Development of Irrigation Extension for Improving Water Productivity at Plot level in the Ferghana Valley

Oyture Anarbekov, Senior Research Officer, IWMI-CA
Kahramon Jumaboev, Senior Research Officer, IWMI-CA

Presentation has been presented on May 20, 2015 at Academic workshop for young researchers “Improving the Efficiency of Common Pool Resources Management in Transition: Case Study of Irrigation Water and Pasture” at Tashkent Institute of Irrigation and Melioration

www.iwmi.org

Outline

- Introduction
- Main constraints to improve water productivity
- Goals and objectives
- Organizational structure
- Project interventions and results
- Conclusion
- Next steps

www.iwmi.org

Improving water and land resources management for food, livelihoods and nature
Ferghana Valley

Area: 124,200 km²
Population: 11,342,000
Shared by: Kyrgyz republic (Osh, Jalabad, Batken), Tajikistan (Sogd) and Uzbekistan (Andijan, Ferghana and Namangan)

Rainfall during growing season in FV

Improving water and land resources management for food, livelihoods and nature
Why Water Productivity?

• Irrigated agriculture provides almost 90% of crop production and 88% of water used for irrigation
• It is forecasted by 2020 CA population reach to 70 mln.
• More kilograms of agricultural production per unit of water delivered

Constraints

1. Lack of knowledge about actual crop water requirements.
2. Reliability of water supply from canals.
3. High field infiltration and runoff losses.
4. Low crop yields.
5. Inefficient distribution of water on farm level (no measurement)
6. Knowledge gap to facilitate communication between researchers and farmers
Inequity in Water distribution within a WUA

Class intervals

Frequency

Improving water and land resources management for food, livelihoods and nature

Long furrows

Water shortage

Extra water

50 m

50 m

50 m

50 m

400 m

200 meter

Improving water and land resources management for food, livelihoods and nature
**WPI-PL**

**Goal:** Enhancing WP, crop yields and yield stability at plot level through improved on-farm water management

**Objective:** To strengthen the capacity (in terms of knowledge, extension material and methods) of the different actors in the agricultural innovation system through conveying solid and adapted extension messages relating to WP to the farmers.

---

**Innovation cycle**

- Identification of farmers needs/demands
- Planning and execution of on farm/plot adaptive research
- Critical analysis of and linking results with actors/service providers in water distribution, land rehabilitation and drainage and agronomy
- Identification of key messages, information products and transmission/distribution actors
- Dissemination of improved water, land and crop productivity management approaches
- Training of disseminators
- Evaluation of adaptation and results
- Information to and information of trainers

---

[www.iwmi.org](http://www.iwmi.org)
Water Productivity = \frac{\text{return}}{\text{water consumed}}

Agronomic knowledge
• yield

Hydrotechnical knowledge

Actors in innovation cycle

Partnerships for Innovation

www.iwmi.org

Improving water and land resources management for food, livelihoods and nature
Map of demonstration fields within Ferghana Valley:

Water accounting

Use of water saving technologies

- “Progress – Shavkat” – ochard - 5ha;
- “Akbarali fayz nihoñlari” – ochard – 10ha;
- “Dam guldastasi” – ochard – 25ha;
PUBLICATIONS

- Monthly bulletins
- Brochures
- Booklets
- Research articles in journals

Average water supply to pilot fields of WPI-PL project (cotton)

Water supply (cotton) m3/ra

Kyrgyzstan
Uzbekistan
Tadjikistan

www.iwmi.org
Conclusions

• The technologies, which promoted have proven extremely relevant for the participating farmers and for more efficient water productivity in the Ferghana Valley more generally.

• WPI has been very successful in developing and applying the innovation cycle among participating institutional partners and farmers.

• Crop yields increased and water use on farm level decreased at the results of recommendations provided by Research Institutes, Information Centers and Disseminators.

• During project period partners supported financially by donor, in future strategies for making the Innovation Cycle self-sustaining financially should be investigated.

www.iwmi.org
Next steps

• Utilise project findings to contribute to policy change through, for example, policy briefs on the economic and environmental benefits of extending the use of water saving technologies.

• Look into how to refine the innovation cycle with more explicit attention to changes currently underway in relation to the roles of WCAs, integration with efforts to respond to climate change.

• Review of materials produced in WPI so as to (a) see if streamlining is needed, (b) identify and utilise “best practice” within the region regarding both content and approach, and (c) categorise materials according to different needs.

• Conduct comprehensive and systematic research into the innovation process that has occurred, particularly comparative analysis across the three countries.

Thank you