

Case Information Sheet

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AFGHANISTAN

Introducing transparency and accountability for monitoring equitable allocation of irrigation water

Background

The problems of inequitable allocation of water in Afghanistan

The Afghanistan Human Development Report 2011 emphasises the importance of equitable allocation of irrigation towards poverty reduction¹. Despite progress in irrigation development over the past decade, inequitable water allocation is prevalent across Afghanistan, from canals right through to river basins, sometimes disregarding long-established water rights. This is especially acute during periods of drought. Whilst efforts have been deployed for an ambitious expansion of the amount of irrigated land, the concern for equitable allocation among all Afghans, should not be overlooked. Inequitable water allocation threatens the realisation of social equity and justice - guiding principles for human development. It leads to unequal food-production and income-generating opportunities, as well as the disempowerment of downstream communities and conflicts.

Project Activities

Equitable distribution of water is mentioned in the first article of the 2009 Water Law² and is the central goal of the water sector reform. Since 2004, the government of Afghanistan has led the pilot Panj-Amu River Basin Program (PARBP). The Participatory Management of Irrigation Systems (PMIS) project, a component of the PARBP, was launched in 2005. It expanded from four to 11 canals between 2005 and 2011,



Water Management Department staff presents the weekly findings © Vincent Thomas

covering a total of 21,000 hectares along the Taloqan and Lower Kunduz sub-basins.

Introducing participatory water balance analysis

At the beginning of the project all canals were facing inequity challenges. For instance, in 2007, a flow measurement campaign in the Jangharoq canal indicated that whilst the upstream area was receiving an average of 3.1 l/s/ha³, the downstream area was receiving less than 0.2 l/s/ha, during the critical month of August⁴. As a consequence, the inequitable water distribution led to a situation where 80% of the downstream villages could not grow a second crop whilst the upstream areas cultivated lucrative rice crops.

As part of its WUA formation and development phase, the PMIS team facilitated a collective diagnosis whereby improving equity was identified as an overarching issue for downstream farmers. Yet the absence of a reliable database on water use resulted in difficulties for WUAs and mirabs⁵ to clearly estimate which zones were using more water than their rights⁶. Indeed, in the absence of a

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1 Thomas, V. and Shabawun, N., 2011, "Sharing irrigation water equitably". In: CPHD Afghanistan Human Development Report 2011: The Forgotten Front: Water Security and the Crisis in Sanitation (Kabul:CPHD).
2 Afghanistan Water Law. Ministry of Justice Official Gazette No. (980), 26 April 2009.

Article 1: This law is to enforce the principles of Article Nine of The Constitution of Afghanistan for the purpose of conservation, equitable distribution, and the efficient and sustainable use of water resources, to strengthen the national economy and secure the rights of the water users, in accordance with the principles of Islamic jurisprudence and the praiseworthy customs and traditions of the people.

3 As a reference, a water consumptive crop like rice may require maximum 2.6 l/s/ha at peak demand period.

4 The month of August corresponds to the peak water demand - it coincides with a sharp decrease in water availability due to the receding of spring snow melt.

5 The mirab (literally 'water master') is a community based water service provider, responsible for: (a) Ensuring water distribution; (b) Organizing collective maintenance and (c) assisting in the prevention and resolution of conflicts. (See Thomas, V. and Shabawun, N., 2011 for more details).

6 In the canals where PMIS has been working, water rights were based on the principle of proportionality to the amount of land irrigated. Thus based on the water availability at the canal intake, a certain zone (including a number of sub-canals) may only acquire a percentage of the flow which equals the percentage of total irrigated land that this zone covers.

“This is the first time I’ve seen water flowing in this village in the last 30 years. I actually forgot we had rights to water from the canal”.

