Upscaling the piloting – farmers discuss post-wheat cropping opportunities. Food security top agenda.

IWMI, Central Asia office – 09.06.2015
By Firdavs Kabilov, IWMI uptake consultant

Farmer field day participants in Toshlok district, Fergana province, Uzbekistan - 09.06.2016

Dryland Systems

Dry areas cover more than 40 percent of the world's land area and are home to 2.5 billion people—over one-third of the global population. Of these, one third depends on dryland agricultural production systems for their food security and livelihoods. Poverty, food insecurity, frequent drought and environmental degradation are widespread, and climate change will only exacerbate these problems. The CGIAR has developed a $150 million program on "Dryland Systems", led by ICARDA, bringing together scientists, development practitioners, farming communities and investors in 24 countries in Africa and Asia to improve the wellbeing of the rural poor, conserve vital natural resources, and empower smallholder farmers and pastoralists to cope with inherent climatic variability and climate change. Research activities target five main agro-ecosystems – or systems - prevalent across the Dry Areas of the World: 1) pastoral; 2) agro-pastoral; 3) rain fed; 4) irrigated; 5) tree-based.

IWMI's intervention in Fergana Valley -

Central Asia's Fergana valley is one of the territories, which falls under the dryland system's irrigated ecosystem category. 1.3 hectare pilot demo field is chosen within a farming enterprise

Gulomjon Mashrab Ugli, in Toshlok district, Fergana province of Uzbekistan. International Water Management Institute (IWMI) is leading the irrigation and agronomy component of the project, which aims to explore second cropping opportunities after winter wheat harvesting and the productivity of agricultural experiences in the context of water and energy efficiency. These are very crucial for the communities in dry-land systems. Mug-bean is being promoted as a second crop due to its capacity to yield in the conditions of lack of water. It is also a well demanded product in the Uzbek market. As for the winter wheat, there are different varieties of wheat cultivated, two of which are supplied by IWMI. Three different irrigation methods are chosen for study purposes are:

- Control irrigation - farmer's practice;
- Cut-back furrow irrigation;
- Alternate furrow irrigation.

IWMI farmer field day -

On 09 June 2015, IWMI Central Asia office organized a famer field day on the above mentioned site, gathering around 60 participants in two sessions, including farmers, Water User Association personnel, representatives of district and province water departments, *mahalla* local governance officials and other interested stakeholders. The event was coordinated and facilitated by Mr Botir Abdurahmanov, IWMI field consultant on Dryland Systems, the project led by Dr Akmal Karimov, Office Head of IWMI Central Asia.

Botir Abdurahmanov is introducing the visitors with the study objectives

Objectives -

1. New methods of irrigations and their efficiency were introduced in the example of demo-field;
2. New drought resistant varieties of wheat (supplied by IWMI) were introduced to the farmers;
3. Mug-bean was promoted as a potential second-crop after winter wheat harvesting.

The demo-field was introduced to the farmers when the cultivated winter wheat was ready to harvest. Mr Abdurasul Matazimov, IWMI irrigation field consultant shared his story of watering the field using the above mentioned irrigation techniques. Although, no exact numbers were ready to support yet, preliminary observations of the field showed that the irrigation techniques promoted

by IWMI, namely cut-back furrow irrigation and alternate furrow irrigation, and if combined with the right variety of the crop, the expected yield is achievable with less water. **It is efficient!**

Dr Habibullo Umarov, IWMI field consultant on agronomy, spoke about agronomic aspects of cultivating mug-bean following the winter wheat harvest. He provided guidance in context to previous studies that were conducted in the year in a different farm enterprise of the same district. The demo-study of the previous year resulted with a production of 1.5 tons of mug-bean harvest per hectare with only one irrigation and no application of fertilizes. Previously the same land plot was not used for a second crop before the project intervention, due to the priority shift on cotton irrigation and not sufficient water for other crops. This meant that the soil moisture was wasted that was created by the winter wheat and the farmer lost out a potential income of 1.5 tons of mug-bean. Since mug-bean is a popular food crop in the local and regional market and production of two crops would benefit a farmer to earn an extra income. This intervention will help increase food security for the wider community and support an alternative livelihood option for the farmers in Central Asia.

Reason to celebrate. Traditional plov is served to the participants at the end of the event

The key outcomes from this field demonstration –

- Increased awareness among the key stakeholders to help them understand the importance of this intervention;
- This intervention will help increase income levels by introducing an additional crop within one year on the same plot of land which was underutilized before;
- A successful twin approach intervention that supports effective utilization of water resource as well as land utilization;
- Introduction to a new crop increasing farmer productivity and income level;
- The long term impacts of this project would increase income levels for farmers and help effective utilization of land/ water resources.