU)
Mr Kamran Bayramov, M&E Officer, IPMU
Mr Arzuman Mammadov, Chief Engineer, IPMU
Mr Valeh Balikani, Coordinator, IPMU
Mr Ragub Seyidov, Civil engineer, IPMU

Mr Safikhan Musfayev, Community development specialist, IPMU

Mr Mutalib Shirinov, Credit specialist, IPMU

Ms Mehriban Eyvazova, Finance manager, IPMU

Ms Sevinj Zeynalova, Finance Assistant, IPMU

Mr Gabil Huseynov, Procurement specialist, IPMU

Mr Rufat Aliyev, Public relations specialist, IPMU

Mr Ismayil Sardarly, Activity Leader for Marketing, IPMU

Mr Isfandiyar Mehtiyev, Activity Leader for Livestock, IPMU

Mr Khalil Khalilov, Coordinator for RDPNW

Bibliography

The Republic of Azerbaijan, North-East Development Project documents

IFAD. (2004). *Report and Recommendation of the President to the Executive Board on the Proposed Loan*. Rome

IFAD. (2012). *Project Completion Report*. Rome

IFAD. (2006 - 2011). *Supervision Report*. Rome

IFAD. (2004). *Project Appraisal Report*. Rome

IFAD. (2011). *Project completion survey conducted by the PMU*. Rome

IFAD strategies and policies

IFAD. (2010) *The Republic of Azerbaijan Country Strategic Opportunities Programme*. Rome

IFAD. (2003) *The Republic of Azerbaijan Country Strategic Opportunities Programme*. Rome

IFAD (2008) *IFAD Targeting Policy: Reaching the Rural Poor*. Rome

General references

Economist Intelligence Unit. (2011) *Country Report. Azerbaijan*. London

Economist Intelligence Unit. (2008) *Country Profile. Azerbaijan*. London

The World Bank. (2010) *Country Partnership Strategy for Azerbaijan for the period FY 11-14*. Washington D.C.