



IMPACT BRIEF



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Tajikistan

Livestock and Pasture Development Project (LPDP)

About the project

Objective. The Livestock and Pasture Development Project (LPDP) was designed to increase the nutritional status and incomes of poor rural households in the Khatlon region by boosting livestock productivity through improvement of the productive capacity of pastures and through breeding and mating techniques combined with easier access to water. The project developed institutional capacity at the village level by creating a managerial structure and social cohesion in managing pasture land with the aim of improving livestock husbandry practices and increasing livestock productivity.

Financing. The project was jointly financed by IFAD and the Government of the Republic of Tajikistan for approximately US\$15.8 million.

Timing. Project activities started in August 2011 and were completed in 2017.



Investing in rural people

The project's theory of change

The project, which was implemented in Khatlon, the poorest region of Tajikistan, comprised three main components: (1) developing institutional capacity at the village level by creating a managerial structure for and social cohesion around managing **pasture land** through the establishment of pasture user unions (PUUs); (2) improving livestock husbandry practices and increasing livestock feed and **livestock production** and **productivity**; and (3) empowering women by providing training and livestock packages specifically to vulnerable female-headed households.

The implementation of a rotational plan for pasture was expected to restore pasture land and reduce degradation, thereby increasing land for grazing in the long run. Livestock and pasture development activities provided farming equipment and improved seeds and fertilizers, built water points and sheds, and improved households' access to rams for breeding and veterinary services. These activities were expected to increase the water available for livestock, reduce the incidence of animal disease, and improve self-sufficiency in fodder and grass production for the harshest seasons when pastures cannot be reached. The expected outcomes for households were increases in milk production, livestock productivity, income and food diversification. Finally, LPDP was expected to improve **women's livelihoods** by widening the spectrum of income-generating activities available to them. Small ruminants, poultry and beekeeping packages provided to female household heads were expected to increase their income and thus their bargaining power in household decision-making.

Project outreach and outputs

Determining the overall impact of the project requires first understanding whom the project reached and what outputs it generated.

Beneficiary households: **23,841**

Pasture user unions (PUUs) created: **203**

Hectares of pasture land improved: **81,171**

Community interest groups (CIGs) for fodder production and promotion created: **131**

Female beneficiaries in CIGs: **883**

Project impact

As part of IFAD's Development Effectiveness Framework, LPDP has been subject to a rigorous impact assessment.

Data and methods

The impact assessment of the LPDP makes use of a non-experimental approach that combines quantitative methods and qualitative analysis that was used to enrich project design and to identify a valid counterfactual. The main data collection instruments for this impact assessment were household and community questionnaires. Both surveys were administered between February and May 2017, and the information collected refers to the 12 months preceding the survey implementation (January 2016 to December 2016).

Key impact estimates

Overall the LPDP showed some significant impacts on incomes and productive asset ownership, as well as on other important domains of household well-being.

Results of the analysis show that the impacts of the project on the beneficiaries' incomes and assets were positive and significant with an increase of **19 per cent** in total household income and **115 per cent** in productive assets. These positive impacts are confirmed when looking at agricultural income: livestock net income rose by **42 per cent**, and crop income by 18 per cent.



+19%
Total income
per year



+115%
Productive **assets**



+42%
Livestock income
per year



+60%
Number of **livestock**
owned per household



+17%
Sheep weight



+27%
Cattle weight

Results showed larger livestock herds (by an additional 1.2 tropical livestock units, corresponding to a **60 per cent** increase) and increased weight among the animals that were part of the herd (sheep weight increased by **17 per cent**, and cattle weight by **27 per cent**). These positive outcomes seem to result from better access to and a reduction in the cost of water as well as from tractor services provided by the PUUs, and adoption of improved or controlled breeding and mating techniques with beneficiaries being 163 per cent more likely to adopt these practices compared to non-beneficiaries.

These achievements are not, however, reflected in an increase in milk production. This may be due to the fact that the focus of the livestock production increase was on meat rather than milk and dairy, as expressed by lower animal weight at a young age as opposed to an adult age. It is important to bear in mind that compliance with pasture rotational plans without a parallel increase in the amount of fodder or other type of animal feed may raise challenges in maintaining livestock herds while pasture is restored. Pasture rotation does allow for preventing access to pasture by non-PUU members, but a geo-referenced monitoring of pasture land would help ensure that such objectives are met while respecting the pasture's carrying capacity.

Interestingly, the project also had positive unintended impacts: it freed children's time on water harvesting and livestock management and increased families' income enough to allow them to send their children to school. Quantitative and qualitative analysis showed that children in beneficiary households were 6 per cent more likely to attend school compared to children in non-beneficiary households.

The project also sought to increase women's roles and help generate income for women-headed households. Positive results were found on livestock income (47 per cent) and livestock ownership (77 per cent) among women-headed households, and in general women had significantly higher decision-making power with regard to small ruminants' feed, livestock breeding and crop income earnings.

The results for nutrition and food security are somewhat controversial: although anthropometric measures were positive and significant, showing that children of beneficiary households presented a better nutrition status and growth rate (as indicated by an increase of 0.3 standard deviations in length/height-for-age Z-score) than children in non-beneficiary households, the opposite was true for food insecurity and food diversification. This result may suggest that the Food Insecurity Experience Scale (FIES) approach did not allow for good data given how sensitive certain questions are.

Finally, no clear impacts were found on access to markets although the number of transactions and types of buyers seem to suggest that beneficiary households had better access to outside and more formal markets than did non-beneficiary households.

About the brief

This brief draws upon the findings of an IFAD-funded impact assessment of LPDP in Tajikistan, which was prepared by Romina Cavatassi and Paola Mallia.

The impact assessment report on LPDP is available upon request.

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March 2019

Lessons learned

- Overall the project shows some **significant improvements** in the main impact indicators—namely, **economic mobility** proxied by an increase in productive asset ownership, income and, given the particular focus of the project, **livestock ownership and weight**.
- These positive results seem to be due to a well-implemented project with a **strong theory of change**, where the different components were meant to achieve objectives and outcomes in a **synergistic fashion**. In particular, these results stem from better access to and reduced costs for water, reduced costs of agricultural production owing to tractor services provided by the PUU, and the adoption of improved or controlled breeding and mating techniques.
- The project also had **environmental objectives** linked to the restoration of degraded pastureland through pasture rotation plans implemented by the PUUs. Results show that whereas rotational plans were established and adopted, the normalized difference vegetation index was positive but not significant. This is not surprising given the amount of time needed for pastureland restoration. Using geo-referencing to monitor pastureland under LPDP-II would allow for **better monitoring and assessment** as well as for a calculation of the potential to mitigate greenhouse gases linked to pasture rotation.
- The project sought to increase empowerment and income for more vulnerable women-headed households. Results suggest that these objectives were achieved. **Positive results were found on income and productive assets among women-headed households**, and in general women gained significantly higher decision-making power with regard to small ruminants' feed, livestock breeding and crop income earnings.
- Interestingly, the project had **positive unintended impacts**: by freeing children's time and increasing their families' income, it allowed more children to attend school, as shown by positive and significant school participation among beneficiary children and as reported from qualitative analysis conducted.
- The somewhat controversial and confusing results on **nutrition and food security** suggest that further analysis in the assessment of the LPDP-II be complemented by qualitative assessment to ascertain whether the sensitive questions used in the FIES approach allowed for a good assessment of this indicator.

