

**CGIAR Research Program on Integrated agricultural production systems
for the poor and vulnerable in dry areas
(CRP Dryland Systems)**

Activity title: Increase livestock productivity while sustaining natural resource base: **Increased winter feed production** from arable land and hayfields

Activity leader: Kristina Toderich, ICBA

Reporting Period: 1 January-30 June 2015

Geographical Location/Action Sites: Aral Sea Region, Karauzyak district, Karakalpakstan

Overall goal: To quantify winter forage gaps and identify solutions for improving livestock feeding system in critical periods of the year

Objective:

The main objective of the current work is identifying and testing potential /winter fodder forage sources for livestock in different categories of marginal lands in project target areas.

Study site and targeted land categories:

Promising forage options are being tested on saline lands of larger mixed farms and on household farms:

1. Saline field margins in mixed farms: Ilyas Farm in Karabuga village
2. Saline lands of household (dekhan) farms nearby their house: 12 households (women) in Koybak sherkat cooperative farm engaged in testing forage options

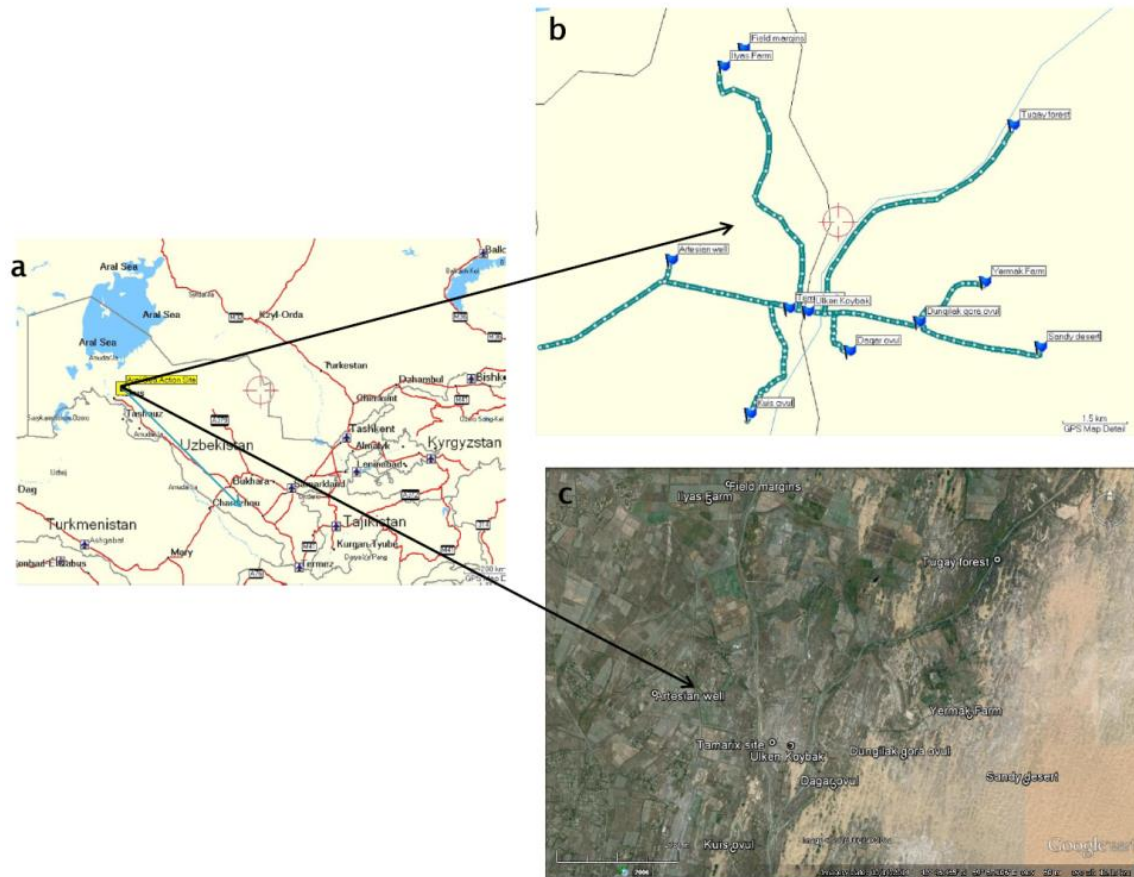


Fig 1. Location of action site in Uzbekistan (a), road map of target site (b) and view of the terrain in Google Earth



