

A horizontal banner at the top of the slide features various icons representing rural development and food security. From left to right, it includes a satellite, a house, a tractor, a person with a radio, a cow, a person with a radio, a truck, a person with a radio, and a market stall. Above these icons are three circular icons: one with a globe and a road, one with a house and a person, and one with hands holding food. The text 'Rural Development and Food Security Forum 2019' is centered in blue, with the dates '28-30 October 2019, ADB headquarters' below it. The ADB logo is in the top right corner.

Rural Development and Food Security Forum 2019

28-30 October 2019, ADB headquarters

ADB

Efforts to Apply High-Level Technologies in Central and West Asian Countries

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Central and West Asia

Tajikistan – Pyanj River WR Project

Satellite-based M&E for Irrigation

System

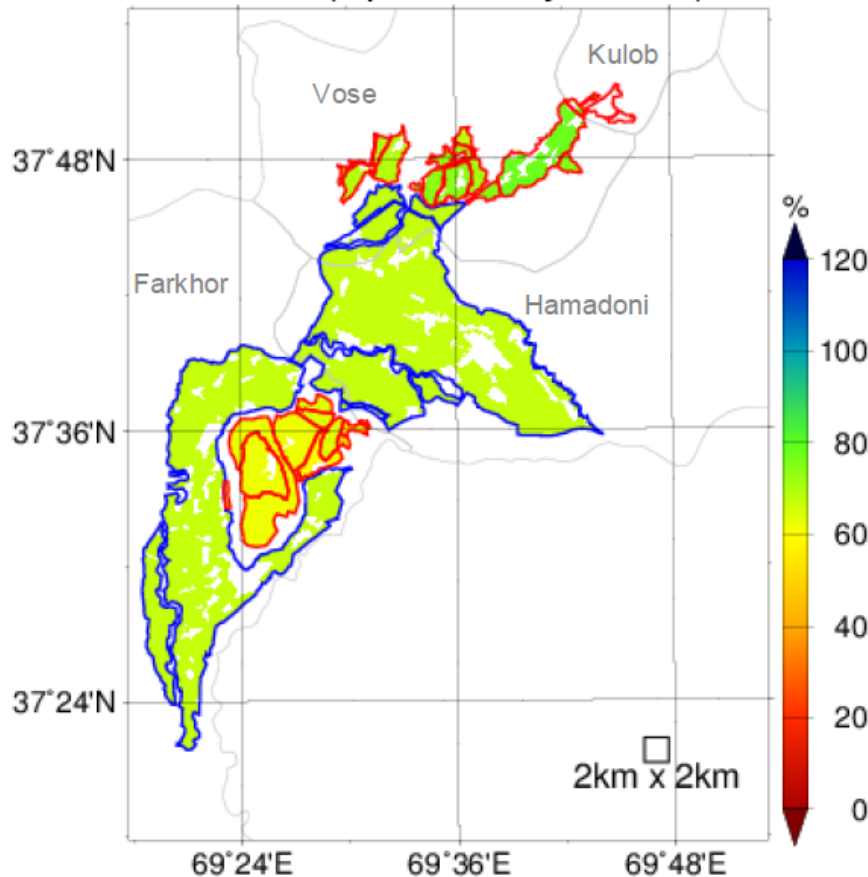
- Rehabilitation and modernization of an existing irrigation system (about 50,000 ha).
- Approved in September 2016
- Application of satellite remote sensing technology for monitoring and assessing irrigation performance.
 - Model developed during project preparation in 2016 = baseline data
 - Assessment of updated conditions at the end of the project in 2022 (and future)

Tajikistan – Pyanj River WR Project

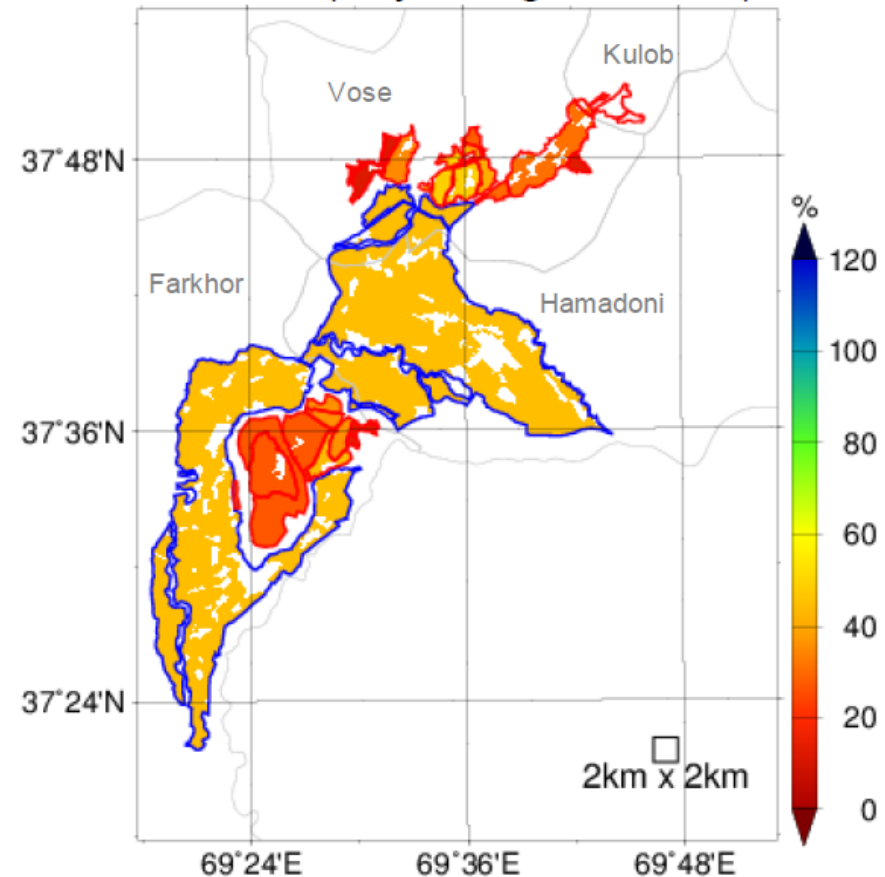
Satellite-based M&E for Irrigation System

- Monitor and evaluate system performance by water use ratio (Actual ET/ Optimum ET)

WUR (April – May, 2014)



WUR (July – August, 2014)



Challenges in Applying Satellite-based Technologies in DMCs

- Need quality ground observation data for better estimate;
- Need high-spec computers (servers), stable and high-speed internet connections, and stable electric supply; and
- Need competent and experienced national experts for enabling periodical updates and sustainable use.

Potential in DMCs

Mobile Applications

Monitoring at field level:

- TAJ: Pyanj River WR project – Field flow discharge measurements in the irrigation system and discharge data transfer to the server

Information dissemination to and collection from a small farmer level:

- AFG: Arghandab Integrated Water Resources Project (Raising existing multi-purpose dam and development and rehabilitation of irrigation systems)
 - Agricultural extension advisory and information sharing (e.g. farm development cost information, crop recommendations, market information, “how to do” video, climate-resilience knowledge, etc.)
 - Water allocation and availability information.