A downstream Jangharoq canal farmer (August 2008 – Baghlan Province).

transparent information system, the evaluations remained highly contested, posing a bottleneck for negotiations. PMIS thus proposed the introduction of a participatory water balance analysis to remedy this problem, which became a tool for information sharing and decision making. For instance, during the irrigation season, the new WUA committee of the Jangharoq canal decided to:

- Define zones to be monitored within the total command area
- Define water rights for each zone based on its amount of land
- Conduct flow measurements and water balance analysis with the support of PMIS, and the staff of the Water Management Department (WMD) and Department of Agriculture of Irrigation and Livestock (DAIL)
- Analyse water distribution in each zone based on flow measurements results.

On the basis of this tool, WUA members met once a week and requested mirabs and the concerned zone representatives to focus particular attention to monitoring the off takes of those zones. Radio announcements also helped to strengthen the mirab authority and provided stronger legitimacy to downstream farmers for patrolling and closing off takes during the water turns.

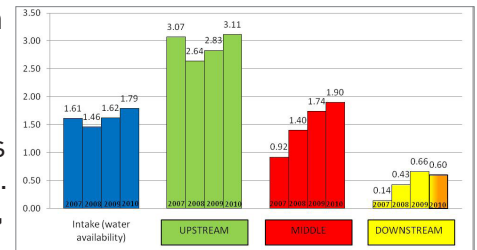
Integrity Impacts

A change in attitude for upstream farmers

Before the introduction of flow measurements, the upstream farmers in PMIS project canals used to contest allegations that they were over-using water, tending to argue that this was related to poor infrastructure and the lack of technical water control. Whilst technical constraints were part of the explanation, they were not sufficient for justifying the full extent of inequity. However, confronted with the results of the water balance analysis, the prevailing discourse has since changed and the softening of the contestation from upstream farmers created an entry point for downstream farmers to become more affirmative about their rights.

Increase in water access, irrigated area and yield for downstream farmers

Inequity between upstream and downstream water users has been recorded in all canals where PMIS undertook participatory water balance analysis. One of the most critical successes has been the Jangharoq canal during the 2008 drought - considered the most severe drought in Afghan memory⁷. Despite the fact that water availability decreased by 10%, downstream areas received three times more water in 2008, than in 2007, leading to almost a doubling of its irrigated area. Consequently, the yield of the main crop increased.



Evolution of water use in different parts of the Jangharoq canal - Month of August

For example, in Jangharoq canal, the yield of mung-bean increased from 7 ser/jerib⁸ in 2007 to 27 ser/jerib in 2008. Whilst inequity remains important, the upstream/downstream gap appears to be closing.

Reduction in bribes to mirabs

In 2007, before introduction of participatory water balance analysis, downstream farmers accessed water at a high cost. In Jangharoq, a large majority of downstream farmers interviewed who cultivated land in 2007 paid bribes to the mirabs to receive water, costing on average 3,452 AFN⁹ per farmer for the irrigation season¹⁰. With the definition of zones, the establishment of rights and a weekly monitoring for discrepancies between actual distribution and rights, the downstream farmers pursued a policy of refusing to pay bribes, referring instead to the agreements made by the WUAs committee to claim their right to water.

Lessons Learned

- More transparent and timely information on water flows supports the facilitation of appeased negotiations and monitoring of equitable water allocation.
- Simple use of a water balance analysis tool helps deprived farmers to be more confident on claiming their rights to water.
- Timely sharing of water allocation information supports the prevention of conflicts by supporting important and focused decision making, before tensions and mistrust can develop.

⁷ Thomas, V. and Eqrar, N., 2011, Managing water resources, scarcity and climate shocks. In: CPHD Afghanistan Human Development Report 2011: The Forgotten Front: Water Security and the Crisis in Sanitation (Kabul:CPHD).

⁸ 1 ser = 7 kg and 1 jerib = 0.2 ha.

⁹ The equivalent of a school teacher salary in rural areas of Afghanistan.

¹⁰ Thomas, V. and Ahmad, M., 2009, A Historical Perspective on the Mirab System. A Case Study of the Jangharoq Canal Baghlan (Kabul: Afghanistan Research and Evaluation Unit, Case Study Series).