Fig. 2. Geographical location of target sites for potential winter fodder production

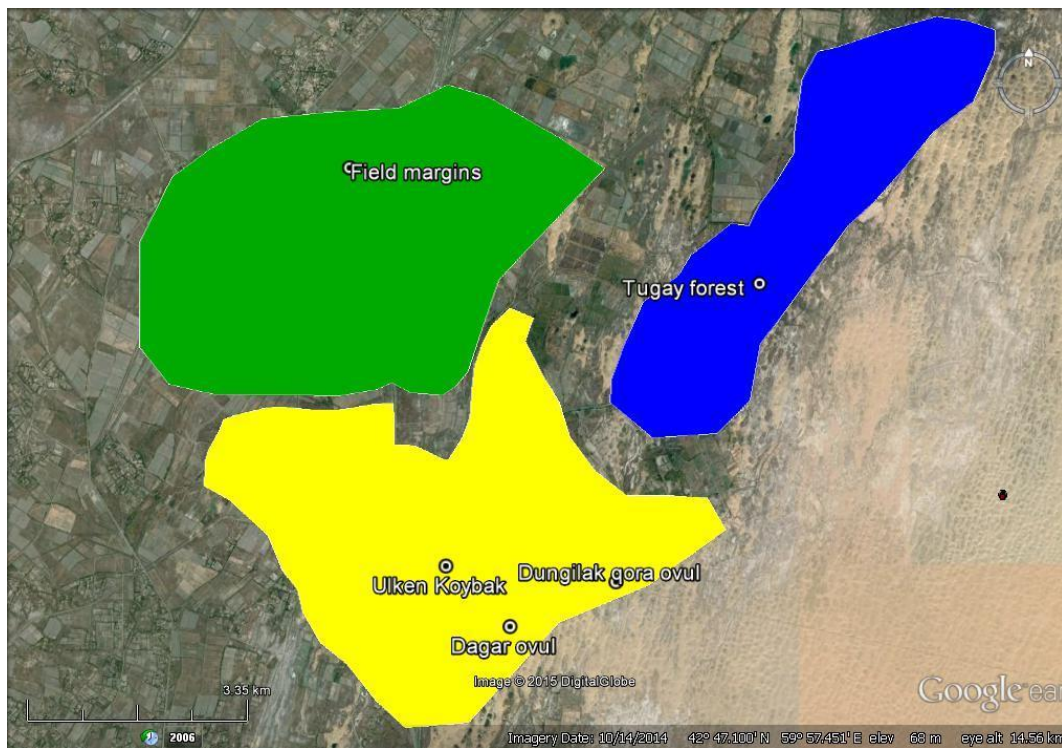


Fig. 3. Approximate boundaries of land categories for winter forage production in Koybak Ovul Committee (yellow= around villages; green= along field margins; blue = Tugay forest)

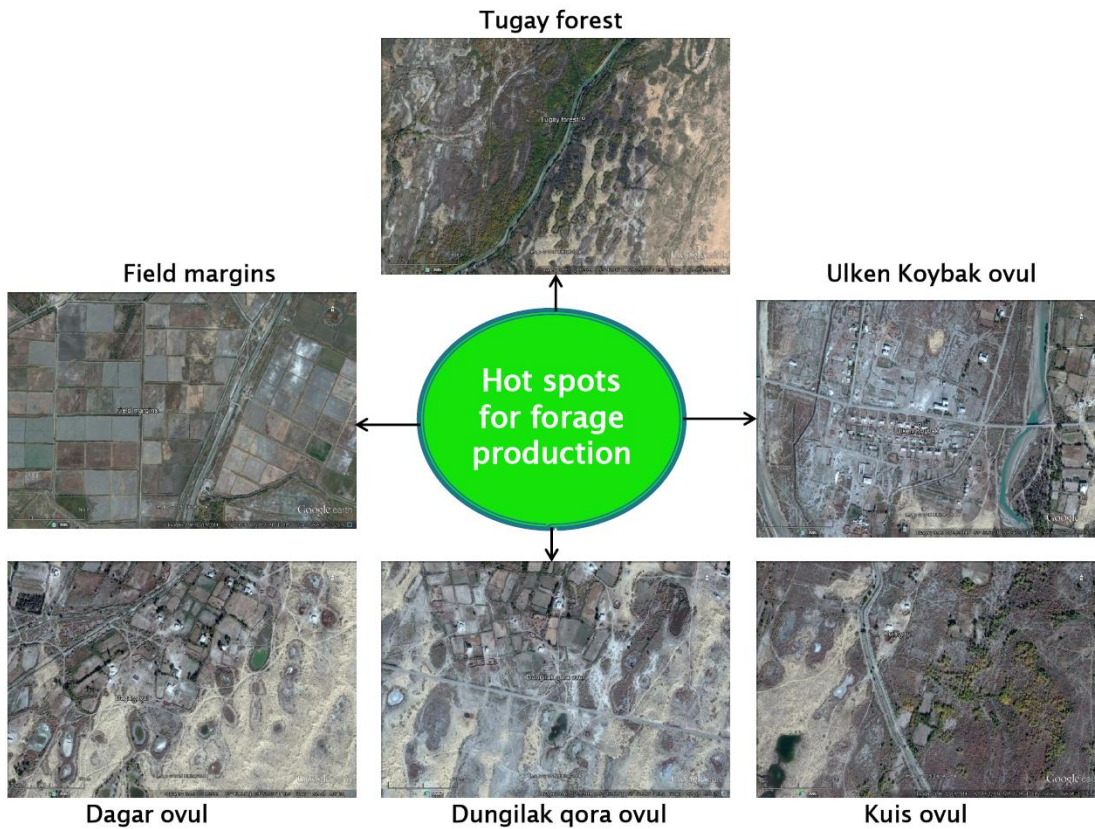


Fig. 4. Land categories with potential for winter forage production in the target area

Activities in the reporting period January to June 2015

Saline field margins in mixed farms:

The margin of a former cotton and rice paddy field (0.05 ha), which has been out of cultivation for about 10-15 years, was selected on Ilyas Farm in Karabuga village. A mini-pump was installed for irrigation at the drainage canal on the margin of a rice field. The field was irrigated on 30 June with saline water from the drainage canal (4000-6500 ppm) in preparation for planting of non-traditional forage crops .



Fig. 5. Installation of a mini pump at Yliyas Farm for irrigation

Saline lands of household farms in the Shirkat Koybak:

In the Shirkat the areas dedicated to winter forage production differ from 0.002 ha to 100 ha, the latter is the case of Ermak Farm, a private farm specialized in winter forage production, mostly alfalfa for feeding Karakul sheep during the winter period.

Twelve household farms (women) are engaged in testing non-traditional forage options on saline lands near their homes. The alternative forage crops are tested in mixed planting with different sowing practices. The tested crops are sesame, amaranth, vegetable legumes, topinambur, sunflower, sorghum, pearl millet, triticale, sweet clover, and sainfoin. So far most crops show promising results at the household farms areas (see photos below). Detailed results will be provided after harvesting.





Outcomes:

- At least 1.5 ha planted for quality forage production in pure or mixed cropping systems at kishlak level;
- Protocols for data collection for comparative evaluation of agronomic characteristics of halophytes and salt tolerant fodder crops;
- Recommended levels of using halophytes and salt tolerant fodder for households in Koybak Shirkat is under development.